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COMBINED SWRCB/CIWMB REGULATIONS DIVISION 2, TITLE 27

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Section Title Key:

The code "SWRCB -" at the beginning of a section title indicates the section is promulgated by the State Water Resources Control Board;

The code "CIWMB -" at the beginning of a section title indicates the section is promulgated by the California Integrated Waste Management Board;

The code "(T14: §####)" following the title of a CIWMB promulgated section indicates the section's former location (§####) in Division 7 of Title 14, California Code of Regulations (CCR). Such a code following the title of an SWRCB-promulgated section indicates the source (in Title 14) of a water quality protection requirement the SWRCB has incorporated, pursuant to AB-1220;

The code "(C15: §####)" or "[C15: §####(#)]" following the title of a SWRCB-promulgated section indicates the section's former location (§####) in Chapter 15 of Division 3 of Title 23, CCR;

The code "(new)" following the title of any section indicates that the section is newly promulgated.

Division 2. Solid Waste.
Subdivision 1. Consolidated Regulations for Treatment, Storage, Processing, or Disposal of Solid Waste
Chapter 1. General
Article 1. Purpose, Scope and Applicability of this Subdivision

20005. CIWMB - Purpose Scope and Applicability of CIWMB Standards. (T14:§17601)

(a) Regulatory standards promulgated by the California Integrated Waste Management Board (**CIWMB**) in this division implement only the jurisdiction of the CIWMB, as set forth in Division 30, Commencing with §40000, of the PRC, and shall not be construed by the CIWMB or the enforcement agency (**EA**) in a manner that would infringe upon or interfere with the administration or implementation of the comprehensive program of regulatory standards promulgated by the SWRCB in this title for the protection of water quality, pursuant to Division 7, commencing with §13000, of the Water Code.

(b) The purpose for the CIWMB standards in this subdivision is to protect public health and safety and the environment. The CIWMB standards in this chapter do not address air or water quality aspects of the environment that are regulated by other state or local agencies.

(c) The standards promulgated by the CIWMB in Chapters 1, 2, 3, and applicable portions of Chapter 4 shall apply to all disposal sites meaning active, inactive closed or abandoned, as defined in §40122 of the Public Resources Code including facilities or equipment used at the disposal sites. Responsibility for enforcing state minimum standards as defined by the CIWMB shall be administered by the EA in consultation as deemed appropriate with the Regional Water Quality Control Board or other oversight agency.

Note: Authority cited: Section 40502, 43020, 43021 and 43030, Public Resources Code. Reference: Sections 40000-40002, 40508, Public Resources Code.

§20010. Statutory Mandate. *(non-regulatory)* [Reserved]

20012. SWRCB - Reliance Upon CIWMB Requirements. (new)

(a) Where necessary to protect water quality, the Regional Water Quality Control Board (**RWQCB**) can implement, in coordination with the enforcement agency (**EA**) or, as appropriate, the California Integrated Waste Management Board (**CIWMB**), appropriate standards promulgated by the CIWMB in this subdivision, provided that the action does not duplicate or conflict with any action taken by the EA.

(b) Where necessary to protect water quality, the RWQCB can cite the standards promulgated by the CIWMB in this subdivision as evidence of a violation of standards promulgated by the SWRCB or of Waste Discharge Requirements (**WDRs**) in any ensuing enforcement proceeding, provided that the violation does not duplicate or conflict with any action by the EA and that such enforcement proceeding is based upon the authority of the RWQCB under Division 7 of the Water Code.

NOTE: Authority cited: Section 1058, Water Code. Reference: Sections 13172, 13226, 13227, 13263, 13267, Water Code; Section 43103, Public Resources Code.

20014. CIWMB - Reliance Upon SWRCB Requirements. (new)

(a) Where necessary to protect aspects of the public health and safety and the environment, other than water quality, the EA may implement, in coordination with the RWQCB and the CIWMB, appropriate standards promulgated by the SWRCB in this subdivision provided that the action is not duplicative of or in conflict with any action taken by the RWQCB.

(b) Where necessary to protect aspects of the public health and safety and the environment, other than water quality, the EA may cite the standards promulgated by the SWRCB in this subdivision as criteria to cause a site to correct a violation of the standards promulgated by the CIWMB or of a Solid Waste Facility Permit (**SWFP**).

The EA may also reference the aforementioned criteria as evidence of a violation of appropriate CIWMB promulgated standards or of a SWFP in any ensuing enforcement proceeding, provided that the violation is not duplicative of or in conflict with any action by the RWQCB and such enforcement proceeding is based upon the authority of the EA under Division 30 of the Public Resources Code.

NOTE: Authority cited: Section 43103, Public Resources Code. Reference: Section 43101(d), 43103, Public Resources Code.

§20020. How to Use Combined Regulations. *(non-regulatory)* [Reserved]

20030. CIWMB - Authority. (T14: §17200)

The regulations contained herein are promulgated pursuant to Public Resources Code (**PRC**) §§43020, 43020.1, 43021, 43030, 43101, 43103 and Health and Safety Code §4520. No provision in this Division shall be construed as a limitation or restriction upon the CIWMB's right to exercise discretion which is vested in it by law. Nor shall any provision be construed to limit or restrict counties and cities from promulgating enactments which are as strict as or stricter than the regulations contained in this Division. However, no city or county may promulgate enactments which are inconsistent with the provisions of this Division. Any reference in this chapter to an EA shall be deemed to mean the EA created pursuant to PRC §§43200 - 43219.

Note: Authority cited: Sections 40502, 43020 and 43021, Public Resources Code. Reference: Section 11125, Government Code; Sections 43020-43021, 43103, Public Resources Code.

20040. CIWMB - Compliance with Laws and Regulations. (T14: §17201)

Nothing in these standards shall be construed as relieving an owner, operator, or designer from the obligation of obtaining all required permits, licenses, or other clearances, and complying with all orders, laws, regulations, or other requirements of other approval, regulatory or enforcement agencies, such as, but not limited to the Department of Toxic Substances Control, local health entities, water and air quality control boards, local land use authorities, fire authorities, etc.

Note: Authority cited: Sections 40502, 43020 and 43021, Public Resources Code. Reference: Section 40053,40054,40055,43020, 43021 and 43103, Public Resources Code.

.20050. CIWMB - Purpose, Intent. (T14: §17202-17203)

[Note: This section will be amended upon the adoption of future regulations pertaining to tiers, transfer stations, operations, etc.]

(a) The purpose of the regulations in Chapters 1, 2, and 3 is to promote the health, safety and welfare of the people of the State of California, and to protect the environment by establishing minimum standards for the handling and disposal of solid wastes at disposal sites.

(b) By adopting these standards, the CIWMB hereby sets forth performance standards for solid waste disposal sites which are of state concern, as required by PRC §43020 and §43021, and sets forth minimum substantive requirements for operators' submission of information concerning individual solid waste disposal sites.

Note: Authority cited: Section 40502, Public Resources Code. Reference: Sections 40000, 40001, 40002 and 43103, Public Resources Code.

History

1. Amendment filed 2-21-78; effective thirtieth day thereafter (Register 78, No. 8).
2. Change without regulatory effect amending section filed 5-17-91 pursuant to section 100, title 1, California Code of Regulations (Register 91, No. 27).

.20060. CIWMB - Applicability of Federal Subtitle D Related Standards to Small Landfills. (T14: portions of §17258.1)

MSWLF units that meet the conditions of 40 CFR 258.1(f)(1) and received waste after October 9, 1991 but stopped receiving waste before October 9, 1997, are exempt from all the requirements promulgated as a result of 40 CFR 257 and 258, except the final cover minimum standards specified in Section 21140 and all other applicable requirements of Chapters 3 and 4, of this subdivision. The final cover must be installed by October 9, 1998. Owners and operators of MSWLF units described in this paragraph that fail to complete cover installation by October 9, 1998 will be subject to all the requirements of this subdivision, unless otherwise specified.

Note: Authority cited: Section 40502, 43020, 43021 and 43030, Public Resources Code. Reference: Sections 40508 and 43103, Public Resources Code; and Title 40, Code of Regulations, Section 258.1.

.20080. SWRCB - General Requirements. (C15: §2510)

(a) **Scope**—The regulations in this subdivision that are promulgated by the State Water Resources Control Board (**SWRCB**) pertain to water quality aspects of discharges of solid waste to land for treatment, storage, or disposal. The SWRCB-promulgated regulations in this subdivision establish waste and site classifications and waste management requirements for solid waste treatment, storage, or disposal in landfills, surface impoundments, waste piles, and land treatment units. Requirements in the SWRCB-promulgated portions of this subdivision:

(1) **Minimum standards**—are minimum standards for proper management of each waste category. Regional boards may impose more stringent requirements to accommodate regional and site specific conditions;

(2) **MSW Landfill Requirements**—as they apply to MSW landfills, are superseded by any more stringent requirements in SWRCB Resolution No. 93-62 (Section 2908, Title 23 of this code) or in the federal MSW regulations (40CFR258);

(3) **Utilize Abbreviated Internal References**—make reference only to requirements of the sections within this subdivision, unless otherwise stated. Under this internal reference convention: (A) any unenumerated paragraph reference in this division *[e.g., "(c)," or "(d)(2)(A-D)" (i.e., subsections A through D, inclusive)]* is to be found in the same section as the referring subsection; and (B) any enumerated reference that does not

explicitly identify a source outside this subdivision *[e.g., "§20200", "§20220(b)," or "Article 2, Subchapter 3, Chapter 3"]* is to be found in this subdivision; and

(4) **Contain Nonregulatory Notes and Examples**—contain some nonregulatory language that is needed in a body of multi-agency regulations such as this in order to improve clarity and continuity. Such non-regulatory language is always italicized, is always set off from adjacent regulatory text by parentheses or brackets, serves an obviously explanatory function, and typically begins with either "*Note:*" or "*e.g.,*". In the SWRCB-promulgated sections of this subdivision, such italicized notes and examples are intended only to provide the reader with useful guidance, and do not constitute standards having regulatory effect.

(b) **Engineered Alternatives Allowed**—Unless otherwise specified, alternatives to construction or prescriptive standards contained in the SWRCB-promulgated regulations of this subdivision may be considered. Alternatives shall only be approved where the discharger demonstrates that:

(1) the construction or prescriptive standard is not feasible as provided in .(c); and

(2) there is a specific engineered alternative that:

(A) is consistent with the performance goal addressed by the particular construction or prescriptive standard; and

(B) affords equivalent protection against water quality impairment.

(c) **Demonstration [for .(b)]**—To establish that compliance with prescriptive standards in this subdivision is not feasible for the purposes of .(b), the discharger shall demonstrate that compliance with a prescriptive standard either:

(1) is unreasonably and unnecessarily burdensome and will cost substantially more than alternatives which meet the criteria in .(b); or

(2) is impractical and will not promote attainment of applicable performance standards.

The RWQCB shall consider all relevant technical and economic factors including, but not limited to, present and projected costs of compliance, potential costs for remedial action in the event that waste or leachate is released to the environment, and the extent to which ground water resources could be affected.

(d) **Existing & New Units**—Units which were operating, or had received all permits necessary for construction and operation, on or before November 27, 1984, are designated as "existing" Units. This includes disposal sites classified under previous regulations and unclassified Units. Dischargers shall continue to operate existing Units under existing classifications and WDRs until those classifications and requirements are reviewed in accordance with §21720(c). Existing Units shall be closed and maintained after closure according to Subchapter 5, Chapter 3 of this subdivision (§20950 et seq.). All other Units (including expansions and reconstructions of existing Units initiated after November 27, 1984) are "new" Units. For discharges at new Units, the discharger shall comply with all applicable provisions of this division, as summarized in Table 3.1 [of Article 3, Subchapter 2, Chapter 3 of this subdivision] and in §20310(d). Pending review and reclassification, the following SWRCB-promulgated provisions of this division shall apply to existing Units:

(1) except with regard to Units which were closed, abandoned, or inactive on or before November 27, 1984 [such Units are addressed separately, under .(g)], all dischargers are required to be in compliance with the monitoring program requirements [in Article 1, Subchapter 3, Chapter 3, Subdivision 1 of this division (§20380 et seq.)];

(2) dischargers may be required to submit additional technical and monitoring reports to the RWQCB as determined to be necessary on a case by case basis.

(e) **Reclassification**—In reviewing WDRs for existing Units, the RWQCB shall consider the results of monitoring programs developed under .(d)(1) and technical and monitoring reports submitted under .(d)(2). Existing Units shall be reclassified according to the geologic siting criteria in Article 3, Subchapter 2, Chapter 3, Subdivision 1 of this division (§20240 et seq., as summarized in Table 3.1 of that article) and shall be required to comply with applicable SWRCB-promulgated construction standards in Article 4, Subchapter 2, Chapter 3,

Subdivision 1 of this division [as summarized in §20310(d)] as feasible. To establish that retrofitting is not feasible, the discharger shall be required to make the demonstrations in (b) and (c).

(f) **WDRs Implement Regulations**—The RWQCB shall implement the SWRCB-promulgated regulations in this subtitle through the issuance of WDRs for Units.

(g) **CAI Units**—Persons responsible for discharges at Units which were closed, abandoned, or inactive on or before November 27, 1984 (**CAI Units**), may be required to develop and implement a detection monitoring program in accordance with Article 1, Subchapter 3, Chapter 3, Subdivision 1 of this division (§20380 et seq.). If water quality impairment is found, such persons may be required to develop and implement a corrective action program under that article.

(h) **Mining Waste**—Discharges of mining waste, as defined in §22470(a), shall be regulated only by the provisions of Article 1, Subchapter 1, Chapter 7, Subdivision 1 of this division (§22470 et seq.) and by such provisions of the other portions of this subdivision as are specifically referenced in that article.

(i) **Combined SWRCB/CIWMB Solid Waste Landfill Regulations**—The California Integrated Waste Management Board (**CIWMB**) and the SWRCB have promulgated the combined regulations contained in this division. For clarity, in moving the modified sections from their former location (in Chapter 15, Division 3, Title 23 of this code):

(1) **Section Title Coding**—the title of each SWRCB-promulgated section in the combined regulations begins with "SWRCB - " and ends with the section number (in parentheses) that section had in Title 23 — *e.g., the notation "(C-15: §2540)" following the section title signifies that the subject section is derived from §2540, Chapter 15, Division 3, Title 23 of this code, as that chapter existed prior to July 18, 1997*; and

(2) **Paragraph Subtitles**—subtitles have been added at the beginning of many paragraphs, to assist the reader in quickly finding specific portions of the SWRCB's requirements that address a particular issue.

NOTE: Authority cited: Section 1058, Water Code. Reference: Sections 13142, 13260 and 13263, Water Code.

20090. SWRCB - Exemptions. (C15: §2511)

The following activities shall be exempt from the SWRCB-promulgated provisions of this subdivision, so long as the activity meets, and continues to meet, all preconditions listed:

(a) **Sewage**—Discharges of domestic sewage or treated effluent which are regulated by WDRs issued pursuant to Chapter 9, Division 3, Title 23 of this code, or for which WDRs have been waived, and which are consistent with applicable water quality objectives, and treatment or storage facilities associated with municipal wastewater treatment plants, provided that residual sludges or solid waste from wastewater treatment facilities shall be discharged only in accordance with the applicable SWRCB-promulgated provisions of this division.

(b) **Wastewater**—Discharges of wastewater to land, including but not limited to evaporation ponds, percolation ponds, or subsurface leachfields if the following conditions are met:

(1) the applicable RWQCB has issued WDRs, reclamation requirements, or waived such issuance;

(2) the discharge is in compliance with the applicable water quality control plan; and

(3) the wastewater does not need to be managed according to Chapter 11, Division 4.5, Title 22 of this code as a hazardous waste.

(c) **Underground Injection**—Discharges of waste to wells by injection pursuant to the Underground Injection Control Program established by the United States Environmental Protection Agency (**USEPA**) under the Safe Drinking Water Act, [42 U.S. Code Section 300(h), see Title 40 of the Code of Federal Regulations, Parts 144 to 146, 40 CFR 144 to 146].

(d) **RWQCB Cleanup Actions**—Actions taken by or at the direction of public agencies to cleanup or abate conditions of pollution or nuisance resulting from unintentional or unauthorized releases of waste or pollutants to

the environment; provided that wastes, pollutants, or contaminated materials removed from the immediate place of release shall be discharged according to the SWRCB-promulgated sections of Article 2, Subchapter 2, Chapter 3, Subdivision 1 of this division (§20200 et seq.); and further provided that remedial actions intended to contain such wastes at the place of release shall implement applicable SWRCB-promulgated provisions of this division to the extent feasible.

(e) **Gas Condensate**—Discharges of condensate from methane gas recovery operations at classified Units if the following conditions are met:

(1) condensate shall have no chemical additives which could adversely affect containment features, and shall consist only of water and liquid contaminants removed from gas recovered at a Unit;

(2) except as otherwise provided in §20200(d) regarding MSW landfills, condensate shall either be discharged to a different landfill that has a leachate collection and removal system and that is operated under WDRs issued by the RWQCB, or returned to the Unit(s) from which it came; and

(3) the discharger shall submit a report of waste discharge to the RWQCB, pursuant to Chapter 9, Division 3, Title 23 of this code, and shall discharge condensate only in compliance with WDRs.

(f) **Soil Amendments**—Use of nonhazardous decomposable waste as a soil amendment pursuant to applicable best management practices, provided that RWQCBs may issue waste discharge or reclamation requirements for such use.

(g) **Drilling Waste**—Discharges of drilling mud and cuttings from well drilling operations, provided that such discharges are to on site sumps and do not contain halogenated solvents, and further provided that, at the end of drilling operations, the discharger either:

(1) removes all wastes from the sump; or

(2) removes all free liquid from the sump and covers residual solid and semi solid wastes, provided that representative sampling of the sump contents after liquid removal shows residual solid wastes to be nonhazardous. If the sump has appropriate containment features, it may be reused.

(h) **Reuse**—Recycling or other use of materials salvaged from waste, or produced by waste treatment, such as scrap metal, compost, and recycled chemicals, provided that discharges of residual wastes from recycling or treatment operations to land shall be according to applicable provisions of this division.

(i) **Fully Enclosed Units**—Waste treatment in fully enclosed facilities, such as tanks, or in concrete lined facilities of limited areal extent, such as oil water separators designed, constructed, and operated according to American Petroleum Institute specifications.

NOTE: Authority cited: Section 1058, Water Code. Reference: Sections 13142, 13260 and 13269, Water Code.

§20100. [Reserved by SWRCB.]
§20110. [Reserved by SWRCB.]
§20120. [Reserved by SWRCB.]
§20130. [Reserved by SWRCB.]
§20140. [Reserved by SWRCB.]

Chapter 2. Definitions

Article 1. Statutory Definitions

20150. CIWMB - General. (T14:§17225, 17258.2)

Unless the context requires another construction, the definitions set forth in this chapter and in Division 30 of the Public Resources Code shall govern the construction of this Subdivision. No definitions which are present in

Division 30 of the Public Resources Code are repeated herein. Consequently, those definitions should be read in conjunction with the ones set forth herein.
NOTE: Authority cited: Sections 40502, 43020 and 43021, Public Resources Code. Reference: Sections 43020, 43021 and 43103, Public Resources Code.

20163. SWRCB - Statutory Definitions. (C15: §2600)

Except as otherwise indicated in this article, definitions of terms used in the SWRCB-promulgated portions of this subdivision shall be those set forth in Division 7 (commencing with Section 13000) of the Water Code, or Chapter 6.5 of Division 20 of the Health and Safety Code (commencing with Section 25100).
NOTE: Authority cited: Section 1058, Water Code. Reference: Section 13172, Water Code.

Article 2. Specific Definitions

20164. Combined CIWMB & SWRCB Technical Definitions. [CIWMB T14:§17225.1-17225.74,§17258.2, 17761,18200.1, 18251,18011,18231,18281 // SWRCB C15: §2601]

[Note: This section contains the SWRCB's and the CIWMB's technical definitions, combined and listed in alphabetical order. Each agency is responsible for adopting its own definitions within this combined listing. Those terms in this section that are followed by "(CIWMB)" are adopted by the CIWMB; those followed by "(SWRCB)" are adopted by the SWRCB. Unless otherwise stated in a given regulation, it is the intent of the SWRCB and CIWMB that each agency's definitions function for the other agency (e.g., when the CIWMB uses a term adopted by the SWRCB, or vice verse, the term has the same meaning as defined by the agency that adopted the term).]

"Abandoned site" (CIWMB) means a site where there is no responsible party.

"Abandoned Vehicles" (CIWMB) includes vehicles, with or without motor power, including cars, trucks, trailers, mobile homes, buses, etc., left on public or private property for an extended period of time and usually in an inoperable or hazardous condition.

"Acceptance for filing" (CIWMB) means the enforcement agency has determined that the application package is complete and correct and the specified permit action time frames contained in Chapter 4 of this subdivision commence.

"Active" (CIWMB) for CIWMB promulgated sections means the period when waste is being accepted for disposal at a disposal site.

"Active Face" (CIWMB) means the working surface of a landfill upon which solid wastes are deposited during the landfill operation, prior to the placement of cover material.

"Active life" or **"operating life"** (SWRCB) means the period during which wastes are being discharged to a waste management unit. The active life continues until final closure of the waste management unit has been initiated pursuant to this subdivision. For surface impoundments, the active life includes any time when the impoundment contains liquid, including waste and leachate.

"Affected medium" (SWRCB) means any natural medium that consists of or contains waters of the state *(e.g., ground water, surface water, or the unsaturated zone)* that has been affected by a release from a waste management unit.

"Agricultural Solid Wastes" (CIWMB) include wastes resulting from the production and processing of farm or agricultural products, including manures, prunings and crop residues wherever produced.

"Airport" (CIWMB) means public-use airport open to the public without prior permission and without restrictions within the physical capacities of available facilities.

"Alternative Daily Cover" (CIWMB) see "cover material".

"Annular Seal" (CIWMB) the seal placed in the space between the casing in a well and the wall of the hole, or between two concentric strings of casing, or between casing and tubing.

"Approval Agency" (CIWMB) includes any agency with regulatory powers regarding solid waste generation, collection, transportation, processing or disposal and includes, but is not limited to the CIWMB, the Department of Toxic Substances Control, California Regional Water Quality Control Boards, local air districts, local enforcement agencies, local health entities and local land use authorities.

"Approved closure plan" (SWRCB) means the portion of a waste management unit's (Unit's) final closure and post-closure maintenance plan that describes all actions necessary to prepare the Unit for post-closure maintenance, and that has been approved by the RWQCB and by any other state and local agencies having purview over that plan.

"Aquifer" (SWRCB) means a geologic formation, group of formations, or part of a formation capable of yielding a significant amount of ground water to wells or springs.

"Attitude" (SWRCB) means either the orientation in space of a geologic structural feature or the structural element position of a geologic bed, stratum, fracture, or surface relative to the horizontal.

"Background" (SWRCB) means the concentrations or measures of constituents or indicator-parameters in water or soil that has not been affected by waste constituents or leachate from the waste management unit being monitored.

"Background Monitoring Point" (SWRCB) (as capitalized) means a well, device, or location specified in the waste discharge requirements at which monitoring for background water quality or background soil quality is conducted.

"Background plot" (SWRCB) means an area adjacent to a land treatment unit that can reasonably be expected to have the same, or similar soil conditions as were present at the land treatment unit prior to discharges of waste.

"Baling" (CIWMB) includes the process of compressing and binding solid wastes.

"Bench" (CIWMB) means a terrace or comparatively level platform breaking the continuity of a slope.

"Best management practice(s)" (SWRCB) means a practice, or combination of practices, that is the most effective and feasible means of controlling pollution generated by nonpoint sources for the attainment of water quality objectives.

"Bird hazard" (CIWMB) means an increase in the likelihood of bird/aircraft collisions that may cause damage to the aircraft or injury to its occupants.

"Bulky Waste" (CIWMB) includes large items of solid waste such as appliances, furniture, large auto parts, trees, branches, stumps and other oversize wastes whose large size precludes or complicates their handling by normal collection, processing or disposal methods.

"CAI Units" (SWRCB) means waste management units that were closed, abandoned, or inactive prior to November 27, 1984.

"Capillary force(s)" (SWRCB) means the adhesive force between liquids and solids which, in the case of ground water hydrology, causes soil pore liquid to move in response to differences in matric potential. This effect causes ground water to rise from a saturated zone into the unsaturated zone, thereby creating a capillary fringe.

"Cell" (CIWMB) means that portion of compacted solid wastes in a landfill that is enclosed by natural soil or cover material during a designated period.

"Certified Engineering Geologist" (CIWMB) means a registered geologist, certified by the State of California, pursuant to section 7842 of the Business and Professions Code.

"CIWMB" (CIWMB) means the California Integrated Waste Management Board, which is the lead agency for implementing the State municipal solid waste permit program that is deemed to be adequate by US EPA under regulations published pursuant to sections 2002 and 4005 of RCRA.

"Classified waste management unit" or "classified Unit" (SWRCB) means a waste management unit (as defined in this section) that has been classified by a Regional Water Quality Control Board according to the provisions of Article 3 Subchapter 2, Chapter 3 of this division (§20240 et seq.).

"Classified Unit" — see "classified waste management unit" or "classified Unit"

"CLGB" — see "concentration limit"

"Closed Site" (CIWMB) means a disposal site that has ceased accepting waste and was closed in accordance with applicable statutes, regulations, and local ordinances in effect at the time.

"Closure" (SWRCB) means the process during which a waste management unit (Unit), or portion thereof, that is no longer receiving waste, is undergoing all operations necessary to prepare the Unit (or portion thereof, as appropriate) for post-closure maintenance in accordance with an approved plan for closure, or partial final closure as appropriate.

"COC" or **"COCs"** — see "Constituents Of Concern"

"Coefficient of variation" (SWRCB) means the standard deviation divided by the mean. It is a statistical measure of the dispersion of individual samples relative to the mean value of the samples.

"Collection" (CIWMB) means the act of collecting solid waste at the place of waste generation by an approved collection agent (public or private) and is distinguished from "removal."

"Collection Vehicle or Equipment" (CIWMB) includes any vehicle or equipment used in the collection of residential refuse or commercial solid wastes.

"Commercial Solid Wastes" (CIWMB) include all types of solid wastes generated by stores, offices and other commercial sources, excluding residences, and excluding industrial wastes.

"Concentration limit" (SWRCB) means the value for a constituent specified in the water quality protection standard under §20390 and §20400, including but not limited to values for concentration, temperature, pH, conductivity, and resistivity. The term can apply to a concentration that exceeds the constituent's background concentration [i.e., a "concentration limit greater than background (CLGB)" (SWRCB) as described under §20400].

"Concentration limit greater than background (CLGB)" — see "concentration limit"

"Confined animal facility" (SWRCB) means any place where cattle, calves, sheep, swine, horses, mules, goats, fowl, or other domestic animals are corralled, penned, tethered, or otherwise enclosed or held and where feeding is by means other than grazing.

"Constituent" (SWRCB) means an element or compound which occurs in or is likely to be derived from waste discharged to the waste management unit.

"Constituent(s) of concern" or **"COC(s)"** (SWRCB) means any waste constituent(s), reaction product(s), and hazardous constituent(s) that is reasonably expected to be in or derived from waste contained in a waste management unit.

"Construction and Demolition Wastes" (CIWMB) include the waste building materials, packaging and rubble resulting from construction, remodeling, repair and demolition operations on pavements, houses, commercial buildings and other structures.

"Construction quality assurance" or **"CQA"** (SWRCB) means a planned system of activities that provides assurance that the facility, or component thereof, is constructed as specified in the approved design. As used in these regulations, the term includes **"Construction quality control"** or **"CQC"**, a planned system of inspections that is used to directly monitor and control the quality of a construction project.

"Containment" (SWRCB) means the use of waste management unit characteristics or installed systems and structures to prevent or restrict the release of waste constituents, including waste constituents mobilized as a component of leachate or of landfill gas.

"Discharger" (SWRCB) means any person who discharges waste which could affect the quality of waters of the state, and includes any person who owns a waste management unit (Unit) or who is responsible for the operation of a Unit. When referring to dischargers of hazardous waste, the terms "discharge" and "waste" in this definition have the same meaning as they would have under the definitions for these terms provided in section 66260.10 of Chapter 11 of Division 4.5 of Title 22, CCR, effective July 1, 1991.

"Discrete unit" (CIWMB) means any portion of the disposal area that can be individually described.

"Disposal Area" (CIWMB) [CIWMB usage] means that portion of a disposal site which has received or is receiving solid wastes.

"Dump" (CIWMB) means a disposal site which has waste exposed to the elements, vectors and scavengers.

"Dynamic Conditions" (CIWMB) means under transitory loading conditions, such as during an earthquake.

"EA" (CIWMB) means enforcement agency as defined in PRC §40130.

"Earthquake Magnitude" (CIWMB) means the Richter scale of earthquake magnitude used to express the total energy of an earthquake.

"Electrical conductivity" (SWRCB) means the relative ability of water to conduct electrical current. It depends on the ion concentration of, and can be used to approximate the total filterable residue (total dissolved solids) in, the water.

"Environmental Control System" (CIWMB) means a system to prevent the release of waste constituents from the containment structures of sites. Environmental control system for the purpose of this definition does not include systems which primary function is to protect water quality.

"Excess exposure" (SWRCB) means that, for an organism exposed to a release from a waste management unit, the combined effect of all hazardous constituents in the organism's environment is such that the organism will suffer some measurable adverse effect on health or reproductive success, which effect is partly or wholly attributable to the release.

"Existing" (SWRCB), when describing a waste management unit *(e.g., "existing surface impoundment", or "existing Unit")*, means that the waste management unit in question was operating, or had received all permits necessary for construction and operation, on or before November 27, 1984, pursuant to §20080(d).

"Existing Footprint" (SWRCB) (as capitalized) means the area of land, at an MSW landfill, that is covered by waste as of the date that landfill became subject to the federal regulations of 40 CFR Part 258, pursuant to §258.1 of that part, as published in the Federal Register of October 1, 1993 (Volume 58, No. 189, pages 51546 and 51547). *[Note: see also definitions for "Federal Deadline" and "MSW landfill".]*

"Existing MSWLF unit" (CIWMB) means any municipal solid waste landfill unit that is receiving solid waste as of the appropriate dates specified in Section 20060. Waste placement in existing units must be consistent with past operating practices or modified practices to ensure good management.

"External hydrogeologic forces" (SWRCB) means seasonal and other fluctuations in ground water levels, and any other hydraulic condition which could cause a change in the hydraulic stress on a containment structure.

"Facility" — see "waste management facility"

"Facility Boundary" (CIWMB) means the boundary surrounding the entire area on which solid waste facility activities occur and are permitted.

"Facility wastewater" (SWRCB) means all wastewater, from whatever source, produced at a confined animal facility.

"Factor of safety" (SWRCB) means the ratio of forces resisting slope or foundation failure over forces driving slope or foundation failure.

"Federal Deadline" (SWRCB) applies only to an MSW landfill, and means the compliance date applicable to that landfill or portion thereof pursuant to §258.1(e) of the federal MSW regulations (40CFR258), as revised in the

Federal Register of October 1, 1993 (Volume 58, No. 189, pages 51546 and 51547). The term does not mean the date an MSW landfill must begin monitoring, in that all waste management units subject to these regulations have been required to monitor since the November 27, 1984 version of these regulations (see §20380 et seq.).

"**Fill**" (CIWMB) includes compacted solid waste and cover material.

"**Flexible membrane liner (FML)**" — see "geosynthetic(s)"

"**Floodplain**" (SWRCB) means the land area which is subject to flooding in any year from any source.

"**FML**" — see "geosynthetic(s)"

"**Foundation Failure**" (CIWMB) means the failure of a foundation, soil or rock that serves to support an imposed load, along a surface of weakness.

"**Freeboard**" (SWRCB) means the vertical distance between the lowest point along the top of a surface impoundment dike, berm, levee, or other similar feature and the surface of the liquid contained therein.

"**Free liquid**" (SWRCB) means liquid which readily separates from the solid portions of waste under ambient temperature and pressure. Free liquids are not present when a 100 milliliter representative sample of the waste can be completely retained in a standard 400 micron conical paint filter for 5 minutes without loss of any portion of the waste from the bottom of the filter (or an equivalent test approved by the Department of Toxic Substances Control).

"**Garbage**" (CIWMB) includes all kitchen and table food waste, and animal or vegetable waste that attends or results from the storage, preparation, cooking or handling of food stuffs.

"**Geologic materials**" (SWRCB) means in place naturally occurring surface and subsurface rock and soil.

"**Geologist**" (CIWMB) means a person who is engaged in professional geological work under the supervision of registered geologist or registered civil engineer, who is in responsible charge of the work, pursuant to section 7805 of the Business and Professions Code.

"**Geomembrane**" — see "geosynthetic(s)"

"**Geosynthetic(s)**" (SWRCB) (n) means flexible materials in planar form manufactured to meet specific engineering purposes. The term includes, but is not limited to: "**geomembrane**", an essentially impermeable membrane used as a barrier to waste solids and fluids, and synonymous with "**synthetic liner**" and "**flexible membrane liner (FML)**" ; "**geocomposite liner (GCL),**" a manufactured material using geotextiles, geogrids, geonets, and/or geomembranes in laminated or composite form; "**geotextile**" (including "**geonet**"), any permeable textile used with foundation, soil, rock, earth, or any other geotechnical engineering-related material as an integral part of a constructed project, structure, or system.

"**Ground acceleration**" (SWRCB) means acceleration of earth particles caused by an earthquake.

"**Ground rupture**" (SWRCB) means disruption of the ground surface due to natural or man made forces (e.g., faulting, landslides, subsidence).

"**Ground water**" (SWRCB) for the purpose of the SWRCB-promulgated requirements of this subtitle, means water below the land surface that is at or above atmospheric pressure.

"**Grout curtain**" (SWRCB) means a subsurface barrier to fluid movement, installed by injecting grout mixtures (such as cement, silicates, synthetic resins, etc.) to fill and seal fractures in rock.

"**Hazardous constituent**" (SWRCB) means a constituent identified in Appendix VIII to Chapter 11 of Division 4.5 of Title 22, CCR, or an element, chemical compound, or mixture of compounds which is a component of a waste or leachate and which has a physical or chemical property that causes the waste or leachate to be identified as a hazardous waste by the California Department of Toxic Substances Control.

"**Hazardous waste**" (SWRCB) means any waste which, under Article 1, Chapter 11, Division 4.5 (§66261.3 et seq.) of Title 22 of this code, is required to be managed according to Division 4.5 of Title 22 of this code.

"**Head**" or "**hydraulic head**" (SWRCB) means the pressure exerted by fluid on a given area. It is caused by the height of the fluid surface above the area.

"Local Air District" (CIWMB) means the local Air Quality Management District (AQMD) or the local Air Pollution Control District (APCD).

"Local Government" (CIWMB) is a local public entity which is a county, city, district, or any other special political subdivision, but is not the State.

"Manure" (SWRCB) means the accumulated moist animal excrement that does not undergo decomposition or drying as would occur on open grazing land or natural habitat. This definition shall include feces and urine which may be mixed with bedding materials, spilled feed, or soil.

"Maximum credible earthquake", or **"MCE"** (SWRCB), means the maximum earthquake that appears capable of occurring under the presently known geologic framework. In determining the maximum credible earthquake, little regard is given to its probability of occurrence except that its likelihood of occurring is great enough to be of concern. The term describes an event that could be approached more frequently in one geologic environment than in another; therefore, the following factors have a bearing upon the derivation of the MCE for any given facility:

(a) the seismic history of the vicinity and of the geologic province;
(b) the length of the significant fault or faults which can affect the site within a radius of 62 miles (100 kilometers) of the facility boundary;
(c) the type(s) of faults involved;
(d) the tectonic and/or structural history; and
(e) the tectonic and/or structural pattern or regional setting (geologic framework); nevertheless
(f) the time factor shall not be a parameter.

"Maximum probable earthquake", or **"MPE"** (SWRCB), means the maximum earthquake that is likely to occur during a 100 year interval. The term describes a probable occurrence, rather than an assured event that will occur at a specific time; therefore, the following factors have a bearing upon the derivation of the MPE for a given facility:

(a) the regional seismicity, considering the known past seismic activity;
(b) the fault or faults within a 62 mile (100 kilometer) radius from the facility boundary that may be active within the 100 years following first acceptance of waste;
(c) the type(s) of faults considered;
(d) the seismic recurrence factor for the area described in . (b), above, and for any faults (when known) within that area; and
(e) the mathematic probability analysis (or statistical analysis) of seismic activity associated with the faults included in the area described under . (b), above, including a graphical plot of recurrence information.

Nevertheless, the postulated magnitude of the MPE is superseded by any more powerful seismic event that has occurred within historic time in the area described under . (b), above.

"Measurably significant" (SWRCB) means a change in the Monitoring Point data that, relative to the reference background value (or other approved reference value or distribution), is sufficient to indicate that a release has occurred, pursuant to the applicable data analysis method (including its corresponding trigger).

"Medical Waste" (CIWMB) means waste regulated pursuant to the Medical Waste Management Act, Part 14 (commencing with Section 117600) of Division 104 of the Health and Safety Code.

"Mining waste" (SWRCB) means all waste materials (solid, semi solid, and liquid) from the mining and processing of ores and minerals including soil, waste rock, and other forms of overburden as well as tailings, slag, and other processed mining wastes.

"Moisture holding capacity" (SWRCB) means the amount of liquid which can be held against gravity by waste materials without generating free liquid.

"Monitoring parameter" (SWRCB) means one of the set of parameters specified in the waste discharge requirements for which monitoring is conducted. Monitoring parameters include physical parameters, waste constituents, reaction products, and hazardous constituents, that provide a reliable indication of a release from a waste management unit.

"Monitoring Point" (SWRCB) (as capitalized) means a well, device, or location specified in the waste discharge requirements at which monitoring is conducted and at which the water quality protection standard, under §20390, applies.

"MSW landfill" or **"municipal solid waste landfill unit"** (SWRCB) means any landfill that is subject to the federal regulations of 40CFR258, including any portion of a disposal site that is subject to those regulations. The term includes any landfill, other than a Class I landfill, that received municipal solid waste (MSW) at any time and that has received any solid waste since October 9, 1991; therefore, the term does not include any landfill that stopped receiving waste prior to that date.

"Municipal solid waste," or "MSW" (SWRCB) has the same meaning as under 40 CFR Part 258.

"New Unit" (SWRCB), when applied to a waste management unit (**Unit**) or portion thereof, means that the Unit (or portion thereof) began operating, or had received all permits necessary for construction and operation, after November 27, 1984, pursuant to §20080(d).

"New MSWLF unit" (CIWMB) means any municipal solid waste landfill unit that has not received waste prior to the operative date of October 9, 1993, or prior to October 9, 1997 if the MSWLF unit meets the conditions of 40 CFR 258.1(f)(1).

"Nonhazardous solid waste" (SWRCB) has the same meaning as under §20220(a).

"Nuisance" (SWRCB) has the same meaning as under Water Code §13050(m).

"Nuisance" (CIWMB) for CIWMB-promulgated sections includes anything which is injurious to human health or is indecent or offensive to the senses and interferes with the comfortable enjoyment of life or property, and affects at the same time an entire community, neighborhood, household or any considerable number of persons although the extent of annoyance or damage inflicted upon an individual may be unequal and which occurs as a result of the storage, removal, transport, processing or disposal of solid waste.

"On-site" (CIWMB) means located within the permitted boundary.

"Open burning" (CIWMB) means the combustion of solid waste without:
(1) Control of combustion air to maintain adequate temperature for efficient combustion,
(2) Containment of the combustion reaction in an enclosed device to provide sufficient residence time and mixing for complete combustion, and
(3) Control of the emission of the combustion products.

"Operating" (CIWMB) means currently active or the period of site activity from the first receipt of waste until the final receipt of waste consistent with the normal pattern of operation in the solid waste facility permit.

"Operating" (SWRCB) — see "active life"

"Operating Area" (CIWMB) means that portion of a solid waste facility which is currently in use for the unloading, management or disposal of wastes.

"Operating life" — see "active life"

"Operator" (CIWMB) means the landowner or other person who through a lease, franchise agreement or other arrangement with the landowner becomes legally responsible to the State for including, but not limited to, the following requirements for a solid waste facility or disposal site:
(A) obtaining a solid waste facility permit;
(B) complying with all applicable federal, state and local requirements;
(C) the physical operation of the facility or site; and
(D) closing and maintaining the site during the postclosure maintenance period.

"Overpulling" (CIWMB) means excessive air intrusion into a disposal site during gas extraction to control the migration of landfill gas or to increase the production of landfill gas in an energy production system or flare.

"Partial Final Closure" (CIWMB) means the closure of discrete units of a site consistent with the approved closure and postclosure maintenance plan.

"Peak stream flow" (SWRCB) means the maximum expected flow of surface water at a waste management facility from a tributary watershed for a given recurrence interval.

"Peer-reviewed" (CIWMB) means published and independently reviewed by other experts within the same academic field.

"Perched ground water" (SWRCB) means a body of unconfined ground water separated from the zone of saturation by a portion of the unsaturated zone. Such perched water can be either permanent or ephemeral.

"Pereability"(SWRCB) means the ability of natural and artificial materials to transmit fluid.

"Physical parameter"(SWRCB) means any measurable physical characteristic of a substance including, but not limited to, temperature, electrical conductivity, pH, and specific gravity.

"Point of Compliance" (SWRCB) (as capitalized) means a vertical surface located at the hydraulically downgradient limit of a waste management unit (Unit) and that extends through the uppermost aquifer underlying the Unit.

"Post closure maintenance" (SWRCB) means all activities undertaken at a closed waste management unit to maintain the integrity of containment features and to monitor compliance with applicable performance standards.

"Post closure maintenance period" (SWRCB) means the period after closure of a waste management unit (Unit) during which the waste in the Unit could have an adverse effect on the quality of the waters of the state.

"Premises" (CIWMB) includes a tract or parcel of land with or without habitable buildings or appurtenant structures.

"Principal Gases" (CIWMB) means the organic or inorganic constituents of landfill gas, greater than one percent by volume, that typically include carbon dioxide, methane, oxygen, and nitrogen.

"Private Access" (CIWMB) means that public access and disposal are not allowed.

"Probable maximum precipitation" (SWRCB) means the estimated amount of precipitation for a given duration, drainage area, and time of year, which approaches and approximates the maximum that is physically possible within the limits of contemporary hydrometeorological knowledge and techniques. The term describes a precipitation event that has virtually no risk of being exceeded.

"Professional Land Surveyor" (CIWMB) means a land surveyor licensed by the State of California pursuant to section 8747 of the Business and Professions Code.

"Putrescible Wastes" (CIWMB) include wastes that are capable of being decomposed by micro organisms with sufficient rapidity as to cause nuisances because of odors, gases or other offensive conditions.

"P value" (SWRCB) means the smallest significance level for which the null hypothesis would be rejected, based on the data that was actually observed.

"Rapid geologic change" (SWRCB) means alteration of the ground surface through such actions as landslides, subsidence, liquefaction, and faulting.

"R Chart (range chart)" (SWRCB) means a control chart for evaluating the variability within a process in terms of the subgroup range R.

"Reconstruction" (SWRCB) means modification to an existing waste management unit (Unit) which entails costs amounting to 50 percent or more of the initial cost of the Unit.

"Refuse" (CIWMB) includes garbage and rubbish.

"Regional Water Quality Control Board" — see "RWQCB"

"Registered Civil Engineer" (CIWMB) means a civil engineer registered by the State of California, pursuant to section 6762 of the Business and Professions Code.

"Registered Geologist" (CIWMB) means a geologist registered by the State of California, pursuant to section 7842 of the Business and Professions Code.

"Regulated Hazardous Waste" (CIWMB) means a hazardous waste, as defined in §66260.10 of Division 4.5 of Title 22 of this code.

"Relative compaction" (SWRCB) means the degree of compaction achieved, as a percentage of the laboratory compaction, in accordance with accepted civil engineering practices.

"Removal" (CIWMB) means the act of taking solid wastes from the place of waste generation either by an approved collection agent or by a person in control of the premises.

"Removal Frequency" (CIWMB) means frequency of removal of solid wastes from the place of waste generation either by an approved collection agency or by the owner of the waste, or frequency of removal of recyclables at facilities which separate recyclables from the waste stream.

"Rubbish" (CIWMB) includes non putrescible solid wastes such as ashes, paper, cardboard, tin cans, wood, glass, bedding, crockery, plastics, rubber by products or litter.

"Run-off" (SWRCB) means any precipitation, leachate, or other liquid that drains from any part of a waste management unit (Unit).

"Run-on" (SWRCB) means any precipitation or other liquid that drains onto any part of a waste management unit.

"RWQCB" or "Regional Water Quality Control Board" **(RWQCB)** has the same meaning as does the latter term, as described under Division 7 of the California Water Code.

"RWQCB-Permitted Area" (SWRCB) (as capitalized) means the portion of land designated in WDRs for the discharge of waste at a waste management unit.

"Salvaging" (CIWMB) means the controlled removal of waste material for utilization.

"Saturated zone" (SWRCB) means an underground zone in which all openings in and between natural geologic materials are filled with water.

"Scavenging" (CIWMB) means the uncontrolled and/or unauthorized removal of solid waste materials, or recyclable material at a solid waste facility.

"Semi solid waste" (SWRCB) means waste containing less than 50 percent solids.

"Sensitive biological receptor of concern" (SWRCB) means a member of any species of organism whose members are likely to be exposed to a release from a waste management unit and experience some measurable adverse effect as a result of that exposure.

"Septic Tank Pumpings" (CIWMB) include sludge and wastewater removed from septic tanks.

"Shredding" (CIWMB) includes a process of reducing the particle size of solid wastes through use of grinding, shredding, milling or rasping machines. Shredding for the purposes of this Division does not apply to shredding of waste tires.

"Site Specific" (CIWMB) means specific to the local site.

"Slope Failure" (SWRCB) means the downward and outward movement of ground slopes (e.g., natural rock, soils, artificial fills, or continuations of these materials).

"Sludge" (SWRCB) means residual solids and semi solids from the treatment of water, wastewater, and other liquids. It does not include liquid effluent discharged from such treatment processes.

"Soil Engineer" (CIWMB) is synonymous with geotechnical engineer; means a registered civil engineer that is qualified to use the title of "soil engineer," pursuant to California Code of Regulations, Title 16, section 426.50.

"Soil pore liquid" (SWRCB) means the liquid contained in openings between particles of soil in the unsaturated zone.

"Solid Waste Management" (CIWMB) includes a planned program for effectively controlling the generation, storage, collection, transportation, processing and reuse, conversion or disposal of solid wastes in a safe, sanitary,

aesthetically acceptable, environmentally sound and economical manner. It includes all administrative, financial, environmental, legal and planning functions as well as the operational aspects of solid waste handling, disposal and resource recovery systems necessary to achieve established objectives.

"Sorbent" (SWRCB) means a substance which takes up and holds a liquid either by absorption or adsorption.

"Special Waste" (CIWMB) means "special waste" as defined in Title 22.

"State Minimum Standards" (CIWMB) means the following sections of this Subdivision for the purposes of implementing Public Resources Code Section 44104: 20510 to 20701, 20710 to 20937, 21100 to 21200, 21430 and 21600.

"State Water Resources Control Board" — see "SWRCB"

"Static Conditions" (SWRCB) means under conditions of no external motions or forces, such as those of earthquakes.

"Statistically significant" (SWRCB) means a statistical test has a p value that is small enough for the null hypothesis to be rejected.

"Storage" (SWRCB) means the holding of waste or recyclable materials for a temporary period, at the end of which the materials either is treated or is discharged elsewhere.

"Store" (CIWMB) means stockpile, accumulate for later use or discard. *[Note: this standard does not apply to waste tires.]*

"Storm" (SWRCB) means the maximum precipitation for a given duration that is expected during the given recurrence interval *[e.g., a 24-hour (duration) 100 year (recurrence interval) storm]*.

"Surface impoundment" (SWRCB) means a waste management unit which is a natural topographic depression, excavation, or diked area, which is designed to contain liquid wastes or wastes containing free liquids, and which is not an injection well.

"SWRCB" (SWRCB) means the State Water Resources Control Board, as described under Division 7 of the Water Code.

"Synthetic liner" — see "geosynthetic(s)"

"Tailings pond" (SWRCB) means an excavated or diked area which is intended to contain liquid and solid wastes from mining and milling operations.

"Trace Gases" (CIWMB) means all other organic or inorganic compounds or elements, measured at less than one percent by volume, found together with the principal gases in landfill gas, and may include vinyl cloride, benzene, hydrogen sulfide, carbon monoxide, hydrogen, mercury, etc.

"Transmissivity" (SWRCB) means the rate at which water of the prevailing kinematic viscosity is transmitted through a unit width of the aquifer under a unit hydraulic gradient.

"Treatment" (SWRCB) means any method, technique, or process designed to change the physical, chemical, or biological characteristics of waste so as to render it less harmful to the quality of the waters of the state, safer to handle, or easier to contain or manage. The term includes use of waste as a fuel, nutrient, or soil amendment.

"Treatment zone" (SWRCB) means a soil area of the unsaturated zone of a land treatment unit within which constituents of concern are degraded, transformed, or immobilized.

"Underlying ground water" (SWRCB), for the purposes of waste management unit siting criteria, includes water which rises above the zone of saturation due to capillary forces.

"Unit" — see "waste management unit"

"Unsaturated zone" (SWRCB) means the zone between the ground surface and the regional water table or, in cases where the uppermost aquifer is confined, the zone between the ground surface and the top of the saturated portion of the aquifer's confining layer.

"Unstable Areas" (CIWMB) means locations susceptible to natural or human induced events or forces which are capable of rupturing the site containment structure.

"Uppermost aquifer" (SWRCB) means the geologic formation nearest the natural ground surface that is an aquifer, as well as lower aquifers that are hydraulically interconnected with this aquifer.

"Vector" (CIWMB) includes any insect or other arthropod, rodent, or other animal capable of transmitting the causative agents of human disease, or disrupting the normal enjoyment of life by adversely affecting the public health and well being.

"Waste constituent" (SWRCB) means a constituent that is reasonably expected to be in or derived from waste contained in a waste management unit.

"Waste management facility" or **"facility"** (SWRCB) means the entire parcel of property at which waste discharge operations are conducted. Such a facility may include one or more waste management units.

"Waste management unit" or **"Unit"** (SWRCB) (the latter capitalized or in quotes at the beginning of a sentence) means an area of land, or a portion of a waste management facility, at which waste is discharged. The term includes containment features and ancillary features for precipitation and ainage control and for monitoring.

"Waste pile" (SWRCB) means a waste management unit (Unit) at which only noncontainerized, bulk, dry solid waste is discharged and piled for treatment or storage on an engineered liner system that prevents the waste from contacting the underlying land surface. The term does not include a Unit of similar construction which is used for waste disposal (such a Unit would be a landfill).

"Water quality impairment" (SWRCB) means degradation of the existing quality of a body of surface or ground water resulting from a release of waste constituents, waste-derived hazardous constituents, or reaction products, including but not limited to any incomplete decomposition product which could cause nuisance by odor.

"Water Standard" (SWRCB) (as capitalized) means the water quality protection standard under §20390.

"WDRs" (SWRCB) means waste discharge requirements.

"X Bar chart" (SWRCB) means a control chart for evaluating the process level or subgroup differences in terms of the subgroup average.

"Zone of saturation" (SWRCB) means the subsurface zone which extends downward from the base of the unsaturated zone in which the interstices are filled with water under pressure that is equal to or greater than atmospheric pressure. Although the zone can contain gas filled interstices (in which the gas pressure exceeds atmospheric pressure) or interstices filled with fluids other than water, it is still considered saturated.

Authority cited: Section 1058, Water Code, Reference: Section 13172, Water Code; Section 43103, Public Resources Code.

Authority cited: Section 40502 Public Resources Code, Reference: Sections 40000, 40001, 40002, and 43103 and Title 40, CFR 258.2.

Chapter 3. Criteria for All Waste Management Units, Facilities, and Disposal Sites

Subchapter 1. General

Article 1. CIWMB - General

20180. CIWMB - Owner and Operator. (T14:§17602)

Responsibility for compliance with the standards in this chapter shall rest with both the owner and the operator. If specifically designated, the operator is considered to have prime responsibility for compliance; however, this does not relieve the owner of the duty to take all reasonable steps to assure compliance with these standards and any assigned conditions.

thority cited: Section 40502, 43020, 43021 and 43030, Public Resources Code. Reference: Sections 002, 40508, and 43103, Public Resources Code.

. CIWMB - Change of Ownership. (T14:§17603)
the title to a disposal site is transferred to another person, the new owner shall be notified by the previous f the existence of these standards and of the conditions assigned to assure compliance.
Authority cited: Section 40502, 43020, 43021 and 43030, Public Resources Code. Reference: Sections 40002, 40508, Public Resources Code.

hapter 2. Siting and Design
le 1. [Reserved by SWRCB]
le 2. SWRCB - Waste Classification and Management
0. SWRCB - Applicability and Classification Criteria. (C15: §2520)
Concept—This article contains a waste classification system which applies to solid wastes that cannot be ged directly or indirectly to waters of the state and which therefore must be discharged to waste ment units (Units) for treatment, storage, or disposal in accordance with the requirements of this division. which can be discharged directly or indirectly *(e.g., by percolation)* to waters of the state under effluent or ration limits that implement applicable water quality control plans *(e.g., municipal or industrial effluent or wastewater)* are not subject to the SWRCB-promulgated provisions of this division. This waste cation system shall provide the basis for determining which wastes may be discharged at each class of Unit. classifications are based on an assessment of the potential risk of water quality degradation associated with tegory of waste.

The waste classifications in this article shall determine where the waste can be discharged unless the waste t consist of or contain municipal solid waste (MSW) and the discharger establishes to the satisfaction of the CB that a particular waste constituent or combination of constituents presents a lower risk of water quality ation than indicated by classification according to this article.

Discharges of wastes identified in §20210 or §20220 of this article shall be permitted only at Units which een approved and classified by the RWQCB in accordance with the criteria established in Article 3 of this pter, and for which WDRs have been prescribed or waived pursuant to Article 4, Subchapter 3, Chapter 4 of bdivision (§21710 et seq.). Table 2.1 (of this article) presents a summary of discharge options for each waste ry.

Dedicated Units/Cells For Certain Wastes—The following wastes shall be discharged only at dedicated [or dedicated landfill cells *(e.g., ash monofill cell)*] which are designed and constructed to contain such s:

) wastes which cause corrosion or decay, or otherwise reduce or impair the integrity of containment ures;

) wastes which, if mixed or commingled with other wastes can produce a violent reaction (including heat, ure, fire or explosion), can produce toxic byproducts, or can produce any reaction product(s) which:

A) requires a higher level of containment;

B) is a restricted waste; or

C) impairs the integrity of containment structures.

Waste Characterization—Dischargers shall be responsible for accurate characterization of wastes, ding determinations of whether or not wastes will be compatible with containment features and other wastes Unit under (b), and whether or not wastes are required to be managed as hazardous wastes under Chapter 11 ivision 4.5 of Title 22 of this code.

this article, on field inspections by RWQCB and SWRCB staffs, and on other pertinent information. Information used to classify Units shall be submitted according to the provisions of Article 4, Subchapter 3, Chapter 4 of this subdivision (§21710 et seq.). Owners or operators of classified Units shall comply with waste discharge requirements (WDRs) adopted by the RWQCB.

(b) **Reclassification**—Existing Units shall be reclassified according to applicable criteria in this article, provided that such Units:

(1) comply with siting criteria for each category of existing Units in §20250 and §20260, and summarized in Table 3.1 of this article; and

(2) are operating in compliance with §20080(d).

(c) **Five-Foot Separation** — All new landfills, waste piles, and surface impoundments shall be sited, designed, constructed, and operated to ensure that wastes will be a minimum of five feet (5 ft.) above the highest anticipated elevation of underlying ground water. Existing landfills, waste piles, and surface impoundments shall be operated to ensure that wastes will be a minimum of five feet (5 ft.) above the highest anticipated elevation of underlying ground water. For new and existing land treatment units, the base of the treatment zone shall be a minimum of five feet (5 ft.) above the highest anticipated elevation of underlying ground water and dischargers shall not be entitled to exemption under §20080(b).

(d) **Unit Foundation** — All engineered structures (including, but not limited to, containment structures) constituting any portion of a Unit shall have a foundation or base capable of providing support for the structures, and capable of withstanding hydraulic pressure gradients to prevent failure due to settlement, compression, or uplift and all effects of ground motions resulting from at least the maximum probable earthquake [for Class III Units (see §20370)] or the maximum credible earthquake [for Class II Units (see §20370)], as certified by a registered civil engineer or certified engineering geologist. *[Note: see also §21750(f)(5).]*
NOTE: Authority cited: Section 1058, Water Code. Reference: Sections 13172 and 13360, Water Code; Section 43103, Public Resources Code.

20250. SWRCB - Class II: Waste Management Units for Designated Waste. (C15: §2532)

(a) **General** — Class II waste management units (**Class II Units**) shall be located where site characteristics and containment structures isolate waste from waters of the state. The classification criteria in this section shall be used for reclassification of existing Units at disposal sites approved as Class II 1 under previous versions of these SWRCB regulations, and for existing Units used for treatment or for storage, whether or not classified, provided that no hazardous wastes other than those which DTSC has determined need not be discharged as a hazardous waste) have been discharged at such Units (including discharge at any expansion of such Units).

(b) **Geologic Setting.**

(1) New and existing Class II landfills or waste piles shall be immediately underlain by natural geologic materials which have a hydraulic conductivity of not more than $1x10^{-6}$ cm/sec (i.e., 1 foot/year) and which are of sufficient thickness to prevent vertical movement of fluid, including waste and leachate, from Units to waters of the state for as long as wastes in such units pose a threat to water quality. Class II units shall not be located where areas of primary (porous) or secondary (rock opening) hydraulic conductivity greater than $1x10^{-6}$ cm/sec (i.e., 1 foot/year) could impair the competence of natural geologic materials to act as a barrier to vertical fluid movement.

(2) Natural or artificial barriers shall be used to prevent lateral movement of fluid, including waste and leachate.

(3) A liner system which conforms to the requirements of Article 4 of this subchapter with a hydraulic conductivity of not more than $1x10^{-6}$ cm/sec (i.e., 1 foot/year) shall be used for landfills and waste piles when natural geologic materials do not satisfy the requirements in . (b)(1).

(4) Class II surface impoundments are not required to comply with the requirements of . (b)(1), but shall have a liner system designed in accordance with the applicable SWRCB-promulgated provisions of Article 4 of this subchapter (§20310 et seq.). The RWQCB can allow Class II surface impoundments which are designed and

constructed with a double liner system in accordance with that article to use natural geologic materials which comply with . (b)(1) for the outer liner.

(5) Land treatment units (LTUs) are not required to comply with the requirements of . (b). Dischargers who treat or dispose of wastes in LTUs shall demonstrate, prior to application of the waste, that waste can be completely degraded, transformed, or immobilized in the treatment zone. To demonstrate this, prior to the application of waste, the discharger shall operate a test plot for a sufficient period to give the RWQCB a reasonable indication that degradation, transformation, or immobilization will take place in the treatment zone. During the full scale operation of the LTU, soil and soil pore liquid samples shall be taken within the treatment zone to verify that complete degradation, transformation, or immobilization is taking place. The RWQCB shall specify in WDRs the elements of the land treatment program including the dimensions of the treatment zone. The maximum depth of the treatment zone shall not exceed 5 feet from the initial soil surface.

(c) **Flooding** — New and existing Class II Units shall be designed, constructed, operated, and maintained to prevent inundation or washout due to floods with a 100 year return period. MSW landfills are also subject to any more-stringent flood plain and wetland siting requirements referenced in SWRCB Resolution No. 93-62 (i.e., see §258.11 and §258.12 of 40CFR258).

(d) **Ground Rupture** — New Class II Units, other than LTUs and expansions of existing Class II units, shall have a 200 foot setback from any known Holocene fault. Other units (that are subject to this section) can be located within 200 feet of a known Holocene fault, provided the RWQCB finds that the Unit's containment structures are capable of withstanding ground accelerations associated with the maximum credible earthquake.

(e) **Rapid Geologic Change** — New and existing Class II Units can be located within areas of potential rapid geologic change only if the RWQCB finds that the Unit's containment structures are designed, constructed, and maintained to preclude containment failure. MSW landfills are also subject to any more-stringent unstable area siting requirements referenced in SWRCB Resolution No. 93-62 (i.e., see §258.15 and §258.16 of 40CFR258).

(f) **Tidal Waves** — New and existing Class II Units may be located in areas subject to tsunamis, seiches, and surges. Other Units may be located within these areas if designed, constructed, and maintained to preclude failure due to such events.

NOTE: Authority cited: Section 1058, Water Code. Reference: Sections 13172 and 13360, Water Code; Section 43103, Public Resources Code.

. 20260. SWRCB - Class III: Landfills for Nonhazardous Solid Waste. (C15: §2533)

(a) **General** — Class III landfills shall be located where site characteristics provide adequate separation between nonhazardous solid waste and waters of the state. The classification criteria in this section shall be used for reclassification of existing landfills at disposal sites approved as Class II-1 or II-2 (under previous versions of these SWRCB regulations) and any expansions of such landfills.

(b) **Geologic Setting.**

(1) MSW landfills are subject to the SWRCB-promulgated waste containment requirements of this subdivision and of SWRCB Resolution No. 93-62. New Class III and existing Class II-2 landfills shall be sited where soil characteristics, distance from waste to ground water, and other factors will ensure no impairment of beneficial uses of surface water or of ground water beneath or adjacent to the landfill. Factors that shall be evaluated include:

(A) size of the landfill:

(B) hydraulic conductivity and transmissivity of underlying soils;

(C) depth to ground water and variations in depth to ground water;

(D) background quality of ground water;

(E) current and anticipated use of the ground water; and

(F) annual precipitation.

(2) Where consideration of the factors in (b)(1) indicates that site characteristics alone do not ensure protection of the quality of ground water or surface water, Class III landfills shall be required to have a single clay liner with hydraulic conductivity of $1x10^{-6}$ cm/sec or less.

(c) **Flooding** — New Class III and existing Class II-2 landfills shall be designed, constructed, operated, and maintained to prevent inundation or washout due to floods with a 100 year return period. MSW landfills are also subject to any more-stringent flood plain and wetland siting requirements referenced in SWRCB Resolution No.93-62 (i.e., see §§258.11, 258.12, and 258.16 of 40CFR258).

(d) **Ground Rupture** — New Class III and expansions of existing Class II-2 landfills shall not be located on a known Holocene fault. However, existing landfills assigned a Class II-2 designation under previous versions of the SWRCB regulations may be located on a known Holocene fault, provided that the Unit's containment structures are capable of withstanding ground accelerations associated with the maximum probable earthquake (see §20370).

(e) **Rapid Geologic Change** — New Class III and unreclassified existing Class II-2 landfills can be located within areas of potential rapid geologic change only if the RWQCB finds that the Unit's containment structures are designed, constructed, and maintained to preclude failure. MSW landfills are also subject to any more-stringent unstable area siting requirements referenced in SWRCB Resolution No. 93-62 (see §258.15 and §258.16 of 40CFR258).

NOTE: Authority cited: Section 1058, Water Code. Reference: Sections 13172 and 13360, Water Code; Section 43103, Public Resources Code.

20270. CIWMB - Location Restrictions: Airport Safety. (T14:§17258.10)

(a) Owners or operators of new Municipal Solid Waste Landfill units (MSWLF), existing MSWLF units, and lateral expansions of MSWLF units that are located within 10,000 feet (3,048 meters) of any airport runway end used by turbojet aircraft or within 5,000 feet (1,524 meters) of any airport runway end used by only piston-type aircraft must demonstrate that the units are designed and operated so that the MSWLF unit does not pose a bird hazard to aircraft.

(b) Owners or operators proposing to site new MSWLF units and lateral expansions located within a five-mile radius of any airport runway end used by turbojet or piston-type aircraft must notify the affected airport and the Federal Aviation Administration (FAA).

(c) The owner or operator must place the demonstration made pursuant to paragraph (a) of this section in the operating record and notify the EA that it has been placed in the operating record.

(d) Existing MSWLF units that cannot make the demonstration specified in §20270(a) pertaining to airports must:

(1) close by October 9, 1996, in accordance with §21110 of this article;

(2) conduct postclosure activities in accordance with §21110 of this article; and

(3) conduct closure and postclosure activities in accordance with applicable sections of Chapter 4, and Chapter 6, of this Division.

(e) The deadline for closure required by paragraph (a) of this section may be extended up to two years if the owner or operator demonstrates to the CIWMB that:

(1) There is no available alternative disposal capacity; and

(2) There is no immediate threat to human health and the environment.

Note: Authority cited: Section 40502, 43020, 43021 Public Resources Code. Reference: Section 40508 and 43103, Public Resources Code; and Title 40, Code of Federal Regulations, Section 258.10, and 258.16.

Article 4. SWRCB - Waste Management Unit Construction Standards

20310. SWRCB - General Construction Criteria. (C15: §2540)

(a) Class II waste management units (**Class II "Units"**) shall be designed and constructed to prevent migration of wastes from the Units to adjacent geologic materials, ground water, or surface water, during disposal operations, closure, and the post closure maintenance period. Class II and Class III MSW landfills are also subject to any applicable waste containment system design requirements of SWRCB Resolution No. 93-62 to the extent that such requirements are more stringent than those applicable to a non-MSW Class II or Class III landfill under this subdivision.

(b) Each Class II Unit shall be designed and constructed for the containment of the specific wastes which will be discharged.

(c) Class III landfills shall have containment structures which are capable of preventing degradation of waters of the state as a result of waste discharges to the landfills if site characteristics are inadequate.

(d) For the purposes of this paragraph, the words "new" and "existing" have the same meaning as described in §20080(d). New landfills, waste piles, and surface impoundments shall comply with the requirements of this article. Existing waste piles and surface impoundments shall be fitted with liners and leachate collection and removal systems as described in §20330 and §20340 as feasible. Existing landfills and waste piles shall have interim cover as described in §20705. Existing landfills, waste piles, and surface impoundments shall be fitted with subsurface barriers as described in §20360 as needed and feasible, and shall have precipitation and drainage control facilities as described in §20365. Existing surface impoundments shall comply with §20375. New and existing land treatment units shall comply with §20377. All existing Units shall comply with the seismic design criteria in Section 20370.

(e) Containment structures shall be designed by, and construction shall be supervised and certified by, a registered civil engineer or a certified engineering geologist. Units shall receive a final inspection and approval of the construction by RWQCB or SWRCB staff before use of the Unit commences.

(f) The discharger shall maintain the integrity of containment structures in spite of normal excavation or fire control work; nevertheless, for fire control work, the discharger can damage containment structures to the extent necessary to control the fire, so long as the discharger promptly repairs such damage after extinguishing the fire. Excavations made as part of discharge operations shall not result in removal of any portion of a containment structure.

(g) **Stability Analysis** — For any portions of the Unit's containment system installed after July 18, 1997, for which the RWQCB has not approved a slope and foundation stability report on or before that date, the discharger shall meet the requirements of §21750(f)(5).

NOTE: Authority cited: Section 1058, Water Code. Reference: Sections 13172 and 13360, Water Code; Section 43103, Public Resources Code.

TABLE 3.1 SWRCB's GEOLOGIC AND SITING CRITERIA FOR CLASSIFIED UNITS — Unit Classification

Site Characteristics	[Reserved][1,4]	New Class II[2]	Reclassification of Existing Class II	New Class III[3]	Reclassification of Existing Class II-2[5]
Geologic Setting		Substantial isolation from groun water; see §20250(b)	As for new Class II	Adequate separation from ground water; characteristics other than hydraulic conductivity will be considered; see §20260(b)	As for new Class III
Flooding		<<----------	No Siting Restruction[5]	---------->>	---------->>
Ground Rupture		200' setback from known Holocene fault	Exempt[5], except that expansions are as for new Class II	Not located on known Holocene fault	Exempt[5], except that expansion as new Class III
Rapid Geologic Change		<<----------	No Siting Restruction[5]	---------->>	---------->>
Tidal Waves		<<----------	No Siting Restruction[5]	---------->>	---------->>

1 [Reserved.] *Note: These standards removed because they apply only to Class I Units (see Chapter 15, Div. 3., Title 23, CCR).*

2 This category is defined in §20250(a).

3 This category is defined in §20260(a).

4 [Reserved.] *Note: Left in Ch-15. Applies only to Class I Units.*

5 Exemption from siting criteria does not release dischargers from the obligation to protect Units from the geologic or environmental hazards involved. Exemption is conditioned on such protection.

6 The term "Tidal Waves" includes tsunamis, seiches, and surge condition.

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TABLE 4.1. CONSTRUCTION STANDARDS FOR UNITS[1]

Waste Mgmt Unit Classification	Type of Waste Management Unit	Clay Liner[2]	Synthetic Liner	Leachate Collection and Rem. System	Interim Cover	Subsurface Barriers: Cutoff Walls	Subsurface Barriers: Grout Curtains	Capacity of Precip. & Drain. Control Facilities (Design Storm)	Seismic Design
Class II	Non MSW Landfill	Required[2], $\leq 1 \times 10^{-6}$ cm/sec	Not required	Required, blanket type	Required	$\leq 1 \times 10^{-6}$ cm/sec[11]	$\leq 1 \times 10^{-6}$ cm/sec	1000-year 24-hour precipitation	Withstand maximum credible earthquake
Class II	MSW Landfill[13]	Special[13]	Special[13]	Special[13]	Required	$\leq 1 \times 10^{-6}$ cm/sec[11]	$\leq 1 \times 10^{-6}$ cm/sec	1000-year 24-hour precipitation	Withstand maximum credible earthquake
Class II	Surface Impoundment	Double or single required[6], $\leq 1 \times 10^{-6}$ cm/sec	Not required	Required with double liner, blanket type	Not Required	$\leq 1 \times 10^{-6}$ cm/sec[11]	$\leq 1 \times 10^{-6}$ cm/sec	1000-year 24-hour precipitation	Withstand maximum credible earthquake
Class II	Waste Pile	Optional[4,5], $\leq 1 \times 10^{-6}$ cm/sec	Not required	May be required, blanket type	May be required	$\leq 1 \times 10^{-6}$ cm/sec[11]	$\leq 1 \times 10^{-6}$ cm/sec	1000-year 24-hour precipitation	Withstand maximum credible earthquake
Class III	Non MSW Landfill	Optional, $\leq 1 \times 10^{-6}$ cm/sec (see §20260)	Not required	Required if liner is required, blanket or dendritic	Required	$\leq 1 \times 10^{-6}$ cm/sec, if required	$\leq 1 \times 10^{-6}$ cm/sec, if required	100-year, 24-hour precipitation[12]	Withstand at least the maximum probable earthquake (see §20370)
Class III	MSW Landfill[13]	Special[13]	Special[13]	Special[13]	Required	$\leq 1 \times 10^{-6}$ cm/sec, if required	$\leq 1 \times 10^{-6}$ cm/sec, if required	100-year, 24-hour precipitation	Withstand at least the maximum probable earthquake (see §20370)

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1 Applicable regulations in this article may provide for exemptions to certain requirements. §20310(d) describes applicability to existing facilities.
All permeabilities specified in this table are maximum allowable permeabilities.
3 [Reserved.] *Note: This footnote left in Ch-15 (of Division 3, Title 23, CCR), as it applies only to Class I Units.*
4 A synthetic liner alone may be allowed based on nature of waste to be contained and duration of the operation. A waste pile with a synthetic liner alone may not be closed as a landfill pursuant to §21410 of this subchapter. The synthetic liner hydraulic conductivity shall be the same or less than that which would be required for a clay liner.
5 Clay liner required unless Units are underlain by a substantial thickness of natural geologic materials with hydraulic conductivity of 1×10^{-6} cm/sec [i.e., 1 foot/year] or less.
6 Single liner shall be a clay liner and removed or replaced as described in §20330. Double liner systems shall have either an outer clay liner or shall be underlain by a substantial thickness of natural geologic materials with an hydraulic conductivity of 1×10^{-5} cm/sec [i.e., 1 foot/year] or less to act as an outer liner.
7 [Reserved.]
8 [Reserved.]
9 [Reserved.]
10 [Reserved.]
11 Cutoff walls required where there is potential for lateral movement of fluid, including waste or leachate, and the hydraulic conductivity of natural geologic materials is used for waste containment.
12 For Units other than MSW landfills, the RWQCB can grant an exemption to this design storm requirement if the discharger can demonstrate that the integrity of facilities will not be jeopardized if this criterion is not met.
13 All Class II or Class III landfills that received MSW at any time and that received solid waste after October 9, 1991 (MSW landfills) are subject to the additional state and federal requirements contained (or incorporated by reference) in SWRCB Resolution No. 93-62.

Figure 4.1:

SUMMARY OF LINER REQUIREMENTS FOR CLASSIFIED WASTE MANAGEMENT UNIT

(Footnotes on back of page)

NOTE: all figures are shown at the end of this file.

FOOTNOTES FOR FIGURE 4.1: SUMMARY OF LINER REQUIREMENTS FOR CLASSIFIED UNITS (FOR MSW LANDFILLS, SEE ADDITIONAL REQUIREMENTS IN SWRCB RESOLUTION NO. 93-62).

a. Requirements from Chapter 3, Subdivision 1 of this division.

b. Designed to convey twice the anticipated volume of leachate; must ensure no buildup of hydraulic head on liner; blanket type required unless otherwise specified.

c. Minimum 40 mils thick.

d. Must be compatible with waste and/or leachate.

e. Cutoff walls required where potential exists for lateral movement of waste or leachate.

f. Acceptability of synthetic liner depends on nature of waste and duration of operation.

g. Liner and waste to be removed at closure.

h. Substantial thickness of natural geologic material with maximum hydraulic conductivity of $1x10^{-6}$ cm/sec (i.e., 1.0 foot/year). For MSW landfills, see SWRCB Resolution No. 93-62 for superseding containment system requirements.

i. Minimum thickness of 2 feet; maximum hydraulic conductivity of $1x10^{-6}$ cm/sec (i.e., 1.0 foot/year). For MSW landfills, see SWRCB Resolution No. 93-62 for superseding containment system requirements.

j. Liner removed or replaced before lower 25% (minimum 1 foot thickness) of the liner is penetrated by waste or leachate.

k. Soil characteristics, distance from waste to ground water, and other factors must ensure no impairment of beneficial uses of ground water. Leachate collection system required for sludge disposal. For MSW landfills, see SWRCB Resolution No. 93-62 for superseding containment system requirements.

l. Minimum thickness of 1 foot; maximum hydraulic conductivity of $1x10^{-6}$ cm/sec (i.e., 1.0 foot/year). For MSW landfills, see SWRCB Resolution No. 93-62 for superseding containment system requirements.

m. Dendritic system allowed if wastes in contact with the liner will remain permeable and liner is sloped toward the system to prevent ponding. For MSW landfills, see SWRCB Resolution No. 93-62 for superseding containment system requirements.

20320. SWRCB - General Criteria for Containment Structures. (C15: §2541)

(a) **Material Properties** — Materials used in containment structures shall have appropriate chemical and physical properties to ensure that such structures do not fail to contain waste because of pressure gradients (including hydraulic head and external hydrogeologic forces), physical contact with the waste or leachate, chemical reactions with soil and rock, climatic conditions, the stress of installation, or because of the stress of daily operation.

(b) **Applicable Permeants** — Hydraulic conductivities specified for containment structures other than cover shall be relative to the fluids, including waste and leachate, to be contained. Hydraulic conductivities specified for final cover shall be relative to water.

(c) **Determining Hydraulic Conductivity** — Hydraulic conductivities shall be determined primarily by appropriate field test methods in accordance with accepted civil engineering practice. The results of laboratory tests with both water and leachate, and field tests with water *(e.g., on the test pad)*, shall be compared to evaluate how the field permeabilities will be affected by leachate. It is acceptable for the discharger to use appropriate compaction tests in conjunction with laboratory hydraulic conductivity tests to determine field permeabilities as long as a reasonable number of field hydraulic conductivity tests are also conducted *(e.g., a sealed double-ring infiltrometer test on the test pad)*.

(d) **Soils Used in Containment Structures** — Earthen materials used in containment structures other than cutoff walls and grout curtains shall consist of a mixture of clay and other suitable fine grained soils which have the following characteristics, and which, in combination, can be compacted to attain the required hydraulic conductivity when installed. Liners made of such materials are referred to as "clay liners" in this subchapter.

(1) At least 30 percent of the material, by weight, shall pass a No. 200 U.S. Standard sieve.

(2) The materials shall be fine grained soils with a significant clay content and without organic matter, and which is a clayey sand, clay, sandy or silty clay, or sandy clay under a soil classification system having industry-wide use *[e.g., the "SC", "CL", or "CH" soil classes under ASTM Designation: A2487-93 Standard Classification of Soils for Engineering Purposes (Unified Soil Classification System)]*.

(e) **Synopses** — Construction standards for waste management units other than land treatment are given on Table 4.1 and in Figure 4.1.

NOTE: Authority cited: Section 1058, Water Code. Reference: Sections 13172 and 13360, Water Code; Section 43103, Public Resources Code.

20323. SWRCB - CQA Plan. (new)

After July 18, 1997, the RWQCB shall require construction for all liner systems and final cover systems to be carried out in accordance with a CQA plan certified by an appropriately registered professional to satisfy the requirements of §20324. If the RWQCB finds that any construction of the liner system or final cover system was undertaken in the absence of a CQA plan that satisfies the requirements of §20324, the RWQCB shall require the discharger to undertake any corrective construction needed to achieve such compliance.

NOTE: Authority cited: Section 1058, Water Code. Reference: Sections 13172 and 13360, Water Code; Section 43103, Public Resources Code.

20324. SWRCB - CQA Requirements. (T14: §17774)

(a) **Performance Standard** — The construction quality assurance (**CQA**) program, including all relevant aspects of construction quality control (**CQC**), shall provide evidence that materials and procedures utilized in the placement of the any containment feature at a waste management unit (**Unit**) will be tested and monitored to assure the structure is constructed in accordance with the design specifications approved by the RWQCB.

(b) **Professional Qualifications.**

(1) The design professional who prepares the CQA plan shall be a registered civil engineer or certified engineering geologist; and

(2) The construction quality assurance program shall be supervised by a registered civil engineer or certified engineering geologist who shall be designated the CQA officer.

(c) **Reports.**

(1) The project's CQA report shall address the construction requirements, including any vegetation procedures, set forth in the design plan for the containment system. For each specified phase of construction, this report shall include, but not be limited to:

(A) a delineation of the CQA management organization, including the chain of command of the CQA inspectors and contractors;

(B) a detailed description of the level of experience and training for the contractor, the work crew, and CQA inspectors for every major phase of construction in order to ensure that the installation methods and procedures required in the containment system design will be properly implemented.

(C) a description of the CQA testing protocols for preconstruction, construction, and postconstruction which shall include at a minimum:

1. the frequency of inspections by the operator,

2. the sampling and field testing procedures and equipment to be utilized, and the calibration of field testing equipment,

3. the frequency of performance audits determined by the design professional and examined by the CQA officer,

4. the size, method, location and frequency of sampling, sampling procedures for laboratory testing, the soils or geotechnical laboratory to be used, the laboratory procedures to be utilized, the calibration of laboratory equipment and quality assurance and quality control of laboratory procedures,

5. the pass/fail criteria for sampling and testing methods used to achieve containment system design, and

6. a description of the corrective procedures in the event of test failure.

(d) **Documentation** — Construction quality assurance documentation requirements shall include, at the minimum: reports bearing unique identifying sheet numbers for cross referencing and document control, the date, project name, location, descriptive remarks, the data sheets, inspection activities, and signature of the designated authorities with concurrence of the CQA officer.

(1) **The documentation shall include:**

(A) **Daily Summary Reports** — daily recordkeeping, which shall include preparation of a summary report with supporting inspection data sheets, problem identification and corrective measures reports. Daily summary reports shall provide a chronological framework for identifying and recording all other reports. Inspection data sheets shall contain all observations (i.e., notes, charts, sketches, or photographs), and a record of field and/or laboratory tests. Problem identification and corrective measures reports shall include detailed descriptions of materials and/or workmanship that do not meet a specified design and shall be cross-referenced to specific inspection data sheets where the problem was identified and corrected;

(B) **Acceptance Reports** — all reports shall be assembled and summarized into Acceptance Reports in order to verify that the materials and construction processes comply with the specified design. This report shall include, at a minimum, inspection summary reports, inspection data sheets, problem identification and corrective measures reports;

(C) **Final Documentation** — at the completion of the project, the operator shall prepare a Final Documentation which contains all reports submitted concerning the placement of the containment system. This document shall provide evidence that the CQA plan was implemented as proposed and that the construction proceeded in accordance with design criteria, plans, and specifications. The discharger shall submit copies of the Final Documentation report to the RWQCB as prepared by the CQA officer.

(2) Once construction is complete, the document originals shall be stored by the discharger in a manner that will allow for easy access while still protecting them from any damage. All documentation shall be maintained throughout the postclosure maintenance period.

(e) **Laboratory Testing Requirements.** *[Note: the following (ASTM) standards are available from the American Society of Testing and Materials (ASTM), 100 Barr Harbor Drive, West Conshohocken, PA 19428-2929, phone: 610-832-9585.]*

(1) Analysis of earthen materials shall be performed prior to their incorporation into any containment system component. Representative samples for each layer within the containment system shall be evaluated. The following minimum laboratory testing procedures shall be performed:

(A) ASTM Designation: D 1557 91 [1/91], "*Laboratory Compaction Characteristics of Soil Using Modified Effort (2,700 kN-m/m3)*" which is incorporated by reference;

(B) ASTM Designation: D 422 63 (Reapproved) [9/90], "*Standard Method for Particle Size Analysis of Soils*," which is incorporated by reference; and

(C) ASTM Designation: D 2487 93 [11/93], "*Standard Classification of Soils for Engineering Purposes*," which is incorporated by reference.

(2) In addition to the tests listed in . (e and f), the following minimum laboratory tests shall be performed on low-hydraulic-conductivity layer components constructed from soil:

(A) ASTM Designation: D 4318 93 [11/93], "*Standard Test Method for Liquid Limit, Plastic Limit, and Plasticity Index of Soils*," which is incorporated by reference; and

(B) United States Environmental Protection Agency (USEPA) Test Method 9100 [Approved 9-86], "*Triaxial-Cell Method with Back Pressure*," which is incorporated by reference.

(f) **Field Testing Requirements** — The following minimum field test procedure shall be performed for each layer in the containment system: *ASTM Designation: D 2488 93 [9/93], Standard Practice for Description and Identification of Soils (Visual Manual Procedure)*, which is incorporated by reference.

(g) **Test Fill Pad Requirements** — Before installing the compacted soil barrier layer component of a final cover system, or the compacted soil component of a liner system, the operator shall accurately establish the correlation between the design hydraulic conductivity and the density at which that conductivity is achieved. To accomplish this the operator shall:

(1) provide a representative area for a test on any compacted foundation and low-hydraulic-conductivity layers. The following minimum testing procedures shall be performed:

(A) the test pad foundation and, for final covers, the barrier layers shall be compacted with the designated equipment to determine if the specified density/moisture-content/hydraulic-conductivity relationships determined in the laboratory can be achieved in the field with the compaction equipment to be used and at the specified lift thickness;

(2) perform laboratory tests as specified in subsection (e); and

(3) perform field tests as specified in subsection (f). The discharger shall perform hydraulic conductivity tests in the test area under saturated conditions by using the standard test method ASTM Designation: D 3385 94 [9/94], "Standard Test Method for Infiltration Rate of Soils in Field Using Double Ring Infiltrometer," which is incorporated by reference, for vertical hydraulic conductivity measurements. A sufficient number of tests shall be run to verify the results. Other methods that provide an accurate and precise method of measuring field hydraulic conductivity may be utilized as approved by the RWQCB.

(4) Correlations between laboratory tests and test pad results shall be established for each of the various types of fill materials and blends to be used in construction of the actual cover.

(h) **Earthen Material Requirements.**

(1) The following minimum tests shall include, but not be limited to:

(A) Laboratory tests as specified in . (e); and

(B) Field tests as specified in subsections (f and g).

(2) The following minimum testing frequencies shall be performed:

(A) Four (4) field density tests shall be performed for each 1,000 cubic yards of material placed, or at a minimum of four (4) tests per day;

(B) Compaction curve data (ASTM Designation: D 1557 91) graphically represented, and Atterberg limits (ASTM Designation: D 4318 93) shall be performed on the barrier layer material once a week and/or every 5,000 cubic yards of material placed;

(C) For field hydraulic conductivity tests, representative samples shall be performed on barrier layer material;

1. The frequency of testing may be increased or decreased, based on the pass/failure status of previous tests, as approved by the RWQCB.

2. Field infiltration tests shall be performed for the duration necessary to achieve steady conditions for the design hydraulic conductivity.

3. The following interpretive equation shall be used to determine the design hydraulic conductivity:

The infiltration rate (I) is defined as:

$$I = Q/(tA)$$

where:

Q = volume of flow;

t = interval of time corresponding to flow Q; and

A = area of the ring;

then the hydraulic conductivity (k) can be calculated from Darcy's law as follows:

$$k = I/i$$

where:

I = infiltration rate; and

i = hydraulic gradient.

(i) **Geosynthetic Membrane Requirements.**

(1) Performance requirements for the geosynthetic membrane include, but are not limited to, the following:

(A) a need to limit infiltration of water, to the greatest extent possible;

(B) a need to control landfill gas emissions;

(C) for final covers, mechanical compatibility with stresses caused by equipment traffic, and the result of differential settlement of the waste over time; and

(D) for final covers, durability throughout the postclosure maintenance period.

(2) **Minimum Criteria** — The minimum construction quality assurance criteria to ensure that geosynthetic membranes will meet or exceed all design specifications shall include, but not be limited to:

(A) Preconstruction quality control program:

1. inspection of the raw materials (e.g., density, melt flow index, percent carbon Black);

2. manufacturing operations and finished product specifications (e.g., thickness, puncture resistance, multi axial stress/strain tests),

3. fabrication operations (e.g., factory seaming);

4. observations related to transportation, handling, and storage of the geosynthetic membrane; and

5. inspection of foundation preparation;

(B) Construction activities:

1. the geosynthetic membrane shall have thickness strength sufficient to withstand the stresses to which it shall be subjected, including shear forces, puncture from rocks or, for final covers, penetration from roots.

2. inspection of geosynthetic membrane placement (e.g., trench corners, monitoring systems).

3. seaming of the material; and

4. installation of anchors and seals;

(C) **Postconstruction Activity** — postconstruction activity includes checking for material and placement imperfections in the installed geosynthetic membrane. Imperfections that jeopardize the integrity of the membrane's function as an impermeable barrier (i.e., pin holes, rips, creases created during placement) shall be repaired to the original manufacturer's specifications and reinspected by the CQA officer; and

(D) **Evaluation** — evaluation of the personnel and equipment to be used to install and inspect the geosynthetic membrane, and pass/fail criteria and corrective procedures for material and installation procedures shall be specified as required in _(c).

NOTE: Authority cited: Section 1058, Water Code. Reference: Sections 13172 and 13360, Water Code; Section 43103, Public Resources Code.

_20330. SWRCB - Liners. (C15: §2542)

(a) **Performance Standard** — Liners shall be designed and constructed to contain the fluid, including landfill gas, waste, and leachate, as required by Article 3 of this subchapter (§20240 et seq., and §20310).

(b) **Clay Liners** — Clay liners for a Class II Unit shall be a minimum of 2 feet thick and shall be installed at a relative compaction of at least 90 percent. For a Class III landfill, a clay liner, if required, shall be a minimum of 1 foot thick and shall be installed at a relative compaction of at least 90 percent. For MSW landfills subject to the liner requirements in the federal MSW regulations of 40CFR258, after the Federal Deadline for liners at that Unit, the requirements of this paragraph are superseded by those of SWRCB Resolution No. 93-62 for all portions of the Unit outside the Existing Footprint.

(c) **FMLs** — Flexible membrane liners ("FMLs," or synthetic liners) shall have a minimum thickness of 40 mils (i.e., 0.040"). For an MSW landfill subject to the liner requirements in the federal MSW regulations (40CFR258), after the Federal Deadline for liners at that Unit, the requirements of this paragraph are superseded by those of SWRCB Resolution No. 93-62 for all portions of the Unit outside the Existing Footprint.

(d) **Lined Area** — Liners shall be installed to cover all natural geologic materials (at the Unit) that are likely to be in contact with waste (including landfill gas or leachate).

(e) **S.I. With Replaceable Liner** — A Class II surface impoundment may have a single clay liner with a hydraulic conductivity of 1×10^{-6} cm/sec (i.e., 1 foot/year) or less if the liner is removed or replaced before the last 25 percent (minimum 1 foot thickness) of the liner is penetrated by fluid, including waste or leachate. The method used to determine seepage velocity shall be included with the calculations of liner penetration.

NOTE: Authority cited: Section 1058, Water Code; Reference: Sections 13172 and 13360, Water Code; Section 43103, Public Resources Code.

_20340. SWRCB - Leachate Collection and Removal Systems (LCRS). [C15: §2543 // T14: §17781(b)(2) & (d)(1)]

(a) **Basic LCRS Design** — Leachate collection and removal systems (LCRS) are required for Class II landfills and surface impoundments, and for Class III landfills which have a liner or which accept sewage or water treatment sludge. The LCRS shall be installed directly above underlying containment features for landfills and waste piles, and installed between the liners for surface impoundments. LCRS requirements are summarized on Table 4.1. Class II landfills and waste piles which contain only dry wastes (not including nonhazardous solid waste and decomposable waste) may be allowed to operate without an LCRS if the discharger demonstrates, based on climatic and hydrogeologic conditions, that leachate will not be formed in, or migrate from, the Unit; nevertheless, for a Class II or Class III MSW landfill, after the Federal Deadline for installing liners at that Unit, the LCRS requirements of SWRCB Resolution No. 93-62 apply to all portions outside of the Unit's Existing Footprint.

(b) **Placement** — Except as otherwise provided in _(e or f), where an LCRS is used, it shall be installed immediately above the liner (except in the case of a surface impoundment), and between the inner and outer liner of a double liner system, and shall be designed, constructed, maintained, and operated to collect and remove twice the maximum anticipated daily volume of leachate from the Unit.

(c) **Head Buildup** — The RWQCB shall specify design and operating conditions in WDRs to ensure that there is no buildup of hydraulic head on the liner. The depth of fluid in the collection sump shall be kept at the minimum needed to ensure efficient pump operation.

(d) **Clogging** — LCRSs shall be designed and operated to function without clogging through the scheduled closure of the Unit and during the post closure maintenance period. The systems shall be tested at least annually to

demonstrate proper operation. The results of the tests shall be compared with earlier tests made under comparable conditions.

(e) **Standard LCRS** — LCRSs shall consist of a permeable subdrain layer which covers the bottom of the Unit and extends as far up the sides as possible, (i.e., blanket type) except as provided in (f). The LCRS shall be of sufficient strength and thickness to prevent collapse under the pressures exerted by overlying wastes, waste cover materials, and by any equipment used at the Unit.

(f) **Alternative LCRS** — Except as otherwise required for MSW landfills, under SWRCB Resolution No. 93-62, if a Class III landfill is required to have an artificial liner and receives only permeable waste that allows free drainage of percolating fluid, the RWQCB can allow the use of a dendritic LCRS which underlies less than 100 percent of the waste; in this type of LCRS system, only wastes which have an hydraulic conductivity which approximates that of subdrain material, and which will remain permeable throughout the active life and post closure maintenance period of the landfill, shall be placed adjacent to the liner. Furthermore, to prevent ponding, when using this type of LCRS, all portions of the liner not overlain by a portion of the subdrain system shall be sloped towards the subdrain so that ponding is minimized and leachate is removed as quickly as possible from the base of the landfill.

(g) **Leachate Handling** — Except as otherwise provided under SWRCB Resolution No. 93-62 (for MSW landfills subject to 40CFR258.28), collected leachate shall be returned to the Unit(s) from which it came or discharged in another manner approved by the RWQCB. Collected leachate can be discharged to a different Unit only if:

(1) the receiving Unit has an LCRS, contains wastes which are similar in classification and characteristics to those in the Unit(s) from which leachate was extracted, and has at least the same classification (under Article 3 of this subchapter) as the Unit(s) from which leachate was extracted;

(2) the discharge to a different Unit is approved by the RWQCB;

(3) the discharge of leachate to a different Unit shall not exceed the moisture holding capacity of the receiving unit, and shall comply with §20200(d).

(h) **Leachate Production Rate** — After July 18, 1997, for a landfill equipped with an LCRS, the discharger shall note, as a part of each regularly scheduled monitoring report [under Article 1, Subchapter 3, Chapter 3 of this division (§20380 et seq.)], the total volume of leachate collected each month since the previous monitoring report.
NOTE: Authority cited: Section 1058, Water Code; Reference: Sections 13172 and 13360, Water Code; Section 43103, Public Resources Code.

20360. SWRCB - Subsurface Barriers. (C15: §2545)

(a) Subsurface barriers are cutoff walls or grout curtains which are used in conjunction with natural geologic materials to assure that lateral hydraulic conductivity standards specified in Article 3 of this subchapter are satisfied. Paragraphs (b) and (c) specify conditions under which cutoff walls and grout curtains, respectively, are used.

(b) **Cutoff walls.**

(1) Cutoff walls are required at Class II Units where there is potential for lateral movement of fluid, including waste or leachate, and the hydraulic conductivity of natural geologic materials is used for waste containment in lieu of a liner. Cutoff walls shall be installed at Class III landfills as required by the RWQCB.

(2) Cutoff walls shall be:

(A) a minimum of two feet thick for clay materials; or

(B) a minimum of 40 mils (i.e., 0.040") thick for synthetic materials; and

(C) regardless of the option under (b)(2)(A or B), shall be keyed a minimum of five feet into natural geologic material which satisfies the applicable hydraulic conductivity requirements in Article 3 of this subchapter.

(3) If cutoff walls are used, excavations for Units shall be keyed into natural geologic materials which satisfy applicable hydraulic conductivity requirements in Article 3 of this Subchapter.

(4) At closure of a waste pile or surface impoundment, all contaminated natural geologic materials present between the cutoff wall(s) and the waste shall be removed and disposed of at an authorized location, or the Unit shall be closed as a landfill.

(5) Cutoff walls shall have fluid collection systems installed upgradient of the structure. The systems shall be designed, constructed, operated, and maintained to prevent the buildup of hydraulic head against the structure. The collection system shall be inspected regularly, and accumulated fluid shall be removed.

(c) **Grout Curtains.**

(1) Grout curtains may be used as needed to prevent lateral waste movement through fractures in natural geologic materials that otherwise satisfy applicable hydraulic conductivity requirements in Article 3 of this Subchapter. Only fractures that are at or near the surface and are of limited vertical extent may be grouted.

(2) The acceptability of grout curtains for a Unit shall include consideration of:

(A) depth and nature of fracturing; and

(B) fracture orientation.

(3) Grout characteristics shall not be adversely affected by fluid, including waste and leachate, or natural conditions.

(4) Optimum grouting pressure and the placement of grout holes shall be determined by test grouting.

NOTE: Authority cited: Section 1058, Water Code; Reference: Sections 13172 and 13360, Water Code; Section 43103, Public Resources Code.

20365. SWRCB - Precipitation and Drainage Controls. [C15: §2546 // T14: §17778(e), (f)(1), (g), & (j)]

(a) **General** — Units and their respective containment structures shall be designed and constructed to limit, to the greatest extent possible, ponding, infiltration, inundation, erosion, slope failure, washout, and overtopping under the precipitation conditions specified in Table 4.1 (of this article) for each class of waste management unit (Unit). *[Note: see also §21090(b)(1).]*

(b) **Undiverted Precipitation** — Precipitation on landfills or waste piles which is not diverted by covers or drainage control systems shall be collected and managed through the leachate collection and removal system, which shall be designed and constructed to accommodate precipitation conditions specified in Table 4.1 of this article or each class Unit.

(c) **Performance Standards** — Diversion and drainage facilities shall be designed, constructed, and maintained:

(1) to accommodate the anticipated volume of precipitation and peak flows from surface runoff under the precipitation conditions specified in Table 4.1 of this article for each class of Unit;

(2) to effectively divert sheet flow runoff laterally, or via the shortest distance, into the drainage and collection facilities;

(3) to prevent surface erosion through the judicious use of:

(A) energy dissipators where required to decrease the velocity of runoff; and

(B) slope protection and other erosion control measures;

(4) to control and intercept run-on, in order to isolate uncontaminated surface waters from water that might have come into contact with waste;

(5) to take into account:

(A) for closed Units and for closed portions of Units, the expected final contours of the closed Unit, including its planned drainage pattern;

(B) for operating portions of Units other than surface impoundments, the Unit's drainage pattern at any given time;

(C) the possible effects of the Unit's drainage pattern on and by the regional watershed;

(D) the design capacity of drainage systems of downstream and adjacent properties by providing for the gradual release of retained water downstream in a manner which does not exceed the expected peak flow rate at the point of discharge if there were no waste management facility; and

(6) to preserve the system's function. Therefore, the discharger shall periodically remove accumulated sediment from the sedimentation or detention basins as needed to preserve the design capacity of the system.

(d) **Maintain Capacity** — Collection and holding 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.

(e) **Divert Drainage** — Surface and subsurface drainage from outside of a Unit shall be diverted from the Unit.

(f) **Resist Erosion from Design Storm** — Cover materials shall be graded to divert precipitation from the Unit, to prevent ponding of surface water over wastes, and to resist erosion as a result of precipitation with the return frequency specified in Table 4.1 (of this article) for each class of Unit, unless, for a landfill, the CIWMB/EA requires (for protection of public health and safety) that the design be capable of resisting erosion resulting from a longer return interval storm [see §21150(b)]. Any drainage layer in the final cover shall be designed and constructed to intersect with the final drainage system for the Unit in a manner promoting free drainage from all portions of the drainage layer.

NOTE: Authority cited: Section 1058, Water Code; Reference: Sections 13172 and 13360, Water Code; Section 43103, Public Resources Code.

20370. SWRCB - Seismic Design. (C15: §2547)

(a) Class II Units shall be designed to withstand the maximum credible earthquake (MCE) without damage to the foundation or to the structures which control leachate, surface drainage, or erosion, or gas. Class III Units shall be designed to withstand the maximum probable earthquake (MPE) without damage to the foundation or to the structures which control leachate, surface drainage, or erosion, or gas. *[Note: see also submittal requirements under §21750(f)(5)]*

NOTE: Authority cited: Section 1058, Water Code; Reference: Sections 13172 and 13360, Water Code; Section 43103, Public Resources Code.

20375. SWRCB - Special Requirements for Surface Impoundments. (C15: §2548)

(a) **Freeboard** — Surface impoundments shall have sufficient freeboard to accommodate seasonal precipitation and the design storm specified in Table 4.1 of this article, but in no case less than 2 feet (measured vertically, from the water surface up to the point on the surrounding lined berm, or dike, having the lowest elevation), and shall be designed and constructed to prevent overtopping as a result of wind conditions likely to accompany such precipitation conditions. The RWQCB can allow a freeboard of less than 2 feet at surface impoundments located on the interior portions of a waste management facility where: 1) these interiormost impoundments are designed such that potential overflows would be reliably conveyed by gravity flow and discharged to other surface impoundments having adequate capacity to receive such diversion without exceeding their respective freeboard limitations; 2) the operation implements a properly developed water balance plan; and 3) the facility is provided with a fail safe emergency retention area solely for the purpose of containing wastes due to surface impoundment failures.

(b) **Operation Plan** — An operation plan shall be submitted to the RWQCB which will provide operation levels and waste input quantities permitted each month based on anticipated precipitation and on past precipitation conditions for the year.

(c) **Fail-Safe** — Direct pipeline discharge to surface impoundments shall be either equipped with devices or shall have fail safe operating procedures to prevent overfilling. Discharges shall be stopped in the event of any containment system failure which causes a threat to water quality.

(d) **Unauthorized Discharges** — There shall be no discharge from a surface impoundment except as authorized by WDRs.

(e) **Scour Protection** — Surface impoundments shall be designed and constructed to prevent scouring of containment structures at points of discharge into the impoundments and by wave action at the waterline.

(f) **Liner Inspections** — All visible portions of synthetic liners shall be inspected weekly until all free liquid is removed from the surface impoundment as part of closure pursuant to §21400(a). If, during the active life of the impoundment, the wastes are removed and the bottom of the impoundment is cleaned down to the liner, an inspection shall be made of the bottom of the liner prior to refilling of the impoundment.
NOTE: Authority cited: Section 1058, Water Code; Reference: Sections 13172 and 13360, Water Code; Section 43103, Public Resources Code.

20377. SWRCB - Special Requirements for Land Treatment Units (LTUs). (C15: §2549)

(a) **General** — Dischargers operating LTUs shall comply with the general criteria specified in §20320(a & d), with the precipitation and drainage controls specified in §20365, and with the seismic design criteria in §20370.

(b) **Performance Standard** — Dischargers shall design, construct, operate, and maintain LTUs to maximize the degradation, transformation, and immobilization of waste constituents in the treatment zone. Dischargers shall design, construct, operate, and maintain units in accord with all design and operating conditions that were used in treatment demonstrations under §20250.
NOTE: Authority cited: Section 1058, Water Code; Reference: Sections 13172 and 13360, Water Code; Section 43103, Public Resources Code.

Subchapter 3. Water Monitoring

[Note: For gas monitoring at landfills, see Article 6, Subchapter 4 of this chapter. For final cover monitoring at landfills, see §21090(a)(4).]

Article 1. SWRCB - Water Quality Monitoring and Response Programs for Solid Waste Management Units

20380. SWRCB - Applicability. (C15: §2550.0)

(a) The regulations in this article apply to owners or operators of facilities that treat, store, or dispose of waste at waste management units. The owner or operator of a surface impoundment, waste pile, landfill, or land treatment unit that receives or has received waste (hereinafter referred to as **"waste management units,"** or **"Units"**) that is subject to the SWRCB-promulgated requirements of this division, pursuant to §§20080 and 20090 shall comply with the provisions of this article for purposes of detecting, characterizing, and responding to releases to ground water, surface water, or the unsaturated zone. Furthermore, §20400 of this article also applies to all determinations of alternative cleanup levels for unpermitted discharges to land of solid waste, pursuant to III.G. of SWRCB Resolution No. 92-49 [§2550.4 of Title 23 of this code serves a similar function for unpermitted discharges to land of hazardous waste].

(b) **Known or Reasonably Foreseeable Release** — In accordance with applicable requirements of §§22220-22222, waste discharge requirements (WDRs) for a Unit subject to this section shall contain a provision which requires the discharger to obtain and maintain assurances of financial responsibility for initiating and completing corrective action for all known or reasonably foreseeable releases from the Unit.

(c) [Reserved]

(d) **Apply Unless Clean-Closed** — The regulations under this article apply during the Unit's active life and closure period. After closure of the Unit, the regulations in this article apply during the post closure maintenance period of the Unit and during any compliance period under §20410 of this article, unless:

(1) the Unit has been in compliance with the water quality protection standard (**"Water Standard"** of §20390) for a period of three consecutive years; and

(2) **Clean-Closure** — all waste, waste residues, contaminated containment system components, contaminated subsoils, and all other contaminated materials are removed or decontaminated at closure, pursuant to: §21090(f), for landfills; §21400(b)(1), for surface impoundments; or §21410(a)(1), for waste piles.

(e) **Allowable Engineered Alternatives** — In considering a monitoring proposal by the discharger, the RWQCB can allow an engineered alternative for any of the prescriptive standards in this article so long as the RWQCB:

(1) finds that each engineered alternative meets the requirements of §20080(b & c);

(2) finds, for each applicable program under §20385, that the discharger's proposed monitoring-data procurement and analysis methods achieve the program's respective goals, including:

(A) for a detection monitoring program, the goals articulated in §20420(b);

(B) for an evaluation monitoring program, the goals articulated in §20425(a)(2); and

(C) for a corrective action program, the goals articulated in §20430(b);

(3) requires ground water monitoring at least annually at disposal Units and at Units that will be used for five or more years for waste treatment or storage.

Note: Authority cited: Section 1058, Water Code. Reference: Sections 13172 and 13267, Water Code; Section 43103, Public Resources Code.

20385. SWRCB - Required Programs. (C15: §2550.1)

(a) **Monitoring Programs & their Respective Triggers** — A discharger subject to this article shall conduct a monitoring and response program, approved by the RWQCB, for each Unit at the facility as follows.

(1) **Detection Monitoring (default)** — The discharger shall institute a detection monitoring program (under §20420) except as required below under (a)(2-4);

(2) **Evaluation Monitoring (trigger #1)** — The discharger shall institute an evaluation monitoring program (under §20425) whenever there is **"measurably significant"** (see §20164) evidence of a release from the Unit during a detection monitoring program [under §20420(g or i)];

(3) **Evaluation Monitoring (trigger #2)** — The discharger shall institute an evaluation monitoring program (under §20425) whenever there is significant physical evidence of a release from the Unit. Significant physical evidence of a release includes unexplained volumetric changes in surface impoundments, unexplained stress in biological communities, unexplained changes in soil characteristics, visible signs of leachate migration, and unexplained water table mounding beneath or adjacent to the Unit and any other change to the environment that could reasonably be expected to be the result of a release from the Unit; and

(4) **Corrective Action** — The discharger shall institute a corrective action program under §20430 of this article when the RWQCB determines (pursuant to §20425) that the assessment of the nature and extent of the release and the design of a Corrective Action Program have been satisfactorily completed and the RWQCB approves the application for an amended report of waste discharge for corrective action submitted by the discharger during an evaluation monitoring program [pursuant to §20425(d)].

(b) **Preparation for Other Programs** — The RWQCB shall specify in the WDRs the specific type or types of monitoring programs required and the specific elements of each monitoring and response program. For each Unit,

the RWQCB shall require one or more of the programs identified in (a) that is appropriate for the prevailing state of containment at the Unit, and shall specify the circumstances under which each of the programs will be required. In deciding whether to require the discharger to be prepared to institute a particular program, the RWQCB shall consider the potential adverse effects on human health or the environment that might occur before final administrative action on an amended report of waste discharge to incorporate such a program could be taken.

(c) **Concurrent Detection Monitoring Program, Where Necessary** — In conjunction with an evaluation monitoring program or a corrective action program, the discharger shall continue to conduct a detection monitoring program as necessary to provide the best assurance of the detection of subsequent releases from the Unit.

Note: Authority cited: Section 1058, Water Code. Reference: Sections 13172, 13263, 13267, and 13304 Water Code; Section 43103, Public Resources Code.

20390. SWRCB - Water Quality Protection Standard (Water Standard). (C15: §2550.2)

(a) **Components & Duration** — For each Unit, the RWQCB shall establish a water quality protection standard (**Water Standard**) in the WDRs. This Water Standard shall consist of the list of constituents of concern (under §20395), the concentration limits (under §20400), and the Point of Compliance and all Monitoring Points (under §20405). This Water Standard shall apply during the active life of the Unit, the closure period, the post closure maintenance period, and during any compliance period (under §20410).

(b) **Program-Specific Water Standards** — If a discharger is conducting a detection monitoring program in conjunction with a corrective action program for a Unit [pursuant to §20385(c)], the RWQCB may establish separate Water Standards for each program.

Note: Authority cited: Section 1058, Water Code. Reference: Sections 13172, 13263, 13267, and 13304, Water Code; Section 43103, Public Resources Code.

20395. SWRCB - Constituents of Concern (COCs). (C15: §2550.3)

(a) **COCs** — For each Unit, the RWQCB shall specify in the WDRs the Constituents of Concern (COCs) to which the Water Standard (under §20390) applies. The COC list shall include all waste constituents, reaction products, and hazardous constituents that are reasonably expected to be in or derived from waste contained in the Unit.

(b) **MSW COCs** — For MSW landfills, the COC list shall include all constituents mandated under SWRCB Resolution No. 93-62.

Note: Authority cited: Section 1058, Water Code. Reference: Sections 13172, 13263, and 13267, Water Code; Section 43103, Public Resources Code.

20400. SWRCB - Concentration Limits. (C15: §2550.4)

[Note: The special applicability of this section is described in §20380(a); see also §20080(a).]

(a) **Proposal of Concentration Limits** — For each Constituent of Concern (COC) specified pursuant to §20395 (or for a solid waste constituent that is addressed by a cleanup and abatement action taken pursuant to SWRCB Resolution No. 92-49), the discharger shall propose one of the following for each medium (under §20415, including ground water, surface water, and the unsaturated zone) monitored pursuant to §20415 of this article:

(1) **Background Value** — a concentration limit not to exceed the background value of that constituent as determined pursuant to §20415(e)(10)(A);

(2) **Value Redetermined Each Time** — that the WDRs include a statement that, at any given time, the concentration limit for that COC will be equal to the background value of that constituent, as determined pursuant to §20415(e)(10)(B); or

(3) **CLGBC** — a concentration limit greater than background (**CLGB**) established pursuant to this section for a corrective action program.

(b) **Adoption of Concentration Limits** — The RWQCB shall review the proposed concentration limits and statements and shall approve, modify, or disapprove each proposed limit and each proposed statement. Upon final approval by the RWQCB, each concentration limit and each statement shall be specified in WDRs. The RWQCB shall approve more than one concentration limit for different Monitoring Points in the same medium only if:

(1) more than one background condition exists within a particular medium;

(2) the statistical method approved for a constituent uses intra well comparisons procedures; or

(3) CLGBs have been established for a corrective action program at the Monitoring Points in the zone affected by a release from the Unit.

(c) **Establishing a CLGB** — For a corrective action program, the RWQCB shall establish a CLGB [under .(a)(3)] only if the RWQCB finds that it is technologically or economically infeasible to achieve the background value for that constituent and that the constituent will not pose a substantial present or potential hazard to human health or the environment as long as the CLGB is not exceeded. In making this finding, the RWQCB shall consider the factors specified in .(d), the results of the engineering feasibility study submitted pursuant to §20425(c), data submitted by the discharger pursuant to §20425(d)(2) to support the proposed CLGB, public testimony on the proposal, and any additional data obtained during the evaluation monitoring program.

(d) **Considerations** — In establishing a CLGB for a constituent of concern, the RWQCB shall consider the following factors:

(1) potential adverse effects on ground water quality and beneficial uses, considering:

(A) the physical and chemical characteristics of the waste in the Unit;

(B) the hydrogeological characteristics of the facility and surrounding land;

(C) the quantity of ground water and the direction of ground water flow;

(D) the proximity and withdrawal rates of ground water users;

(E) the current and potential future uses of ground water in the area;

(F) the existing quality of ground water, including other sources of contamination or pollution and their cumulative impact on the ground water quality;

(G) the potential for health risks caused by human exposure to waste constituents;

(H) the potential damage to wildlife, crops, vegetation, and physical structures caused by exposure to waste constituents; and

(I) the persistence and permanence of the potential adverse effects; and

(2) potential adverse effects on surface water quality and beneficial uses, considering:

(A) the volume and physical and chemical characteristics of the waste in the Unit;

(B) the hydrogeological characteristics of the facility and surrounding land;

(C) the quantity and quality of ground water and the direction of ground water flow;

(D) the patterns of precipitation in the region;

(E) the proximity of the Unit to surface waters;

(F) the current and potential future uses of surface waters in the area;

(G) the existing quality of surface water including other sources of contamination or pollution and the cumulative impact on surface water quality;

(H) the potential for health risks caused by human exposure to waste constituents;

(I) the potential damage to wildlife, crops, vegetation, and physical structures caused by exposure to waste constituents; and

(J) the persistence and permanence of the potential adverse effects.

(e) **CLGB Ceiling** — In no event shall a CLGB for a constituent of concern exceed the lowest concentration that the discharger demonstrates and the RWQCB finds is technologically and economically achievable. No provision of this section shall be taken to allow a CLGB for a constituent of concern to exceed the maximum concentration that would be allowed under other applicable statutes or regulations *[e.g., Maximum Concentration Limits established under the federal Safe Drinking Water Act (P.L. 93 523, codified as Subchapter XII of the Public Health Service Act at 42 USC 300f, et. seq.; regulations establishing MCL's are located in 40 CFR Part 141, Subpart B), etc.]*.

(f) **Receptor Location** — For ground water, in evaluating risk pursuant to (d) to any biological receptor, the risk shall be evaluated as if exposure would occur at the Point of Compliance.

(g) **Additivity** — Proposals for CLGBs shall include a demonstration that the aggregate of hazardous constituents in the environment will not result in excessive exposure to a sensitive biological receptor. In the absence of scientifically valid data to the contrary, theoretical risks from chemicals associated with the release from the Unit shall be considered additive across all media of exposure, and shall be considered additive for all chemicals having similar toxicological effects or having carcinogenic effects.

(h) **Applicability** — A CLGB may only be applied during corrective action, or during detection monitoring following corrective action, at Monitoring Points at which "measurably significant" (see §20164) evidence of the release has been determined.

(i) **Decreasing the CLGB** — When a detection monitoring program incorporating a CLGB is reinstated after a corrective action program has been terminated, each CLGB shall be re evaluated during each review of WDRs or at least every five years. If the RWQCB, upon re evaluation, determines that the concentration of a constituent of concern in ground water, surface water, or the unsaturated zone is lower than its associated concentration limit by a "measurably significant" (see §20164) amount, the concentration limit for that constituent shall be lowered to reflect current water quality.

Note: Authority cited: Section 1058, Water Code. Reference: Sections 13172, 13263, and 13267, Water Code; Section 43103, Public Resources Code.

20405. SWRCB - Monitoring Points and the Point of Compliance. (C15: §2550.5)

(a) For each Unit, the RWQCB shall specify in the WDRs the Point of Compliance at which the Water Standard (of §20390) applies. The Point of Compliance is a vertical surface located at the hydraulically downgradient limit of the Unit that extends through the uppermost aquifer underlying the Unit. For each Unit, the RWQCB shall specify Monitoring Points (as defined in §20164) along the Point of Compliance, and shall specify additional Monitoring Points at locations determined pursuant to §20415(b-d) at which the Water Standard under §20390 applies and at which monitoring shall be conducted.

(b) If the facility contains contiguous Units and monitoring along a shared boundary would impair the integrity of a containment or structural feature of any of the Units, the Point of Compliance may be located at the hydraulically downgradient limit of an area described by an imaginary line along the outer boundary of the contiguous Units. This provision only applies to contiguous Units that have operated or have received all permits necessary for construction and operation before 7-1-91.

Note: Authority cited: Section 1058, Water Code. Reference: Sections 13172, 13263, and 13267, Water Code; Section 43103, Public Resources Code.

20410. SWRCB - Compliance Period. (C15: §2550.6)

(a) The RWQCB shall specify in WDRs a compliance period for each Unit. The compliance period is the number of years equal to the active life of the Unit (including any waste management activity prior to the adoption

of the WDRs) plus the closure period. The compliance period is the minimum period of time during which the discharger shall conduct a water quality monitoring program subsequent to a release from the Unit.

(b) The compliance period begins anew each time the discharger initiates an evaluation monitoring program (under §20425).

(c) If the discharger is engaged in a corrective action program at the scheduled end of the compliance period specified under .(a), the compliance period shall be extended until the discharger can demonstrate that the Unit has been in continuous compliance with its Water Standard (under §20390) for a period of three consecutive years.
Note: Authority cited: Section 1058, Water Code. Reference: Sections 13172, 13263, and 13267, Water Code; Section 43103, Public Resources Code.

.20415. SWRCB - General Water Quality Monitoring and System Requirements. [C15: §2550.7 // T15: §17783.5(d)]

(a) The discharger shall comply with the requirements of this section for any water quality monitoring program developed to satisfy §20420, §20425, or §20430 of this article.

(b) **Ground Water Monitoring System.**

(1) **General** — Except as provided under .(e)(3), the discharger shall establish a ground water monitoring system for each Unit. This ground water monitoring system shall include:

(A) **For All Programs** — for all monitoring and response programs, a sufficient number of Background Monitoring Points (as defined in §20164) installed at appropriate locations and depths to yield ground water samples from the uppermost aquifer that represent the quality of ground water that has not been affected by a release from the Unit;

(B) **For DMP** — for a detection monitoring program under §20420:

1. a sufficient number of Monitoring Points (as defined in §20164) installed at appropriate locations and depths to yield ground water samples from the uppermost aquifer that represent the quality of ground water passing the Point of Compliance and to allow for the detection of a release from the Unit;

2. a sufficient number of Monitoring Points installed at additional locations and depths to yield ground water samples from the uppermost aquifer to provide the best assurance of the earliest possible detection of a release from the Unit;

3. a sufficient number of Monitoring Points and Background Monitoring Points installed at appropriate locations and depths to yield ground water samples from portions of the zone of saturation, including other aquifers, not monitored pursuant to .(b)(1)(B)1. and .(b)(1)(B)2., to provide the best assurance of the earliest possible detection of a release from the Unit;

4. a sufficient number of Monitoring Points and Background Monitoring Points installed at appropriate locations and depths to yield ground water samples from zones of perched water to provide the best assurance of the earliest possible detection of a release from the Unit; and

5. Monitoring Point locations and depths that include the zone(s) of highest hydraulic conductivity in each ground water body monitored pursuant to this subsection [i.e., under .(b), inclusive].

(C) **For EMP** — for an evaluation monitoring program under §20425:

1. a sufficient number of Monitoring Points installed at appropriate locations and depths to yield ground water samples from the uppermost aquifer that represent the quality of ground water passing the Point of Compliance and at other locations in the uppermost aquifer to provide the data needed to evaluate changes in water quality due to the release from the Unit;

2. a sufficient number of Monitoring Points and Background Monitoring Points installed at appropriate locations and depths to yield ground water samples from portions of the zone of saturation, including other aquifers, not monitored pursuant to .(b)(1)(C)1., to provide the data needed to evaluate changes in water quality due to the release from the Unit; and

3. a sufficient number of Monitoring Points and Background Monitoring Points installed at appropriate locations and depths to yield ground water samples from zones of perched water to provide the data needed to evaluate changes in water quality due to the release from the Unit; and

(D) **For CAP** — for a corrective action program under §20430:

1. a sufficient number of Monitoring Points installed at appropriate locations and depths to yield ground water samples from the uppermost aquifer that represent the quality of ground water passing the Point of Compliance and at other locations in the uppermost aquifer to provide the data needed to evaluate the effectiveness of the corrective action program;

2. a sufficient number of Monitoring Points and Background Monitoring Points installed at appropriate locations and depths to yield ground water samples from portions of the zone of saturation, including other aquifers, not monitored pursuant to .(b)(1)(D)1., to provide the data needed to evaluate the effectiveness of the corrective action program; and

3. a sufficient number of Monitoring Points and Background Monitoring Points installed at appropriate locations and depths to yield ground water samples from zones of perched water to provide the data needed to evaluate the effectiveness of the corrective action program.

(2) **Alternate Background Locations** — The ground water monitoring system may include Background Monitoring Points that are not hydraulically upgradient of the Unit if the discharger demonstrates to the satisfaction of the RWQCB that sampling at other Background Monitoring Points will provide samples that are representative of the background quality of ground water or are more representative than those provided by the upgradient Background Monitoring Points.

(3) **Drillers' Logs** — Copies of drillers' logs which the Department of Water Resources requires to be submitted pursuant to §13751 of the California Water Code shall be submitted to the RWQCB.

(4) **Monitoring Well Performance Standards.**

(A) All monitoring wells shall be cased and constructed in a manner that maintains the integrity of the monitoring well bore hole and prevents the bore hole from acting as a conduit for contaminant transport.

(B) The sampling interval of each monitoring well shall be appropriately screened and fitted with an appropriate filter pack to enable collection of representative ground water samples.

(C) For each monitoring well, the annular space (i.e., the space between the bore hole and well casing) above and below the sampling interval shall be appropriately sealed to prevent entry of contaminants from the ground surface, entry of contaminants from the unsaturated zone, cross contamination between portions of the zone of saturation, and contamination of samples.

(D) All monitoring wells shall be adequately developed to enable collection of representative ground water samples.

(c) **Surface Water Monitoring Systems.**

(1) **General** — The discharger shall establish a surface water monitoring system to monitor each surface water body that could be affected by a release from the Unit.

(2) **Each Monitored Surface Water Body** — Each surface water monitoring system shall include:

(A) **Background Monitoring Points** — a sufficient number of Background Monitoring Points established at appropriate locations and depths to yield samples from each surface water body that represent the quality of surface water that has not been affected by a release from the Unit;

(B) **For DMP** — for a detection monitoring program (under §20420), a sufficient number of Monitoring Points established at appropriate locations and depths to yield samples from each surface water body that provide the best assurance of the earliest possible detection of a release from the Unit;

(C) **For EMP** — for an evaluation monitoring program (under §20425), a sufficient number of Monitoring Points established at appropriate locations and depths to yield samples from each surface water body that provide the data to evaluate changes in water quality due to the release from the Unit; and

initial determinations backed up by laboratory work under ASTM Designation "D2487-93 Standard Classification of Soils for Engineering Purposes (Unified Soil Classification System)," available from ASTM, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959].

(B) Rock shall be described in the geologic log in a manner appropriate for the purpose of the investigation.

(C) Where possible, the depth and thickness of saturated zones shall be recorded in the geologic log.

(3) **Shared Systems** — If a facility contains contiguous Units, separate ground water monitoring systems are not required for each such Unit if the discharger demonstrates to the satisfaction of the RWQCB that the water quality monitoring program for each Unit will enable the earliest possible detection and measurement of a release from that Unit.

(4) **QA/QC** — The water quality monitoring program shall include consistent sampling and analytical procedures that are designed to ensure that monitoring results provide a reliable indication of water quality at all Monitoring Points and Background Monitoring Points. At a minimum, the program shall include a detailed description of the procedures and techniques for:

(A) sample collection, including purging techniques, sampling equipment, and decontamination of sampling equipment;

(B) sample preservation and shipment;

(C) analytical procedures; and

(D) chain of custody control.

(5) **Sampling & Analytical Methods** — The water quality monitoring program shall include appropriate sampling and analytical methods for ground water, surface water, and the unsaturated zone that accurately measure the concentration of each COC and the concentration or value of each Monitoring Parameter.

(6) **Initial Background Sampling** — For each Unit, the discharger shall collect all data necessary for selecting the appropriate data analysis methods pursuant to .(e)(7-9) and for establishing the background values specified pursuant to .(e)(10). At a minimum, this data shall include analytical data obtained during quarterly sampling of all Background Monitoring Points for a period of one year, including the times of expected highest and lowest annual elevations of the ground water surface. For a new Unit, this data shall be collected before wastes are discharged at the Unit and background soil pore liquid data shall be collected from beneath the Unit before the Unit is constructed.

(7) **Propose Data Analysis Method(s)** — Based on data collected pursuant to .(e)(6), the discharger shall implement data analysis methods allowed in .(e)(8) for each COC and for each Monitoring Parameter. The data analysis methods shall be used in evaluating water quality monitoring data. The specifications for each data analysis method shall include a detailed description of the criteria to be used for determining "measurably significant" (as that term is defined in §20164) evidence of any release from the Unit and for determining compliance with the Water Standard. Each statistical test specified for a particular COC or Monitoring Parameter shall be conducted for that COC or Monitoring Parameter at each Monitoring Point. Where practical quantitation limits (**PQLs**) are used in any of the following data analysis methods to comply with .(e)(9)(E), the discharger shall identify the PQL to the RWQCB. The discharger shall:

(A) continue using the methods specified in the existing M&RP; or

(B) submit to the RWQCB, before implementing the selected methods, a comprehensive technical report, certified by an appropriately registered professional, documenting that use of the proposed data analysis methods will comply with the performance standards outlined in .(e)(9, 10, & 12):

1. the RWQCB shall audit selected reports submitted pursuant to this subdivision for compliance and applicability, as deemed necessary by the RWQCB; and

2. the discharger shall not change the data analysis methods developed pursuant to this subdivision until the next review/update of the M&RP, unless directed to make changes by the RWQCB; or

5. **Retest Effects on Type I Error Rate** — the Type I error for statistical methods employing a retest procedure shall be as follows:

a. **When Initial Test = Retest** — in cases where the discharger proposes to use the same statistical test for both the initial test and the retest, either:

i. ∀ **for Composite Retest** — for a verification procedure containing a composite retest, the statistical test method used in the verification procedure shall be conducted at a Type I error rate of no less than 0.05 for both the experiment wise analysis (if any) and the individual Monitoring Point comparisons. Therefore, if a control chart approach is used to evaluate water quality monitoring data, the upper limit on an X Bar or R Chart must be set at no more than 1.645 standard deviations of the statistic plotted for a one sided statistical comparison or at no more than 1.96 standard deviations of the statistic plotted for a two sided statistical comparison; or

ii. ∀ **for Discrete Retest (& Original Test Too)** — For a verification procedure containing discrete retests, the statistical test method used shall be the same as the method used in the initial statistical comparison. Notwithstanding any provision of . (e)(9), the critical value for the tests shall be chosen so that the Type I error rate for all individual monitoring point comparisons is the same, whether for an initial test or for a retest, and is equal to or greater than either

$$(1-[0.95]^{1/[M*W*S]})^{0.5} * (1/R)^{0.5}, \text{ or}$$

$$1-(0.99)^{1/S},$$

whichever is larger, where: **M** = the number of Monitoring Parameters (or COCs, as appropriate) being tested by statistical methods during that Reporting Period; **W** = the total number of Monitoring Points at the Unit (considering all monitored media); **S** = the number of times that suites of monitoring data from the Unit are subjected to initial statistical analysis within a period of six months (i.e., for Monitoring Parameter testing, S^1, but for COC testing, S=1); and **R** = the number of discrete retests that are to be conducted at a Monitoring Point for a given COC or Monitoring Parameter whose initial statistical analysis, at that Monitoring Point, has indicated the presence of a release (i.e., R^2); or

b. **When Retest Differs From Initial Test Method** — in cases where the discharger proposes to use a different statistical test for the composite or discrete retest than that which provided the initial indication of a release (e.g., parametric Tolerance Limit test facility-wide, following by a parametric Prediction Limit retest for any indicating Monitoring Point), the individual Monitoring Point error level requirements of . (e)(9)(B) do not apply. Nevertheless, the discharger shall demonstrate that the initial and retest method, in combination, provide:

i. a facility-wide false positive rate of ^5%, for the indicated COC or Monitoring Parameter; and

ii. a statistical power equivalent to or better than the USEPA Reference Power Curve (see Section 5 and Appendix B of "*Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities C Addendum To Interim Final Guidance*", USEPA Office of Solid Waste, Washington, D.C., July, 1992), which is hereby incorporated by reference.

6. **Reporting** — the discharger shall report to the RWQCB by certified mail the results of both the initial statistical test and the results of the verification procedure, as well as all concentration data collected for use in these tests within seven days of the last laboratory analysis of the samples collected for the verification procedure; and

7. **Scope** — the verification procedure shall only be performed for the constituent(s) or parameters which has shown "measurably significant" (see §20164) evidence of a release, and shall be performed for those Monitoring Points at which a release is indicated.

(9) **Data Analysis Method Performance Standards** — In cases where the discharger proposes to use a non-statistical data analysis method, the discharger shall demonstrate that it meets the performance standard given in the leading paragraph of . (e)(8). Each statistical method chosen under . (e)(7) for specification in the WDRs shall comply with the following performance standards for each six month period:

(A) **Fit & Performance** — the statistical method used to evaluate water quality monitoring data shall be appropriate for the distribution of the COC or Monitoring Parameter to which it is applied and shall be the least likely of the appropriate methods to fail to identify a release from the Unit. If the distribution of a COC or Monitoring Parameter is shown by the discharger to be inappropriate for a normal theory test, then the data shall be either transformed so that the distribution of the transformed data is appropriate for a normal theory test or a distribution free theory test shall be used. If the distributions for the COC or Monitoring Parameters differ, more than one statistical method may be needed;

(B) ∀ **Level** — if an individual Monitoring Point comparison procedure is used to compare an individual Monitoring Point constituent concentration or Monitoring Parameter value with a concentration limit in the Water Standard or with a background Monitoring Parameter value, the test shall be done at a Type I error rate (∀, as a decimal fraction) no less than 0.01. If a multiple comparisons procedure is used, the Type I experiment wise error rate (experiment-wise ∀) shall be no less than 0.05; however, a Type I error rate of no less than 0.01 for individual Monitoring Point comparisons shall be maintained. This performance standard does not apply to tolerance intervals, prediction intervals, control charts, or any method using discrete retests [for ∀ levels applicable to the latter case, see . (e)(8)(E)5.b.];

(C) **Control Chart Rate** — if a control chart approach is used to evaluate water quality monitoring data, the specific type of control chart and its associated statistical parameter values *(e.g., the upper control limit)* shall be included in the supporting documentation under . (e)(7). The discharger shall use the procedure only if the discharger's supporting documentation under . (e)(7) shows the procedure to be protective of human health and the environment. Any control charting procedure must have a false positive rate of no less than 1 percent for each Monitoring Point charted *(e.g., upper control limits on X bar or R Charts used only once every six months must be set at no more than 2.327 standard deviations of the statistic plotted for a one sided statistical comparison or at no more than 2.576 standard deviations of the statistic plotted for a two sided statistical comparison)*;

(D) **Tol. Int./Pred. Int. Rate** — if a tolerance interval or a prediction interval is used to evaluate water quality monitoring data, the levels of confidence and, for tolerance intervals, the percentage of the population that the interval must contain shall be proposed by the discharger and included in the technical documenation submitted to the RWQCB pursuant to . (e)(7). The discharger can use the parameters only if the documentation submitted under . (e)(7) shows these statistical parameters to be protective of human health and the environment. These statistical parameters shall be determined after considering the number of samples in the background data base, the data distribution, and the range of the concentrations or values for each COC or Monitoring Parameter. The coverage of any tolerance interval used shall be no more than 95 percent and the confidence coefficient shall be no more than 95 percent for a six month period. Prediction intervals shall be constructed with an experiment wise error rate of no less than 5 percent and an individual monitoring point error rate of no less than 1 percent;

(E) **Addressing Censored Data** — the statistical method shall account for data below the practical quantitation limit with one or more statistical procedures that are protective of human health and the environment. Any practical quantitation limit validated pursuant to . (e)(7) that is used in the statistical method shall be the lowest concentration (or value) that can be reliably achieved within limits of precision and accuracy specified in the WDRs for routine laboratory operating conditions that are available to the facility. The discharger's technical report, under . (e)(7) shall consider the practical quantitation limits listed in Appendix IX to Chapter 14 of Division 4.5 of Title 22, California Code of Regulations (Appendix IX) for guidance when specifying limits of precision and accuracy in the WDRs;

(F) **Seasonal/Spatial Variability** — if necessary, the statistical methods shall include procedures to control or correct for seasonal and spatial variability as well as temporal correlation in the data; and

(G) **Outliers** — any quality control procedure that is declared for use, in the technical report under . (e)(7), for application to water quality data from downgradient monitoring points for a monitored medium shall also be

applied to all newly acquired background data from that medium. Any newly acquired background monitoring datum that is rejected by an approved quality control procedure shall be maintained in the facility record but shall be excluded from use in statistical comparisons with downgradient water quality data.

(10) **Background Values/Procedures** — Based on the data collected pursuant to . (e)(6) and the data analysis methods addressed in the technical report under . (e)(7), the discharger shall justify the use of a procedure for determining a background value for each COC and for each Monitoring Parameter specified in the WDRs. These procedures shall be proposed for ground water, surface water, and the unsaturated zone. The discharger shall declare and substantiate one of the following methods in the technical report under . (e)(7):

(A) **By Reference to Historical Data** — a procedure for determining a background value for each constituent or parameter that does not display appreciable variation; or

(B) **By Using a Formula/Procedure** — a procedure for establishing and updating a background value for a constituent or parameter to reflect changes in the background water quality if the use of contemporaneous or pooled data provides the greatest power to the data analysis method for that constituent or parameter.

(11) [Reserved]

(12) **Sampling Methods** — For each COC and Monitoring Parameter listed in the WDRs, the discharger shall verify, in the technical report under . (e)(7), that the sampling methods to be used to establish background values and the sampling methods to be used for monitoring pursuant to this article are consistent with the following:

(A) **Sample Size** — the number and kinds of samples collected shall be appropriate for the form of data analysis employed and, in the case of statistical data analysis shall follow generally accepted statistical principles. The "**sample size**" (i.e., the number of water quality data points representing a given Monitoring Point or Background Monitoring Point) approved for the data analysis method shall be as large as necessary to ensure with reasonable confidence that:

1. for a detection monitoring program, a release from the Unit will be detected;

2. for an evaluation monitoring program, changes in water quality due to a release from the Unit will be recognized; and

3. for a corrective action program, compliance with the water quality protection standard and effectiveness of the corrective action program will be determined; and

(B) **Data Collection & Analysis** — the sampling method (including the sampling frequency and the interval of time between successive samples) shall be appropriate for the medium from which samples are taken *(e.g., ground water, surface water, and soil pore liquid)*. For ground water, sampling shall be scheduled to include the times of expected highest and lowest elevations of the potentiometric surface. The sampling method shall assure, to the greatest extent possible, that independent samples are obtained. For ground water, the discharger can use a post-sampling purge to assure sample independence whenever the time between successive sampling events (for a given COC or Monitoring Parameter) is insufficient to assure sample independence, in which case the volume of well water to be withdrawn from the well bore for the post sampling purge shall be determined by the same method used to determine adequate pre sampling purging. The sampling method selected shall include collection of at least the appropriate number of new data points [pursuant to . (e)(12)(A)] at least semi annually from each Monitoring Point and background monitoring point and data analysis carried out at least semi annually. The RWQCB shall require more frequent sampling and statistical analysis than is stated in the discharger's technical report under . (e)(7) where necessary to protect human health or the environment.

(13) **Elevation & Field Parameters** — The ground water portion of the monitoring program shall include an accurate determination of the ground water surface elevation and field parameters (temperature, electrical conductivity, turbidity, and pH) at each well each time ground water is sampled.

(14) **Annual Data Graphs** — The discharger shall graph all analytical data from each Monitoring Point and Background Monitoring Point and shall submit these graphs to the RWQCB at least once annually, except that graphs are not required for constituents for which no new data has been collected since the previous graph submittal. Graphs shall be at a scale appropriate to show trends or variations in water quality. All graphs for a

given constituent shall be plotted at the same scale to facilitate visual comparison of monitoring data. Unless the discharger receives written approval from the RWQCB to use an alternate procedure that more effectively illustrates trends or variations in the data, each graph shall represent data from one Monitoring Point or Background Monitoring Point and one Constituent of Concern or Monitoring Parameter.

(15) **G.W. Flow Direction** — In addition to the water quality sampling conducted pursuant to the requirements of this article, the discharger shall measure the water elevation in each well and determine ground water flow rate and direction in the uppermost aquifer and in any zones of perched water and in any additional portions of the zone of saturation monitored pursuant to .(b)(1) at least quarterly, including the times of expected highest and lowest elevations of the water levels in the wells.

(16) **Operating Record** — Water quality monitoring data collected in accordance with this article, including actual values of constituents and parameters, shall be maintained in the facility operating record. The RWQCB shall specify in the WDRs when the data shall be submitted for review.

Note: Authority cited: Section 1058, Water Code. Reference: Sections 13172, 13263, and 13267, Water Code; Section 43103, Public Resources Code.

.20420. SWRCB - Detection Monitoring Program. (C15: §2550.8)

(a) **General** — A discharger required, pursuant to §20385, to establish a detection monitoring program for a Unit shall, at a minimum, comply with the requirements of this section for that Unit.

(b) **Standards** — The discharger subject to this section shall install water quality monitoring systems that are appropriate for detecting, at the earliest possible time, a release from the Unit, and that comply with applicable provisions of §20415.

(c) **Background** — The discharger shall establish a background value pursuant to §20415(e)(10) for each Monitoring Parameter specified pursuant to .(e) and for each Constituent of Concern under §20395.

(d) **Water Standard** — The RWQCB shall specify the Water Standard under §20390 in the WDRs.

(e) **Monitoring Parameters** — The discharger shall propose for approval by the RWQCB a list of Monitoring Parameters for each medium (ground water, surface water, and the unsaturated zone) to be monitored pursuant to .(i) and §20415, including a data analysis method meeting the requirements of that section for each Monitoring Parameter. The list for each monitored medium shall include those physical parameters, hazardous constituents, waste constituents, and reaction products that provide a reliable indication of a release from the Unit to that medium. In addition, for an MSW landfill, the list of monitoring parameters shall meet the requirements of SWRCB Resolution No. 93-62 (which incorporates by reference the federal requirements of 40CFR258.54). The RWQCB shall specify each list of Monitoring Parameters in the WDRs after considering the following factors:

(1) the types, quantities, and concentrations of constituents in wastes managed at the Unit;

(2) the expected or demonstrated correlation between the proposed Monitoring Parameters and the Constituents of Concern specified for the Unit under §20395;

(3) the mobility, stability, and persistence of waste constituents or their reaction products;

(4) the detectability of physical parameters, waste constituents, and reaction products; and

(5) the background values and the coefficients of variation of proposed Monitoring Parameters in ground water, surface water, and the unsaturated zone.

(f) **Routine Monitoring** — The discharger shall monitor [pursuant to .(i)] for the Monitoring Parameters listed in the WDRs pursuant to .(e). The RWQCB shall specify the frequencies for collecting samples and for analyzing the resulting data, pursuant to §20415(e)(12).

(g) **Five-Yearly COC Monitoring** — In addition to monitoring for the Monitoring Parameters specified pursuant to .(e), the discharger shall periodically monitor for COCs specified in the WDRs, and shall determine, pursuant to .(i), whether there is "measurably significant" (see definition in §20164) evidence of a release for any

(A) **COC Concentrations** — the maximum concentration of each COC at each Monitoring Point as determined during the most recent COC sampling event [i.e., under .(g) or .(k)(1)];

(B) **Proposed Monitoring System Changes** — any proposed changes to the water quality monitoring systems at the Unit necessary to meet the provisions of §20425;

(C) **Proposed Monitoring Changes** — any proposed additions or changes to the monitoring frequency, sampling and analytical procedures or methods, or statistical methods used at the Unit necessary to meet the provisions of §20425; and

(D) **Proposed Delineation Approach** — a detailed description of the measures to be taken by the discharger to assess the nature and extent of the release from the Unit;

(6) **Submit Initial EFS** — within 180 days of determining measurably significant evidence of a release, submit to the RWQCB an engineering feasibility study for a corrective action program necessary to meet the requirements of §20430. At a minimum, the feasibility study shall contain a detailed description of the corrective action measures that could be taken to achieve background concentrations for all Constituents of Concern; and

(7) **Optional Demonstration (That Unit Is Not At Cause)** — if the discharger determines, pursuant to .(i), that there is "**measurably significant**" (see §20164) evidence of a release from the Unit at any Monitoring Point, the discharger may demonstrate that a source other than the Unit caused the evidence of a release or that the evidence is an artifact caused by an error in sampling, analysis, or statistical evaluation or by natural variation in the ground water, surface water, or the unsaturated zone. The discharger may make a demonstration pursuant to this subsection in addition to or in lieu of submitting both an amended report of waste discharge pursuant to .(k)(5) and an engineering feasibility study pursuant to .(k)(6); however, the discharger is not relieved of the requirements specified in .(k)(5) and .(k)(6) unless the demonstration made pursuant to this subsection successfully shows that a source other than the Unit caused the evidence of a release or that the evidence resulted from error in sampling, analysis, or evaluation, or from natural variation in ground water, surface water, or the unsaturated zone. In making a demonstration pursuant to this subsection, the discharger shall:

(A) **Notification of Intent** — within seven days of determining "measurably significant" (see §20164) evidence of a release, notify the RWQCB by certified mail that the discharger intends to make a demonstration pursuant to this subsection [.(k)(7)];

(B) **Demonstration Due Date** — within 90 days of determining "measurably significant" (see §20164) evidence of a release, submit a report to the RWQCB that demonstrates that a source other than the Unit caused the evidence, or that the evidence resulted from error in sampling, analysis, or evaluation, or from natural variation in ground water, surface water, or the unsaturated zone;

(C) **Amended ROWD** — within 90 days of determining "measurably significant" (see §20164) evidence of a release, submit to the RWQCB an amended report of waste discharge to make any appropriate changes to the detection monitoring program; and

(D) **DMP Continues** — continue to monitor in accordance with the detection monitoring program established pursuant to this section.

(l) **Changes in Response to Other Problems** — If the discharger determines that there is significant physical evidence of a release, as described in §20385(a)(3), or that the detection monitoring program does not satisfy the requirements of this section, the discharger shall:

(1) notify the RWQCB by certified mail within 7 days of such determination; and

(2) within 90 days of such determination, submit an amended report of waste discharge to make any appropriate changes to the program.

(m) **Changes By RWQCB** — Any time the RWQCB determines that the detection monitoring program does not satisfy the requirements of this section the RWQCB shall send written notification of such determination to the discharger by certified mail, return receipt requested; the discharger shall, within 90 days after receipt of such notification by the RWQCB, submit an amended report of waste discharge to make any appropriate changes to the program.

(n) [Reserved.]

Note: Authority cited: Section 1058, Water Code. Reference: Sections 13172, 13263, and 13267, Water Code; Section 43103, Public Resources Code.

20425. SWRCB - Evaluation Monitoring Program. (C15: §2550.9)

(a)(1) **General** — A discharger required pursuant to §20385 to establish an evaluation monitoring program for a Unit shall, at a minimum, comply with the requirements of this section for that Unit.

(2) **Standards** — The evaluation monitoring program shall be used to assess the nature and extent of the release from the Unit and to design a corrective action program meeting the requirements of §20430.

(b) **90 Days To Delineate Release** — The discharger shall collect and analyze all data necessary to assess the nature and extent of the release from the Unit. This assessment shall include a determination of the spacial distribution and concentration of each COC throughout the zone affected by the release. The discharger shall complete and submit this assessment within 90 days of establishing an evaluation monitoring program. For MSW landfills, the discharger shall comply with the additional notification and monitoring system requirements incorporated by reference into SWRCB Resolution No. 93-62, regarding notification and monitoring relative to offsite or potential off-site migration of waste constituents [see §§258.55(g)(1)(ii & iii) of 40CFR258].

(c) **90 Days to Update EFS** — Based on the data collected pursuant to .(b) and .(e), the discharger shall update the engineering feasibility study for corrective action required pursuant to §20420(k)(6). The discharger shall submit this updated engineering feasibility study to the RWQCB within 90 days of establishing an evaluation monitoring program.

(d) **90 Days to Amend ROWD** — Based on the data collected pursuant to .(b) and on the engineering feasibility study submitted pursuant to .(c), the discharger shall submit an amended report of waste discharge to establish a corrective action program meeting the requirements of §20430. The discharger shall submit this report to the RWQCB within 90 days of establishing an evaluation monitoring program.

(1) **MSW Landfills** — For MSW landfills, the discharger shall meet the additional federal notification requirements incorporated by reference by SWRCB Resolution No. 93-62 [see 40CFR258.56(d)].

(2) **Minimum ROWD Update** — This report shall at a minimum include the following information:

(A) **Delineation of Release** — a detailed assessment of the nature and extent of the release from the Unit;

(B) **Water Standard** — a proposed Water Standard under §20390, including any proposed CLGBs under §20400, and all data necessary to justify each such limit;

(C) **Corrective Action Measures** — a detailed description of proposed corrective action measures that will be taken to achieve compliance with the Water Standard proposed for a corrective action program; and

(D) **Monitoring Plan** — a plan for a water quality monitoring program that will demonstrate the effectiveness of the proposed corrective action.

(3) **Coordinated Landfill Gas Control** — For landfills at which the information submitted under .(d) indicates that the release likely involves landfill gas, the RWQCB shall notify and shall coordinate, as appropriate, with the EA and (as appropriate) the CIWMB in developing those aspects of the corrective action program involving the design, installation, and operation of the landfill-gas control and monitoring systems at the Unit, such that the resulting gas control program satisfies the needs of all agencies concerned. *[Note: the CIWMB's gas control regulations are in Article 6, Subchapter 4, Chapter 3 (§20920 et seq.)]*

(e) **Ongoing Monitoring** — In conjunction with the assessment conducted pursuant to .(b), and while awaiting final approval of the amended report of waste discharge, submitted pursuant to .(d), the discharger shall monitor ground water, surface water, and the unsaturated zone to evaluate changes in water quality resulting from the release from the Unit. In conducting this monitoring, the discharger shall comply with the following requirements:

(1) **Notification** — notify the RWQCB by certified mail that the discharger intends to make a demonstration pursuant to this subsection;

(2) **Submit Demonstration Report** — submit a report to the RWQCB that demonstrates that a source other than the Unit caused the evidence of a release or that the evidence resulted from error in sampling, analysis, or evaluation, or from natural variation in ground water, surface water, or the unsaturated zone;

(3) **Submit Amended ROWD** — submit to the RWQCB an amended report of waste discharge to reinstitute a detection monitoring program for the Unit. This report shall propose all appropriate changes to the monitoring program; and

(4) **Continue EMP Monitoring** — continue to monitor in accordance with the evaluation monitoring program established pursuant to this section.

(g) **Interim CAMs** — The RWQCB shall require interim corrective action measures where necessary to protect human health or the environment.

(h) **Discharger-Initiated EMP Changes** — If the discharger determines that the evaluation monitoring program does not satisfy the requirements of this section, the discharger shall, within 90 days, submit an amended report of waste discharge to make any appropriate changes to the program.

(i) **RWQCB-Initiated EMP Changes** — Any time the RWQCB determines that the evaluation monitoring program does not satisfy the requirements of this section, the RWQCB shall send written notification of such determination to the discharger by certified mail, return receipt requested. The discharger shall, within 90 days of such notification by the RWQCB, submit an amended report of waste discharge to make appropriate changes to the program.

Note: Authority cited: Section 1058, Water Code. Reference: Sections 13172, 13263, 13267, and 13304 Water Code; Section 43103, Public Resources Code.

20430. SWRCB - Corrective Action Program. (C15: §2550.10)

(a) **General** — A discharger required pursuant to §20385 to establish a corrective action program for a Unit shall, at a minimum, comply with the requirements of this section for that Unit.

(b) **Standards** — The discharger shall take corrective action to achieve the following goals: to remediate releases from the Unit; to ensure that the discharger achieves compliance with the Water Standard adopted under §20390 for that Unit. The RWQCB shall specify the Water Standard for corrective action [including any concentration limits greater than background, under §20400(c-g)] in the WDRs.

(c) **Scope of Actions** — The discharger shall implement corrective action measures that ensure that COCs achieve their respective concentration limits at all Monitoring Points and throughout the zone affected by the release, including any portions thereof that extend beyond the facility boundary, by removing the waste constituents or treating them in place. The discharger shall take other action approved by the RWQCB to prevent noncompliance with those limits due to a continued or subsequent release from the Unit, including but not limited to, source control. The WDRs shall specify the specific measures that will be taken.

(d) **Monitoring** — In conjunction with the corrective action measures, the discharger shall establish and implement a water quality monitoring program to demonstrate the effectiveness of the corrective action program. Such a monitoring program can be based on the requirements for an evaluation monitoring program (under §20425), and shall be effective in determining compliance with the Water Standard (under §20390) and in determining the success of the corrective action measures pursuant to .(c).

(e) **Compliance Schedule** — Corrective action measures taken pursuant to this section shall be initiated and completed by the discharger within a period of time specified by the RWQCB in the WDRs.

(f) **Terminating Measures** — Corrective action measures taken pursuant to .(c) *(e.g., pumping and treatment of ground water)* may be terminated when the discharger demonstrates to the satisfaction of the RWQCB that the

concentrations of all COCs are reduced to levels below their respective concentration limits throughout the entire zone affected by the release.

(g) **Demonstrating Completion of CAP** — After suspending the corrective action measures, pursuant to .(f), the Unit shall implement the remaining portions of the Corrective Action Program until an approved Detection Monitoring Program meeting the requirements of §20420 has been incorporated into WDRs and until the discharger demonstrates to the satisfaction of the RWQCB that the Unit is in compliance with the Water Standard (under §20390). If the Unit is an MSW landfill, then this demonstration shall meet the federal requirements incorporated by reference in SWRCB Resolution No. 93-62 [see §258.58(c) of 40CFR258], in lieu of meeting the requirements of .(g)(1 & 2). For all other Units, this demonstration shall be based on the following criteria and requirements:

(1) the concentration of each COC in each sample from each Monitoring Point in the Corrective Action Program for the Unit must have remained at or below its respective concentration limit during a proof period of at least one year, beginning immediately after the suspension of corrective action measures; and

(2) the individual sampling events for each Monitoring Point must have been evenly distributed throughout the proof period and have consisted of no less than eight sampling events per year per Monitoring Point.

(h) **Semi-Annual Progress Reports** — The discharger shall report, in writing, to the RWQCB on the effectiveness of the corrective action program. The discharger shall submit these reports at least semi annually. More frequent reporting shall be required by the RWQCB as necessary to ensure the protection of human health or the environment.

(i) **Discharger-Initiated CAP Changes** — If the discharger determines that the corrective action program does not satisfy the provisions of this section, the discharger shall, within 90 days of making the determination, submit an amended report of waste discharge to make appropriate changes to the program.

(j) **RWQCB-Initiated CAP Changes** — Any time the RWQCB determines that the corrective action program does not satisfy the requirements of this section, the discharger shall, within 90 days of receiving written notification of such determination by the RWQCB, submit an amended report of waste discharge to make appropriate changes to the program.

Note: Authority cited: Section 1058, Water Code. Reference: Sections 13172, 13263, 13267, and 13304, Water Code; Section 43103, Public Resources Code.

.20435. SWRCB - Unsaturated Zone Monitoring and Response Provisions for Land Treatment Units (LTUs). (C15: §2550.11)

(a) **General** — A discharger required pursuant to the provisions of this article to conduct unsaturated zone monitoring at a land treatment unit (LTU) shall comply with the unsaturated zone monitoring and response provisions of this section in conjunction with all other unsaturated zone monitoring and response provisions of this article.

(b) **Monitor Below Zone** — The discharger shall monitor the soil and soil pore liquid to determine whether COCs migrate out of the treatment zone.

(c) **Mon. Pars. & COCs** — The RWQCB shall specify the Monitoring Parameters and Constituents of Concern to be monitored in the WDRs. The Monitoring Parameters to be monitored are those specified pursuant to §20420(e)for detection monitoring and §20425(e)(2) for evaluation monitoring. The COCs to be monitored are those specified in the Water Standard specified under §20390 for each monitoring and response program. The COCs to be monitored shall include the constituents, including hazardous constituents, that must be degraded, transformed, or immobilized in the treatment zone of the LTU.

(d) [Reserved.]

(e) **Monitoring Below Treatment Zone** — The discharger shall install an unsaturated zone monitoring system that includes soil monitoring using soil cores and soil pore liquid monitoring using appropriate devices such as

lysimeters capable of acquiring soil pore liquid samples. The unsaturated zone monitoring system shall consist of a sufficient number of sampling points at appropriate locations and depths to yield samples that:

(1) represent the quality of background soil pore liquid quality and the chemical makeup of soil that has not been affected by a release from the treatment zone; and

(2) indicate the quality of soil pore liquid and the chemical makeup of the soil below the treatment zone.

(f) **Background** — The discharger shall establish a background value for each monitoring parameter and each COC to be monitored under .(c). The discharger shall propose, for approval by the RWQCB, the background values for each Monitoring Parameter and each COC or the procedures to be used to calculate the background values according to the provisions of §20415(e)(10). The RWQCB shall specify the background values or procedures in WDRs according to §20415(e)(10).

(g) **Background Plot** — Background soil values may be based on a one time sampling at a background plot having characteristics similar to those of the treatment zone. For new land treatment units, background soil values shall include data from sampling at the proposed plot for the unit.

(h) **Initial Background Data** — Background soil pore liquid values shall be based on at least quarterly sampling for one year at a background plot having characteristics similar to those of the treatment zone. For new land treatment units, background soil pore liquid values shall include data from sampling at the proposed plot for the Unit.

(i) **Data Format** — The discharger shall express all background values in a form necessary for the determination of "measurably significant" (see §20164) increases pursuant to .(n).

(j) **Performance Standard** — In taking samples used in the determination of all background values, the discharger shall use an unsaturated zone monitoring system that complies with .(e)(1).

(k) **Timing & Frequency** — The discharger shall conduct soil monitoring and soil pore liquid monitoring immediately below the treatment zone. The RWQCB shall specify the frequency and timing of soil and soil pore liquid monitoring in the WDRs after considering all other monitoring provisions of this article, the frequency, timing, and rate of waste application, the soil hydraulic conductivity, and the maximum anticipated rate of migration. The discharger shall express the results of soil and soil pore liquid monitoring in a form necessary for the determination of "measurably significant" (see §20164) increases pursuant to .(n).

(l) **Propose Procedures** — The discharger shall propose, for approval by the RWQCB, consistent sampling and analysis procedures that are designed to ensure sampling results that provide a reliable indication of soil pore liquid quality and the chemical makeup of the soil below the treatment zone. At a minimum, the discharger shall implement the approved procedures and techniques for:

(1) sample collection;

(2) sample preservation and shipment;

(3) analytical procedures; and

(4) chain of custody control.

(m) **Testing** — The discharger shall determine whether there is a "measurably significant" (see §20164) increase below the treatment zone using a statistical method that provides reasonable confidence that migration from the treatment zone will be identified. The discharger shall propose each statistical method in accordance with the provisions of this subsection and pursuant to the provisions of §20415(e)(7). The RWQCB shall specify each statistical method pursuant to §20415(e)(7) that the RWQCB finds:

(1) is appropriate for the distribution of the data used to establish background values; and

(2) provides a reasonable balance between the probability of falsely identifying migration from the treatment zone and the probability of failing to identify real migration from the treatment zone.

(n) **Coordinate w/DMP Sampling** — The discharger shall determine whether there is a "measurably significant" (see §20164) change over background values for each Monitoring Parameter [or, on a five-yearly basis

under §20420(g), for each COC] to be monitored below the treatment zone each time the discharger conducts soil monitoring and soil pore liquid monitoring under . (k).

(o) **Data Analysis** — In determining whether a "measurably significant" (see §20164) increase has occurred, the discharger shall compare the value of each parameter or constituent, using data obtained pursuant to . (n), to the background value for that parameter or constituent by using an appropriate statistical procedure specified in the WDRs pursuant to this section.

(p) **Timing of Data Analysis** — The discharger shall determine whether there has been a "measurably significant" (see §20164) increase below the treatment zone within a reasonable time period after completion of sampling. The RWQCB shall specify this time period in the WDRs after considering the complexity of the statistical test and the availability of laboratory facilities to perform the analysis of soil and soil pore liquid samples.

(q) **Discovery of a Release** — If the discharger determines pursuant to . (n), that there has been a "measurably significant" (see §20164) increase in the value of a hazardous constituent below the treatment zone the discharger shall:

(1) report to the RWQCB describing the full extent of the dischargers findings, including the identification of all constituents that have shown a "measurably significant" (see §20164) increase, within 72 hours of making such a determination; and

(2) submit written notification of this finding to the RWQCB within seven days of making such a determination.

(r) **Release Response Options** — Upon receiving notice pursuant to . (q) or upon the independent confirmation by the RWQCB, the RWQCB shall order the discharger to cease operating the LTU. The discharger shall not resume operating the LTU and shall close the LTU unless one of the following actions is taken:

(1) **Cleanup, and Change Practices** — the discharger completes appropriate removal or remedial actions to the satisfaction of the RWQCB and the discharger submits to the RWQCB and the RWQCB approves, an amended report of waste discharge to modify the operating practices at the unit to maximize the success of degradation, immobilization, or transformation processes in the treatment zone; or

(2) **Cleanup, Line Unit, and Change Practices** — the discharger completes appropriate removal or remedial actions, submits to the RWQCB and the RWQCB approves, an amended report of waste discharge to modify the operating practices at the unit to maximize the success of degradation, immobilization, or transformation processes in the treatment zone, and equips the land treatment unit with liners, and a leachate collection and removal system that satisfy the provisions of §20330 and §20340.

(s) **Schedule of Compliance** — All actions taken by a discharger pursuant to . (r)(1 or 2) shall be completed within a time period specified by the RWQCB, which shall not exceed 18 months after the RWQCB receives notice pursuant to . (q)(1). If the actions are not completed within this time period, the LTU shall be closed, unless granted an extension by the RWQCB due to exceptional circumstances beyond the control of the discharger.

(t) **Optional Demonstration** — If the discharger determines pursuant to . (n) that there is a "measurably significant" (see §20164) increase of hazardous constituents below the treatment zone, the discharger may demonstrate that the increase resulted from an error in sampling, analysis, or evaluation. While the discharger may make a demonstration pursuant to this subsection in addition to or in lieu of the requirements of . (r)(1 or 2), the discharger is not relieved of the requirements of . (r and s) unless the demonstration made pursuant to this subsection successfully shows that the increase resulted from an error in sampling, analysis, or evaluation. In making a demonstration pursuant to this subsection, the discharger shall:

(1) **Notification** — notify the RWQCB of this finding in writing within seven days of determining a "measurably significant" (see §20164) increase beneath the treatment zone that the discharger intends to make a demonstration pursuant to this subsection;

(2) **Demonstration Submittal Deadline** — within 90 days of such determination, submit a report to the RWQCB demonstrating that the increase resulted from error in sampling, analysis, or evaluation;

(3) **Amended ROWD Submittal Deadline** — within 90 days of such determination, submit to the RWQCB an amended report of waste discharge to make any appropriate changes to the unsaturated zone monitoring program for the LTU; and

(4) **Continue Monitoring** — continue to monitor in accordance with the unsaturated zone monitoring program established pursuant to this section.

Note: Authority cited: Section 1058, Water Code. Reference: Sections 13172, 13263, 13267, and 13304, Water Code; Section 43103, Public Resources Code.

Article 2. [§20480-§20499 Reserved by SWRCB]

Subchapter 4. Criteria for Landfills and Disposal Sites

The criteria promulgated by the CIWMB within Articles 1, 3, and 4 of this Subchapter, apply to solid waste landfills, but may be applied to disposal sites as required by the EA.

Article 1. CIWMB - Operating Criteria

20510. CIWMB - Disposal Site Records. (T14:§17258.29,17636,17637,17638,17639)

(a) Each site operator shall maintain records of weights or volumes accepted in a form and manner approved by the EA. Such records shall be submitted to the EA upon request, accurate to within 10 percent and adequate for overall planning purposes and forecasting the rate of site filling.

(b) Each site operator shall maintain records of excavations which may affect the safe and proper operation of the site or cause damage to adjoining properties.

(c) Each site operator shall maintain a daily log book or file of the following information: fires, landslides, earthquake damage, unusual and sudden settlement, injury and property damage accidents, explosions, receipt or rejection of unpermitted wastes, flooding, and other unusual occurrences.

(d) Each site operator shall maintain a record of personnel training as required in §20610.

(e) Each site operator shall maintain a copy of written notification to the EA, local health agency, and fire authority of names, addresses and telephone numbers of the operator or responsible party of the site as required in §20615.

(f) Disposal site records, including MSWLF unit records, shall be available for inspection by authorized representatives of the EA, the local health agency and the CIWMB during normal business hours and retained near the site in an operating record or in an alternative location approved by the EA.

Note: Authority cited: Section 40502 Public Resources Code. Reference: Sections 43020, 43021 and 43103, Public Resources Code.

20515. CIWMB - MSWLF Unit Records. (T14:§17258.29, §18257)

(a) The owner or operator of a MSWLF unit must record the following information as it becomes available:

(1) Any location restriction demonstration required under §20270;

(2) Inspection records, training procedures, and notification procedures required in §20870;

(3) Gas monitoring results from monitoring and any remediation plans required by §20919 of this Subchapter;

(4) Closure and postclosure maintenance plans as required by §21780, notice of intent to close the unit as described in §21135, notice of certification of closure as required by §21880, deed notation as required by §21170, demonstration of release from postclosure maintenance required by §21180, and any gas monitoring, testing, or analytical data as required by 40 CFR §258.61; and

(5) Any cost estimates and financial assurance documentation required by §§22221, 22226, 21820, and 21840.

(6) Any information demonstrating compliance with the small community exemption as required by 40 CFR section 258.1(f)(2).

(b) The owner/operator must notify the EA when the documents from (a) of this section have been placed in or added to the operating record, unless an alternative frequency is approved as specified in (c) and all information contained in the operating record must be furnished upon request to the EA.

(c) The EA may set alternative schedules for recordkeeping and notification requirements as specified in (a) and (b) of this section, except for the notification requirements in §20270.

Note: Authority cited: Section 40502 Public Resources Code. Reference: Section 40508 and 43103, Public Resources Code; and Title 40, Code of Federal Regulations, Section 258.29.

20517. CIWMB - Documentation of Enforcement Agency (EA) Approvals, Determinations and Requirements. (new)

Approvals, determinations and other requirements the EA is authorized to make under this Subchapter shall be documented in writing to the operator and placed in the operating record by the operator.

Note: Authority cited: Section 40502 Public Resources Code. Reference: Section 40508 and 43103, Public Resources Code.

20520. CIWMB - Signs. (T14:§17656,17657)

(a) Each point of access from a public road shall be posted with an easily visible sign indicating the facility name, and other pertinent information as required by the EA.

(b) If the site is open to the public, there shall be an easily visible sign at the primary entrance of the site indicating the name of the site operator, the operator's telephone number, and, hours of operation; an easily visible sign at an appropriate point shall indicate the schedule of charges and the general types of materials which either (1) WILL be accepted or (2) WILL NOT be accepted.

(c) If the site is open to the public, there shall be easily visible road signs and/or traffic control measures which direct traffic to the active face and other areas where wastes or recyclable materials will be deposited.

(d) Additional signs and/or measures may be required at a disposal site by the EA to protect personnel and public health and safety.

Note: Authority cited: Section 40502 Public Resources Code. Reference: Sections 43020, 43021 and 43103, Public Resources Code.

20530. CIWMB - Site Security. (T14:§17658)

The site shall be designed to discourage unauthorized access by persons and vehicles by using a perimeter barrier or topographic constraints. Areas within the site where open storage or ponding of hazardous materials occurs shall be separately fenced or otherwise secured as determined by the EA. The EA may also require that other areas of the site be fenced to create an appropriate level of security.

Note: Authority cited: Section 40502 Public Resources Code. Reference: Sections 43020, 43021, and 43103, Public Resources Code.

20540. CIWMB - Roads. (T14:§17659,17660)

Roads within the permitted facility boundary shall be designed to minimize the generation of dust and the tracking of material onto adjacent public roads. Such roads shall be kept in safe condition and maintained such that vehicle access and unloading can be conducted during inclement weather.

Note: Authority cited: Section 40502 Public Resources Code. Reference: Sections 43020, 43021, and 43103, Public Resources Code.

20550. CIWMB - Sanitary Facilities. (T14:§17666)

Sanitary facilities, consisting of an adequate number of toilets and handwashing facilities, shall be available to personnel at or in the immediate vicinity of the site as approved by the EA.

Note: Authority cited: Section 40502 Public Resources Code. Reference: Sections 43020, 43021 and 43103, Public Resources Code.

20560. CIWMB - Drinking Water Supply. (T14:§17667)

Safe and adequate drinking water for the site personnel shall be available.

Note: Authority cited: Section 40502 Public Resources Code. Reference: Sections 43020, 43021 and 43103, Public Resources Code.

20570. CIWMB - Communications Facilities. (T14:§17668)

Each site shall have communication facilities available to site personnel to allow quick response to emergencies.

Note: Authority cited: Section 40502 Public Resources Code. Reference: Sections 43020, 43021 and 43103, Public Resources Code.

20580. CIWMB - Lighting. (T14:§17669)

Where operations are conducted during hours of darkness, the site and/or equipment shall be equipped with adequate lighting as approved by the enforcement agency to ensure safety and to monitor the effectiveness of operations.

Note: Authority cited: Section 40502 Public Resources Code. Reference: Sections 43020, 43021 and 43103, Public Resources Code.

20590. CIWMB - Personnel Health and Safety. (T14:§17670)

Operating and maintenance personnel shall wear and use appropriate safety equipment as required by the EA.

Note: Authority cited: Section 40502 Public Resources Code. Reference: Sections 43020, 43021 and 43103, Public Resources Code.

20610. CIWMB - Training. (T14:§17672)

Personnel assigned to operate the site shall be adequately trained in subjects pertinent to the site operation and maintenance, including requirements of this chapter, hazardous materials recognition and screening, and heavy equipment operations, with emphasis on safety, health, environmental controls and emergency procedures. A record of such training shall be placed in the operating record.

Note: Authority cited: Section 40502 Public Resources Code. Reference: Sections 43020, 43021 and 43103, Public Resources Code.

20615. CIWMB - Supervision. (T14:§17671, 17673)

The site operator shall provide adequate supervision of a sufficient number of qualified personnel to ensure proper operation of the site in compliance with all applicable laws, regulations, permit conditions and other requirements. The operator shall notify the enforcement agency and local health agency in writing of the names, addresses, and telephone number of the operator or responsible party. A copy of the written notification shall be placed in the operating record.

Note: Authority cited: Section 40502 Public Resources Code. Reference: Sections 43020, 43021 and 43103, Public Resources Code.

20620. CIWMB - Site Attendant. (T14:§17674)

Any disposal site open to the public shall have an attendant present during public operating hours or the site shall be inspected by the operator on a regularly scheduled basis, as determined by the enforcement agency.

Note: Authority cited: Section 40502 Public Resources Code. Reference: Sections 43020, 43021 and 43103, Public Resources Code.

20630. CIWMB - Confined Unloading. (T14:§17676)

Unloading of solid wastes shall be confined to as small an area as possible to accommodate the number of vehicles using the area without resulting in traffic, personnel, or public safety hazards. Waste materials shall normally be deposited at the toe of the fill, or as otherwise approved by the enforcement agency.

Note: Authority cited: Section 40502 Public Resources Code. Reference: Sections 43020, 43021 and 43103, Public Resources Code.

20640. CIWMB - Spreading and Compacting. (T14:§17677)

Solid waste shall be spread and compacted in layers with repeated passages of the landfill equipment to minimize voids within the cell and maximize compaction. The loose layer shall not exceed a depth of approximately two feet before compaction. Spreading and compacting shall be accomplished as rapidly as practicable, unless otherwise approved by the enforcement agency.

Note: Authority cited: Section 40502 Public Resources Code. Reference: Sections 43020, 43021 and 43103, Public Resources Code.

20650. CIWMB - Grading of Fill Surfaces. (T14:§17710)

Covered surfaces of the disposal area shall be graded to promote lateral runoff of precipitation and to prevent ponding. Grades shall be established of sufficient slopes to account for future settlement of the fill surface. Other effective maintenance methods may be allowed by the enforcement agency.

Note: Authority cited: Section 40502 Public Resources Code. Reference: Sections 43020, 43021 and 43103, Public Resources Code.

20660. CIWMB - Stockpiling. (T14:§17680)

Cover material or native material unsuitable for cover, stockpiled on the site for use or removal, shall be placed so as not to cause problems or interfere with unloading, spreading, compacting, access, safety, drainage, or other operations.

Note: Authority cited: Section 40502 Public Resources Code. Reference: Sections 43020, 43021 and 43103, Public Resources Code.

Article 2. CIWMB - Daily and Intermediate Cover

20670. CIWMB - Availability of Cover Material. [T14:§17681]

A sufficient quantity of cover material of a suitable quality to meet the requirements of this Subchapter shall be available. If on-site sources of cover material are insufficient, substantiation must be shown to the EA that an adequate supply of cover material will be provided.

Note: Authority cited: Section 40502 Public Resources Code. Reference: Sections 43020, 43021 and 43103, Public Resources Code.

20680. CIWMB - Daily Cover. [T14:§17682, 17258.21]

(a) Except as provided in ¶(b) and §20690, or otherwise specified in 40 CFR Part 258, the owners or operators of all municipal solid waste landfill units shall cover disposed solid waste with a minimum of six inches of compacted earthen material at the end of each operating day, or at more frequent intervals if necessary, to control vectors, fires, odors, blowing litter, and scavenging. For the purposes of this section, the operating day shall be defined as the hours of operation specified in the solid waste facility permit, and may extend for more than 24 hours if operations are continuous.

(b) The EA, with concurrence by the CIWMB, may grant a temporary waiver from the requirements of ¶(a) if the owner or operator demonstrates that there are extreme seasonal climatic conditions that make meeting such requirements impractical.

(c) Earthen material or alternative cover materials of alternative thickness shall be placed over all surfaces of disposed solid waste for other than municipal solid waste landfill units, as required by the EA to control vectors, fires, odors, blowing litter, and scavenging without presenting a threat to human health and the environment. This requirement shall also apply to municipal solid waste landfills which qualify for a delay in the general compliance date or additional flexibility as specified in 40 CFR Part 258.

(d) For the purposes of this section, earthen material shall include contaminated soil as defined in Title 14, California Code of Regulations, §17361(b), and soil with contaminants other than petroleum hydrocarbons which has been approved for use as landfill daily cover by the RWQCB, and any other governmental agencies from which approval is required, such as the Department of Toxic Substances Control and Air Pollution Control District or Air Quality Management District.

(e) For waste classification, composition, and liquid percolation requirements of daily cover, refer to the SWRCB requirements set forth in §20705 of this article.

Note: Authority cited: Section 40502, 43020, 43021, 43030 Public Resources Code. Reference: Sections 40508, 42245, 43020, 43021 and 43103. Public Resources Code; and Code of Federal Regulations Section 258.21(c).

§ 20690. CIWMB - Alternative Daily Cover. (T14:§17682, 17258.21(b))

(a) **General Requirements**

(1) Alternative materials of alternative thickness for daily cover (other than at least six inches of earthen material) for municipal solid waste landfill units may be approved by the EA with concurrence by the CIWMB, if the owner or operator demonstrates that the alternative material and thickness control vectors, fires, odors, blowing litter, and scavenging without presenting a threat to human health and the environment.

(2) Alternative daily cover alone, or in combination with compacted earthen material, shall be placed over the entire working face at the end of each operating day or at more frequent intervals to control vectors, fires, odors, blowing litter, and scavenging without presenting a threat to human health and the environment. For the purposes of this section, the operating day shall be defined as the hours of operation specified in the solid waste facility permit, and may extend for more than 24 hours if operations are continuous.

(3) Should the application of alternative daily cover become impracticable or contribute to conditions hazardous to public health and safety and the environment, the owner or operator shall terminate such use and

revert to the use of compacted earthen cover material in accordance with §20680. For the purposes of this section, impracticable conditions are those which make placement of alternative daily cover difficult due to adverse climatic or other conditions such that the performance requirements of ¶(a)(2) cannot be met.

(4) The owner or operator shall place compacted earthen material over the entire working face at the end of any operating day preceding a period of time greater than 24 hours when the facility is closed, unless procedures as required by the EA are in place to ensure that the requirements of ¶(a)(2) and (a)(3) are met. A stockpile of earthen cover material and required equipment shall be available to ensure a corrective response to violation of ¶(a)(2) and (a)(3).

(5) The owner or operator shall maintain a record of waste derived alternative daily cover in accordance with Title 14, California Code of Regulations, §18800 et. seq., with the addition of type and quantity of each waste derived alternative daily cover material applied as cover. The records shall be available for inspection by authorized representatives of the EA, the local health agency, and the CIWMB during normal business hours and retained in the operating record near the site or in an alternative location approved by the EA.

(6) For waste classification, composition, and liquid percolation requirements of alternative daily cover, refer to the SWRCB requirements set forth in §20705.

(7) Waste derived materials used as alternative daily cover shall be restricted to quantities no more than necessary to meet the performance requirements of ¶(a)(2), or as specified in subdivision (b) of this section.

(8) Compost, co-compost, and chemically fixed sewage sludge, that meet the performance standards for cover material, shall be limited to up to 25 percent of landfill cover materials or landfill cover extenders as required under Public Resources Code (PRC) 42245. For the purposes of this section, "chemically fixed sewage sludge" means solid and semisolid residue generated during the treatment of domestic sewage. The 25 percent limit shall apply on a quarterly basis to the total daily and intermediate cover or cover extender use. For the purposes of this section, landfill cover extenders shall mean compost, co-compost, or chemically fixed sewage sludge blended or mixed with soil.

(9) Storage and handling of waste derived materials at the landfill for use as alternative daily cover shall be conducted in a manner to protect public health and safety and the environment, and control vectors, fires, odors, and nuisances.

(10) The EA shall apply this section to disposal facilities other than municipal solid waste landfill units as necessary to control vectors, fires, odors, blowing litter, and scavenging without presenting a threat to human health and the environment. This requirement shall also apply to municipal solid waste landfills which qualify for a delay in the general compliance date or additional flexibility as specified in 40 CFR Part 258.

(b) **Specific Requirements**

Proposed uses of alternative daily cover materials not specified in ¶(b)(1) through (10) shall be subject to site specific demonstration projects approved by the EA with concurrence by the CIWMB to establish suitability as daily cover. Site specific demonstration projects are not required for the following materials used as specified and in accordance with subdivision (a) of this section.

(1) **Geosynthetic Fabric or Panel Products (Blankets)**

(A) Geosynthetic blanket products shall be removed from the waste and the waste shall be covered with new waste or approved cover materials within 24 hours of product placement, unless the product is intended to be nonreusable, or has been approved by the EA for continuous use beyond 24 hours.

(2) **Foam Products**

(A) Foam products shall not be applied when there is precipitation or when there is a local forecast of greater than 40% chance of precipitation within 8 hours of application time in the vicinity of the landfill.

(B) Foam products shall be covered with waste or other approved cover materials within 72 hours of application, unless a shorter time period is required by the EA to meet the requirements of ¶(a)(2) and (a)(3) of this section.

(3) **Processed Green Material**

(A) Processed green material shall be green material as defined in Title 14, California Code of Regulations, §17852(u) with the exclusion of manure. Processed green material may include varying proportions of wood waste from urban and other sources and shall be ground, shredded, screened or otherwise processed in a manner to provide a compacted material free of open voids when applied to meet the performance requirements as alternative daily cover.

(B) Processed green material shall be restricted to a minimum compacted thickness of 6 inches and average compacted thickness of less than or equal to 12 inches.

(C) Processed green material placed as cover shall not be exposed for greater than 21 days.

(4) **Sludge and Sludge-Derived Materials**

(A) Public contact with sludge or sludge-derived materials, either alone or blended with soil, ash, processed green material, or stabilization agents such as lime, lime kiln dust, or cement kiln dust, shall be prohibited. This prohibition shall apply to staging, processing, tipping, and cover placement areas.

(B) Sludge or sludge-derived materials, either alone or blended with soil, processed green material, ash, or stabilization agents such as lime, lime kiln dust, or cement kiln dust, shall form a compacted material which can be placed without forming open voids or causing material to be tracked off the working face area.

(5) **Ash and Cement Kiln Dust Materials**

(A) Ash and Cement Kiln Dust, either alone or blended with earthen material or stabilization agents, shall form a compacted material which can be placed without forming open voids or causing material to be tracked off the working face area. For the purposes of this section ash means the nonhazardous residue from the combustion of material or the hazardous residue which may be managed as a nonhazardous waste in accordance with Title 22 California Code of Regulations sections 66260.200(f) or 66260.210.

(B) Ash and Cement Kiln Dust, either alone or blended with earthen material or stabilization agents shall be used as alternative daily cover in a manner to minimize the creation of dust.

(C) Ash and Cement Kiln Dust, either alone or blended with earthen material or stabilization agents, shall be restricted to a minimum compacted thickness of 6 inches and average compacted thickness of less than 18 inches.

(6) **Treated Auto Shredder Waste**

(A) Auto shredder waste shall be treated pursuant Title 22, California Code of Regulations, section 66268.106(a)(1).

(B) Treated auto shredder waste used for alternative daily cover shall be restricted to a minimum compacted thickness of 6 inches and average compacted thickness of less than 24 inches.

(7) **Contaminated Sediment, Dredge Spoils, Foundry Sands, Energy Resource Exploration and Production Wastes**

(A) Contaminated sediment, dewatered dredge spoils, foundry sands, or processed energy resource exploration and production wastes shall be restricted to a minimum compacted thickness of 6 inches and average compacted thickness of less than 18 inches. Such materials shall form a compacted material which can be placed without forming open voids or causing material to be tracked off the working face area.

(8) **Compost Materials**

(A) Except as provided in ¶(b)(8)(B), of this section, compost shall meet the environmental health standards of Title 14, California Code of Regulations, Division 7, Chapter 3.1, Article 7.

(B) Public contact shall be precluded from cover staging, processing, tipping, and placement areas for compost which does not meet the environmental health standards of Title 14, California Code of Regulations, Division 7, Chapter 3.1, Article 7.

(9) **Construction and Demolition Wastes**

(A) Construction and demolition wastes shall be restricted to crushed, ground, or screened materials alone or mixed with soil to provide a compacted material free of open voids.

(B) Construction and demolition wastes shall be restricted to a minimum compacted thickness of 6 inches and average compacted thickness of less than 18 inches.

(10) **Shredded Tires**

(A) Shredded tires used as daily cover alone or mixed with soil shall be shredded such that 50% by volume is smaller than 6 inches in length and no individual pieces are greater than 12 inches in length.

(B) Shredded tires used as alternative daily cover without admixed soil shall not be applied when there is precipitation or when there is a local forecast of greater than 40% chance of precipitation within 8 hours of application time in the vicinity of the landfill.

Note: Authority cited: Section 40502, 41781.3, 43020, 43021, 43030 and 43103 Public Resources Code. Reference: Sections 40508, 42245, 43020 and 43021 Public Resources Code; and Code of Federal Regulations Section 258.21.

20695. CIWMB - Cover Performance Standards. [T14:§17683]

The EA may require the following cover performance standards if necessary to control vectors, fires, odors, and blowing litter and to evaluate the suitability of alternative daily or intermediate cover:

(a) **Vectors**

(1) **Threshold Values** — The following shall constitute threshold values for vector populations:

(A) Flies-A fly grill survey value of six (6) or more domestic flies, or observations of domestic flies in the "crawler" stage (newly emerged adults prior to wings becoming functional) at a density of three (3) or more per square yard of surface area at any location on the disposal area. Domestic flies are considered to be those species in the Families: Muscidae (including Anthomyiidae), Calliphoridae, Sarcophagidae, and Drosophilidae.

(B) **Domestic Rats** — The trapping of one or more domestic rats anywhere on the disposal site. Domestic rats are considered to be any species in the genus Rattus.

(C) **Field Rodents** — Observation of five (5) or more field rodents feeding on the active face of the disposal site. Field rodents are considered to be any species in the Family Sciuridae.

(D) **Mosquitoes** — The observation of any immature mosquito stages from water holding waste materials on the disposal site.

(E) **Wasps, cockroaches, etc.** — The observation of excessive populations utilizing accepted norms.

(2) **Inspection Practices**

(A) **Schedule** — Fly grill surveys shall be conducted on each disposal site a minimum of once per week. Sampling to determine the species composition of the fly population shall be conducted a minimum of once per month. Rat trapping surveys shall be conducted at least once each month. Observations for mosquitoes, wasps, cockroaches, "crawler" flies or other types of vectors shall be made during each inspection of the disposal site. The EA may approve alternative inspection schedules or cease inspections if previous inspections or other observations indicate no further threat to public health and safety.

(B) **Procedure** — Ten (10) fly grill counts shall be made over appropriate attractants on the active face of the disposal site during each inspection utilizing accepted practices to count and record the flies. The five (5) highest counts shall be averaged to obtain the value for that inspection. In sampling to provide qualitative data for the fly species composition on a disposal site, any of the following or other acceptable method for sampling adult flies shall be observed:

-bait traps, exposed for at least a continuous 24-hour period at separate locations, or

-sticky tapes, exposed for a continuous 24-hour period at separate locations, or

-utilization of a standard insect net on the active working face, or

-other approved method to provide a representative sample.

For uniformity of information, one of the approved methods shall be selected for use on a continuing basis at each disposal site.

A minimum of two (2) domestic rat trap lines each containing twenty (20) traps shall be operated for one night on each disposal site at the prescribed frequency. Traps appropriately baited, shall be set at 20-foot intervals in each trap line. One trap line shall be located on or as close to the active face as practical. The other trap line shall be located on the periphery of the site in suitable rodent habitat. On very large sites additional trap lines will be required to provide an adequate sample. Visual observations of field rodents or their signs shall be made and recorded during each inspection.

(C) **Equipment** — All fly surveys conducted on the active face of the disposal site shall be made with a Scudder fly grill. This device is a square grill consisting of 24 slats, each 3' * 3/4" * ¼" placed 3/4" apart on a Z-shaped framework. Species composition of fly populations at the site shall be made with the use of fly traps, sticky tapes, an insect net, or other approved method to provide a representative sample. Snap traps or live traps, or a combination thereof, of suitable size and design shall be used to capture mature domestic rats.

(D) **Records** — The following information shall be recorded at a minimum during each inspection: Name of site; location; date of inspection; name of person(s) making the inspection; the time the inspection began; the time the inspection ended; temperature; wind conditions; moisture conditions; sky conditions; shade; attractants, when applicable; results of the 10 Scudder grill counts; number and species of all flies captured; number of domestic rats trapped since the previous inspection; number of field rodents observed (or signs of their presence), and the presence of any mosquitoes, wasps, cockroaches, or other types of vectors. These records shall be kept up to date and shall be submitted to the EA upon request.

(b) **Fire**

Burning material, or any solid waste at a temperature likely to cause fire, shall not be deposited in the fill. Said material shall initially be deposited in a separate location a sufficient distance from the fill area to prevent fires from spreading to the normal fill area. It shall then be spread in a single layer not exceeding one (1) foot in thickness and immediately covered with a sufficient amount of earth or sprayed with sufficient fire retardant to extinguish all combustion. Final disposition of the material shall not take place until the operator is certain that no further combustion will take place under any conditions.

Fires which originate within the fill shall be handled by removing all the burning material from the fill and extinguishing it as described above, or by in-situ practices approved by the EA, in consultation with the local fire authority. Excavation of burning materials shall be undertaken in a planned and controlled manner; with sufficient fire fighting equipment present to control any "flare-ups" which may occur as outside air reaches the burning materials. The EA shall be immediately notified of any fire.

(c) **Litter**

Accumulation or offsite migration of litter in quantities that create a nuisance, injury to the public and personnel, or cause other problems, shall be prevented.

(d) **Alternative Methods**

Alternative cover performance standards in lieu of ¶(a) through (c) of this section may be applied by the EA with concurrence by the CIWMB.

NOTE: Authority Cited: Section 40502, 41781.3, Public Resources Code. Reference: Sections 40508, 43020, 43021 and 43103, Public Resources Code; and Code of Federal Regulations Section 258.21.

20700. CIWMB - Intermediate Cover. (T14:§17684)

(a) Compacted earthen material at least twelve (12) inches shall be placed on all surfaces of the fill where no additional solid waste will be deposited within 180 days to control vectors, fires, odors, blowing litter, and scavenging.

(b) Alternative materials of alternative thickness (other than at least twelve inches of earthen material) for intermediate cover may be approved by the EA with concurrence by the CIWMB, if the owner or operator

demonstrates that the alternative material and thickness control vectors, fires, odors, blowing litter, and scavenging without presenting a threat to human health and the environment.

(c) For waste classification, composition, and liquid percolation requirements of intermediate cover and alternative intermediate cover, refer to the SWRCB requirements set forth in §20705 of this article.

(d) Proposed use of alternative intermediate cover shall be subject to site specific demonstration to establish suitability as intermediate cover. Demonstration projects shall be approved by the EA with concurrence by the CIWMB.

NOTE: Authority Cited: Section 40502, 41781.3, Public Resources Code. Reference: Sections 40508, 43020, 43021 and 43103, Public Resources Code; and Code of Federal Regulations Section 258.21.

§20701. CIWMB - Slope Stability of Daily and Intermediate Cover. (T14:§17678) - [Reserved]

Note: Authority cited: Section 40502 Public Resources Code. Reference: Sections 43020, 43021 and 43103, Public Resources Code.

20705. SWRCB - Standards for Daily and Intermediate (Interim) Cover. (C15: §2544)

[Note: This section applies in conjunction with CIWMB sections 20680-20701 and addresses cover issues prior to the installation of the final cover. Readers interested in the SWRCB-promulgated requirements for final cover will find them at §21090.]

(a) **Daily & Intermediate** — Interim cover at landfills is "daily cover" and "intermediate cover" as defined by the CIWMB (see §20164).

(b) **Minimize Percolation** — Interim cover over wastes discharged to a landfill shall be designed and constructed to minimize percolation of liquids through wastes.

(c) **For Class II Waste Piles** — Cover may be required by RWQCBs for Class II wastes piles.

(d) [Reserved]

(e) **Limitations On Cover Materials** — Except for reusable covers that are never incorporated into the Unit, daily and intermediate cover shall only consist of materials:

(1) **Match Unit Classification** — which meet the classification criteria for wastes that can be discharged to that landfill. Therefore, a material that would be classified as a designated waste cannot be utilized for daily or intermediate cover at a Class III landfill unless that material is approved for discharge (as a waste) to that landfill pursuant to §20200(a)(1); and

(2) **Composition** — whose constituents (other than water) and foreseeable breakdown byproducts, under the chemical (including biochemical) and temperature conditions which it is likely to encounter within the landfill, either:

(A) for non-composite lined portions of the Unit, are mobilizable only at concentrations which would not adversely affect beneficial uses of waters of the state, in the event of a release; or

(B) for composite-lined portions of the Unit, are listed as COCs in the Unit's water quality protection standard (Water Standard), created pursuant to §20395.

(f) **Dust Control** — The requirements of §21090(a)(5) regarding the discharge of leachate, gas condensate, and other liquids to final-covered portions of the Unit also apply to the discharge of liquids to daily and intermediate cover, including discharges made for the purpose of dust control.

NOTE: Authority cited: Section 1058, Water Code; Reference: Sections 13172 and 13360, Water Code; Section 43103, Public Resources Code.

Article 3. CIWMB - Handling, Equipment and Maintenance

20710. CIWMB - Scavenging, Salvaging, and Storage. (T14:§17686,17687,17690,17691)

(a) Scavenging is prohibited at any disposal site.

(b) Salvaging as approved by the EA shall be conducted in a planned and controlled manner and shall not interfere with other aspects of site operations, including the expeditious entry and egress of vehicles at the site.

(c) Salvaged materials generated on-site or imported shall be placed for storage in a specified, clearly identifiable area segregated from the working face. Salvaged materials shall be arranged so as to minimize risk of fire, health and safety hazard, vector harborage, or other hazard or nuisance, and be limited to a volume and storage time as approved by the enforcement agency.

Note: Authority cited: Section 40502 Public Resources Code. Reference: Sections 43020, 43021 and 43103, Public Resources Code.

20720. CIWMB - Non-Salvageable Items. (T14:§17692)

Drugs, cosmetics, foods, beverages, hazardous chemicals, poisons, medical wastes, syringes, needles, pesticides and other materials capable of impairing public health shall not be salvaged unless approved by the EA and the local health agency.

Note: Authority cited: Section 40502 Public Resources Code. Reference: Sections 43020, 43021 and 43103, Public Resources Code.

20730. CIWMB - Volume Reduction and Energy Recovery. (T14:§17688,17689)

Volume reduction such as incineration, baling, shredding, composting, pyrolysis, and materials and energy recovery operations as approved by the EA shall be confined to specified, clearly identifiable areas of the site. If volume reduction is conducted operations shall be done in a controlled manner as an integral part of the operation and not interfere with the proper construction and maintenance of the site or create health, safety, or environmental problems.

Note: Authority cited: Section 40502 Public Resources Code. Reference: Sections 43020, 43021 and 43103, Public Resources Code.

20740. CIWMB - Equipment. (T14:§17693,17694)

Equipment shall be adequate in type, capacity and number, and sufficiently maintained to permit the site operation to meet requirements of these standards.

Note: Authority cited: Section 40502 Public Resources Code. Reference: Sections 43020, 43021 and 43103, Public Resources Code.

20750. CIWMB - Site Maintenance. (T14:§17695,17696)

The operator shall implement a preventative maintenance program to monitor and promptly repair or correct deteriorated or defective conditions with respect to requirements of the CIWMB standards, and conditions established by the EA. All other aspects of the disposal site shall be kept in a state of reasonable repair.

Note: Authority cited: Section 40502 Public Resources Code. Reference: Sections 43020, 43021 and 43103, Public Resources Code.

Article 4. CIWMB - Controls

20760. CIWMB - Nuisance Control. (T14:§17701)

Each disposal site shall be operated and maintained so as not to create a public nuisance.

Note: Authority cited: Section 40502 Public Resources Code. Reference: Sections 43020, 43021 and 43103, Public Resources Code.

20770. CIWMB - Animal Feeding. (T14:§17702)

Feeding of solid waste to animals which will be used for human consumption is prohibited on disposal sites. Grazing of livestock away from operating areas is permitted.

Note: Authority cited: Section 40502 Public Resources Code. Reference: Sections 43020, 43021 and 43103, Public Resources Code.

20780. CIWMB - Open Burning and Burning Wastes. (T14:§17258.24(b),17703, 17741)

(a) Open burning of solid waste, except for the infrequent burning of agricultural wastes, silvicultural wastes, landclearing debris, diseased trees, or debris from emergency clean-up operations, is prohibited at all solid waste landfills.

(b) If burning wastes are received, they shall be deposited in a safe area and extinguished. If burning wastes have been placed in an active face, they shall be immediately excavated, spread and extinguished.

Note: Authority cited: Section 40502 Public Resources Code. Reference: Sections 43020 through 43022, and 43103, Public Resources Code.

20790. CIWMB - Leachate Control. (T14:§17704,17709)

The operator shall ensure that leachate is controlled to prevent contact with the public.

Note: Authority cited: Section 40502 Public Resources Code. Reference: Sections 43020, 43021 and 43103, Public Resources Code.

20800. CIWMB - Dust Control. (T14:§17706)

The operator shall take adequate measures to minimize the creation of dust and prevent safety hazards due to obscured visibility.

Note: Authority cited: Section 40502 Public Resources Code. Reference: Sections 43020, 43021 and 43103, Public Resources Code.

20810. CIWMB - Vector and Bird Control. (T14:§17707)

The operator shall take adequate steps to control or prevent the propagation, harborage or attraction of flies, rodents, or other vectors and to minimize bird problems.

Note: Authority cited: Section 40502 Public Resources Code. Reference: Sections 43020, 43021 and 43103, Public Resources Code.

20820. CIWMB - Drainage and Erosion Control. (T14:§17708,17715)

(a) The drainage system shall be designed and maintained to:

(1) ensure integrity of roads, structures, and gas monitoring and control systems;

(2) prevent safety hazards; and

(3) prevent exposure of waste.

Note: Authority cited: Section 40502 Public Resources Code. Reference: Sections 43020, 43021 and 43103, Public Resources Code.

20830. CIWMB - Litter Control. (T14:§17711)

Litter shall be controlled, routinely collected and disposed of properly. Windblown materials shall be controlled to prevent injury to the public and personnel. Controls shall prevent the accumulation, or off-site migration, of litter in quantities that create a nuisance or cause other problems.

Note: Authority cited: Section 40502 Public Resources Code. Reference: Sections 43020, 43021 and 43103, Public Resources Code.

20840. CIWMB - Noise Control. (T14:§17712)

Noise shall be controlled to prevent health and safety hazards to persons using the site and to nearby residents.

Note: Authority cited: Section 40502 Public Resources Code. Reference: Sections 43020, 43021 and 43103, Public Resources Code.

20860. CIWMB - Traffic Control. (T14:§17714)

Traffic flow into, on, and out of the disposal site shall be controlled to minimize the following:

(a) interference and safety problems with traffic on adjacent public streets or roads,

(b) on-site safety hazards, and

(c) interference with site operations.

Note: Authority cited: Section 40502 Public Resources Code. Reference: Sections 43020, 43021 and 43103, Public Resources Code.

20870. CIWMB - Hazardous Wastes. (T14:§17742,17258.20)

(a) Owners or operators of all MSWLF units must implement a program at the facility for detecting and preventing the disposal of regulated hazardous wastes as defined in 40 CFR Part 261 and polychlorinated biphenyls (PCB) wastes as defined in 40 CFR Part 761. This program must include, at a minimum:

(1) Random inspections of incoming loads unless the owner or operator takes other steps to ensure that incoming loads do not contain regulated hazardous wastes or PCB wastes;

(2) Records of any inspections;

(3) Training of facility personnel to recognize regulated hazardous wastes and PCB wastes; and

(4) Notification of the EA, the Director of the California Department of Toxic Substances Control (DTSC) or its delegated agent, and the Regional Water Quality Control Board (RWQCB), if a regulated hazardous waste or PCB waste is discovered at the facility.

(b) A site shall not accept hazardous wastes unless the site has been approved for the particular waste involved.

(c) At sites where hazardous materials are processed, precautions must be taken to eliminate or control dusts, fumes, mists, vapors or gases that may be produced in quantities and under conditions which may have harmful effects on site personnel, the general public or animals.

Note: Authority cited: Section 40502 Public Resources Code. Reference: Sections 40508, 43020, 43021 and 43103, Public Resources Code; Sections 25249.5 through 25249.13, Health and Safety Code; and Title 40, Code of Federal Regulations, Section 258.20.

20880. CIWMB - Medical Waste. (new)

Medical waste, unless treated and deemed to be solid waste, which is regulated pursuant to the Medical Waste Management Act [Part 14 (commencing with Section 117600) of Division 104 of the Health and Safety Code], shall not be accepted for disposal at a site.

Note: Authority Cited: Section 40502 Public Resources Code. Reference: Sections 43020, 43021 and 43103, Public Resources Code.

20890. CIWMB - Dead Animals. (T14:§17744)

Dead animals may be accepted if allowed by local regulations and shall be covered immediately or at a frequency approved by the EA.

Note: Authority cited: Section 40502 Public Resources Code. Reference: Sections 43020, 43021 and 43103, Public Resources Code.

20900. CIWMB - Air Criteria. [T14:§17258.24(a)]

Owners or operators of all MSWLF's must ensure that the units do not violate any applicable requirements developed under a State Implementation Plan (SIP) approved or promulgated by the Administrator, United States Environmental Protection Agency, pursuant to section 110 of the Clean Air Act, as amended.

Note: Authority cited: Section 40502 Public Resources Code. Reference: Sections 43020, 43021 and 43103, Public Resources Code.

Article 5. CIWMB - Fire Control at Active and Closed Disposal Sites

§20905. CIWMB - [Reserved]

Note: Authority cited: Section 40502, Public Resources Code. Reference: Section 43022 and 43103, Public Resources Code.

§20915. CIWMB - Subsurface Fire Control. [Reserved]

Article 6. Gas Monitoring and Control at Active and Closed Disposal Sites.

§20917. CIWMB - Scope and Applicability. (Reserved)

20918. CIWMB - Exemptions. (T14:§17783.17)

A disposal site other than a MSWLF unit, may be granted an exemption to all or any portion of the requirements of Article 6 of this Subchapter if the operator can demonstrate to the satisfaction of the EA, that there is no potential for adverse impacts on public health and safety and the environment, based upon but not limited to: the amount, nature and age of refuse; projected gas generation; and remoteness of the facility. Exemptions and alternatives shall be reviewed by the EA in conjunction with the five (5) year permit review, and based on the results, the EA may extend or terminate the exemption.

Note: Authority cited: Section 40502, Public Resources Code. Reference: Sections 43020, 43021 and 43103, Public Resources Code; and Title 40, Code of Federal Regulations, Section 258.23.

20919. CIWMB - Gas Control. (T14:§17705)

Where the enforcement agency, the local fire control authority, or the CIWMB has cause to believe a hazard or nuisance may be created by landfill decomposition gases, they shall so notify the owner. Thereafter, the site owner shall cause the site to be monitored for presence and movement of gases, and shall take necessary action to control

such gases. The site owner shall inform the operator of any actions ordered by the EA, the local fire control authority or the CIWMB concerning gas control methods. The monitoring program shall be developed pursuant to the specifications of the above agencies. The monitoring program shall not be discontinued until authorized to do so in writing by the requiring agency. Results of the monitoring shall be submitted to the appropriate agencies. If monitoring indicates methane gas movement away from the site, the owner shall, within a period of time specified by the requiring agency, construct a gas control system approved by that agency. The agency may waive this requirement if satisfactory evidence is presented indicating that adjacent properties are safe from hazard or nuisance caused by methane gas movement. The operator shall duly inform the disposal site owner of possible landfill gas problems.

Note: Authority cited: Section 40502, Public Resources Code. Reference: Sections 43020, 43021 and 43103, Public Resources Code.

20919.5. CIWMB - Explosive Gases Control. (T14:§17258.23.)

(a) Owners or operators of all MSWLF units must ensure that:

(1) The concentration of methane gas generated by the facility does not exceed 25 percent of the lower explosive limit for methane in facility structures (excluding gas control or recovery system components); and

(2) The concentration of methane gas does not exceed the lower explosive limit for methane at the facility property boundary.

(b) Owners or operators of all MSWLF units must implement a routine methane monitoring program to ensure that the standards of (a) are met.

(1) The type and frequency of monitoring must be determined based on the following factors:

(i) soil conditions;

(ii) the hydrogeologic conditions surrounding the facility:

(iii) the hydraulic conditions surrounding the facility; and

(iv) the location of facility structures and property boundaries.

(2) the minimum frequency of monitoring shall be quarterly.

(c) If methane gas levels exceeding the limits specified in (a) are detected, the owner or operator must:

(1) immediately take all necessary steps to ensure protection of human health and notify the EA;

(2) within seven days of detection, place in the operating record the methane gas levels detected and a description of the steps taken to protect human health; and

(3) within 60 days of detection, implement a remediation plan for the methane gas releases, place a copy of the plan in the operating record, and notify the EA that the plan has been implemented. The plan shall describe the nature and extent of the problem and the proposed remedy.

(4) The EA with concurrence by the CIWMB pursuant to 40 CFR 258.23(c)(4) may establish alternative schedules for demonstrating compliance with (c)(2) and (c)(3).

(d) For purposes of this section, "lower explosive limit" means the lowest percent by volume of a mixture of explosive gases in air that will propagate a flame at 25 degrees Celsius and atmospheric pressure.

(e) The EA shall forward notifications and approvals pursuant to §20919.5(c)(1) and (c)(3) to the CIWMB pursuant to 40 CFR 258.23(c)(1)and (c)(3).

Note: Authority cited: Section 40502 Public Resources Code. Reference: Sections 43020, 43021 and 43103, Public Resources Code; and Title 40, Code of Federal Regulations, Section 258.23.

20920. CIWMB - Scope and Applicability for Gas Monitoring and Control Requirements During Closure and Postclosure. (T14:§17760)

(a) Sections 20921 through 20937 set forth the performance standards and the minimum substantive requirements for landfill gas monitoring and control as it relates to proper closure, postclosure maintenance and ultimate reuse of solid waste disposal sites to assure that public health and safety and the environment are protected from pollution due to the disposal of solid waste.

(b) Sections 20921 through 20937 apply to:

(1) Solid waste disposal sites that did not commence complete closure prior to August 18, 1989, which was fully implemented by November 18, 1990, in accordance with all applicable requirements; and

(2) new postclosure activities that may jeopardize the integrity of previously closed sites or pose a threat to public health and safety or the environment.

NOTE: Authority cited: Sections 40502 and 45020, Public Resources Code; and Section 66796.22(d), Government Code. Reference: Section 43021 and 43103, Public Resources Code; and Section 66796.22(d), Government Code.

20921. CIWMB - Gas Monitoring and Control During Closure and Postclosure. (T14:§17783)

(a) To provide for the protection of public health and safety and the environment, the operator shall ensure that landfill gases generated at a disposal site are controlled in accordance with the following requirements:

(1) The concentration of methane gas must not exceed 1.25% by volume in air within on-site structures.

(2) The concentration of methane gas migrating from the landfill must not exceed 5% by volume in air at the facility property boundary or an alternative boundary approved in accordance with §20925.

(3) Trace gases shall be controlled to prevent adverse acute and chronic exposure to toxic and/or carcinogenic compounds.

(b) The program implemented pursuant to §§20921 - 20937 shall continue for a period of thirty (30) years or until the operator receives written authorization to discontinue by the EA with concurrence by the CIWMB pursuant to 40 CFR 258.61(b). Authorization to cease gas monitoring and control shall be based on a demonstration by the operator that there is no potential for gas migration beyond the property boundary or into on-site structures. Demonstration of this proposal shall be supported by data collected and any additional studies.

(c) The gas monitoring program required pursuant to §§20921 - 20937, shall be described as part of the preliminary and final postclosure maintenance plan.

(d) Gas monitoring and control systems shall be modified, during the closure and postclosure maintenance period, to reflect changing on-site and adjacent land uses. Postclosure land use at the site shall not interfere with the function of gas monitoring and control systems. The operator may request a reduction of monitoring or control activities based upon the results of monitoring data collected. The request for reduction of monitoring or control activities shall be submitted in writing to the EA.

NOTE: Authority cited: Sections 40502 and 45020, Public Resources Code; and Section 66796.22(d), Government Code. Reference: Section 43021 and 43103, Public Resources Code; and Section 66796.22(d), Government Code.

§20923. CIWMB - Monitoring (T14:§17783.3)

(a) To ensure that the conditions of §20921 are met, the operator shall implement a gas monitoring program at the disposal site in accordance with the following requirements:

(1) the gas monitoring network shall be designed by a registered civil engineer or a certified engineering geologist, and shall ensure detection of the presence of landfill gas migrating beyond the landfill property boundary and also into on site structures; and

(2) The monitoring network shall be designed to account for the following specific site characteristics and potential migration pathways or barriers, including, but not limited to:

(A) local soil and rock conditions;

(B) hydrogeological conditions at the disposal site;

(C) locations of buildings and structures relative to the waste disposal area;

(D) adjacent land use, and inhabitable structures within 1000 feet of the disposal site property boundary;

(E) man made pathways, such as underground construction; and

(F) the nature and age of waste and its potential to generate landfill gas.

Note: Authority Cited: Sections 40502 and 45020, Public Resources Code; and Section 66796.22(d), Government Code. Reference: Section 43201 and 43103, Public Resources Code; and Section 66796.22(d) Government Code.

History
See Title 14 for 4. points of history.

20925. CIWMB - Perimeter Monitoring Network. (T14:§17783.5)

(a) **Location**

(1) Perimeter subsurface monitoring wells shall be installed around the waste deposit perimeter but not within refuse. The entire perimeter of the disposal site may not warrant the installation of monitoring wells. In this case, the operator shall demonstrate to the satisfaction of the EA that gas migration could not occur due to geologic barriers and that no inhabitable structure or other property such as agricultural lands within 1,000 feet of the property boundary are threatened by gas migration.

(2) Perimeter monitoring wells shall be located at or near the disposal site property boundary. The operator may establish an alternate boundary closer to the waste deposit area based on a knowledge of the site factors in §20923(a)(2). When compliance levels are exceeded at the alternate boundary, the operator shall install additional monitoring wells closer to the property boundary, pursuant to §20937.

(b) **Spacing**

(1) The lateral spacing between adjacent monitoring wells shall not exceed 1,000 feet, unless it can be established to the satisfaction of the EA, in §20923(a)(2).

(2) The spacing of monitoring wells shall be determined based upon, but not limited to: the nature of the structure to be protected and its proximity to the refuse. Wells shall be spaced to align with gas permeable structural or stratigraphic features, such as dry sand or gravel, off site or on site structures, and areas of dead or stressed vegetation that might be due to gas migration.

(3) Probe spacing shall be reduced as necessary to protect persons and structures threatened by landfill gas migration.

(c) **Depth**

(1) The depth of the wellbore shall equal the maximum depth of waste as measured within 1,000 feet of the monitoring point. The number and depths of monitoring probes within the wellbore shall be installed in accordance with the following criteria, except as specified in (c)(2).

(A) a shallow probe shall be installed 5 to 10 feet below the surface;

(B) an intermediate probe shall be installed at or near half the depth of the waste;

(C) a deep probe shall be set at or near the depth of the waste;

(D) the specified depths of monitoring probes within the wellbore shall be adjusted, based on geologic data obtained during drilling, and probes shall be placed adjacent to soils which are most conductive to gas flow;

(E) All probes shall be installed above the permanent low seasonal water table, above and below perched ground water, and above bedrock; and

(F) When the depth of the waste does not exceed 30 feet, the operator may reduce the number of probes to two, with one probe located in the shallow zone as indicated above, and the other located adjacent to permeable soils at or near the depth of the waste.

(2) Exclusions or modifications to (c)(1) may be requested for certain disposal sites (i.e., filled pits, cut and trench, and canyon fills). When conditions limit the practicality or do not warrant the installation depth criteria, the operator shall propose an alternate system of equivalent probe depths. The proposal must demonstrate to the satisfaction of the EA, that probes located at these depths are sufficient to detect migrating landfill gas and provide protection to public health and safety and the environment.

(3) The EA may require an increase in the number of monitoring probes, the depth of the wellbore, or modify the depths of monitoring probes within a wellbore to ensure compliance with §20921(a). The operator is not precluded from utilizing existing gas monitoring probes of an alternate design, when the operator demonstrates to the satisfaction of the EA, that such probes have been installed in a manner that ensures the detection of landfill gas migrating from the disposal site.

(d) **Monitoring Well Construction**

(1) Monitoring wells shall be drilled by a licensed drilling contractor, or where in house drilling capability exists, by a drilling crew under the supervision of the design engineer or engineering geologist. Wells shall be logged during drilling by or a geologist or geotechnical engineer. Soils shall be described using the ASTM Designation: D2488 84 method for visual classification, Standard Practice for Description and Identification of Soils (Visual Manual Procedure), which is incorporated by reference. Rock units shall be described in a manner appropriate for geologic investigation.

(2) A record of each monitoring well shall be maintained by the operator and submitted to the EA upon request. The record shall include:

(A) a facility map drawn to a scale proposed by the design engineer or engineering geologist, sufficient to show the location of all monitoring wells. The well must be identified with a number that corresponds to the well log. Surface elevations at the wellheads shall be denoted on the map;

(B) well logs, including the names of the person(s) logging the hole; and

(C) an as built description, including a well detail which indicates probe material and depth, extent and type of filter pack, thickness and material used for seals, extent and material used for backfill, size and interval of perforations, and a description of any shutoff valves or covers.

(3) To isolate monitored zones within the wellbore, and prevent contamination of perched ground water and permanent ground water, the operator shall provide a minimum seal of five (5) feet of bentonite at the surface and between the monitored zones.

NOTE: Authority cited: Sections 40502 and 45020, Public Resources Code; and Section 66796.22(d), Government Code. Reference: Section 43021 and 43103, Public Resources Code; and Section 66796.22(d), Government Code.

20931. CIWMB - Structure Monitoring. (T14:§17783.7)

(a) To ensure that the requirements of §20923(a)(1) are met, the monitoring network design shall include provisions for monitoring on site structures, including but not limited to buildings, subsurface vaults, utilities or any other areas where potential gas buildup would be of concern. The proposal shall address on site structures, both adjacent to and on top of the waste deposit area.

(b) Methods for monitoring on site structures may include, but are not limited to: periodic monitoring, utilizing either permanently installed monitoring probes or gas surveys; and continuous monitoring systems.

(c) Structures located on top of the waste disposal area shall be monitored on a continuous basis. When practical, structures shall be monitored after they have been closed overnight or for the weekend to allow for an accurate assessment of gas accumulation. Areas of the structure where gas may accumulate shall be monitored and may

include, but are not limited to areas in, under, beneath and around basements, crawl spaces, floor seams or cracks, and subsurface utility connections.
NOTE: Authority cited: Sections 40502 and 45020, Public Resources Code; and Section 66796.22(d), Government Code. Reference: Section 43021 and 43103, Public Resources Code; and Section 66796.22(d), Government Code.

20932. CIWMB - Monitored Parameters. (T14:§17783.9)

(a) All monitoring probes and on site structures shall be sampled for methane during the monitoring period. Sampling for specified trace gases may be required by the EA when there is a possibility of acute or chronic exposure due to carcinogenic or toxic compounds.
NOTE: Authority cited: Sections 40502 and 45020, Public Resources Code; and Section 66796.22(d), Government Code. Reference: Section 43021 and 43103, Public Resources Code; and Section 66796.22(d), Government Code.

20933. CIWMB - Monitoring Frequency. (T14:§17783.11)

(a) At a minimum, quarterly monitoring is required. The EA may require more frequent monitoring based upon site specific factors in §20923(a)(2). When more frequent monitoring is necessary, the requiring agency shall notify the operator.

(b) More frequent monitoring may also be required at those locations where results of monitoring indicate that landfill gas migration is occurring or is accumulating in structures.

(c) The operator shall increase the monitoring frequency, as is necessary, to detect migrating gas and ensure compliance with §20921.
NOTE: Authority cited: Sections 40502 and 45020, Public Resources Code; and Section 66796.22(d), Government Code. Reference: Section 43021 and 43103, Public Resources Code; and Section 66796.22(d), Government Code.

20934. CIWMB - Reporting. (T14:§17783.13)

(a) The results of gas monitoring shall be submitted to the EA within ninety (90) days of sampling, provided that compliance levels are maintained. When compliance levels are exceeded at any probe, the requirements of §20937 shall apply. The monitoring reports shall include:

(1) the concentrations of the methane, as measured at each probe and within each on-site structure;

(2) the concentrations of specified trace gases, if required;

(3) the documentation of date, time, barometric pressure, atmospheric temperatures, general weather conditions, and probe pressures;

(4) the names of sampling personnel, apparatus utilized, and a brief description of the methods used; and

(5) a numbering system to correlate monitoring results to a corresponding probe location.
NOTE: Authority cited: Sections 40502 and 45020, Public Resources Code; and Section 66796.22(d), Government Code. Reference: Section 43021 and 43103, Public Resources Code; and Section 66796.22(d), Government Code.

20937. CIWMB - Control. (T14:§17783.15)

(a) When the results of gas monitoring indicate concentrations of methane in excess of the compliance levels required by §20921(a), the operator shall:

(1) Take all immediate steps necessary to protect public health and safety, and the environment.

(2) Notify the EA in writing within five (5) working days of learning that compliance levels have been exceeded, and indicate what has been done or is planning to be done to resolve the problem.

(3) Verify accuracy of results by reviewing the following:

(A) probe readings;

(B) possible liquid interference;

(C) control well influence; and

(D) barometric pressure effects.

(4) Within ten (10) working days, submit to the EA a letter which describes the nature and extent of the problem, and any immediate corrective actions that need to be taken to protect public health and safety, and the environment.

(5) Construct a gas control system, designed by a registered civil or mechanical engineer, within a period of time specified by the EA. Installation of the system shall be in accordance with a design and in a manner approved for construction by the EA in coordination, if applicable, with the RWQCB.

(b) A gas control system shall be designed to:

(1) Prevent methane accumulation in on site structures.

(2) Reduce methane concentrations at monitored property boundaries to below compliance levels.

(3) Reduce trace gas concentrations.

(4) Provide for the collection and treatment and/or disposal of landfill gas condensate produced at the surface. Condensate generated from gas control systems shall not be recirculated into the landfill unless analysis of the condensate demonstrates to the satisfaction of the EA, that it is acceptable to allow recirculation into landfills which have a liner and an operating leachate collection systems and the RWQCB approve such discharge pursuant to §20200(d).

(c) Subsurface gas control systems may include, but are not limited to, one or more of the following:

(1) Active perimeter or interior control systems which are designed to accommodate the maximum expected flow rate from the disposal site, and provide access for system monitoring and flow rate adjustment. The control system shall be operated to ensure that gas is controlled at a sufficient rate without overpulling, to maximize control and not production, and to ensure adequate control for compliance with §20923(a).

(2) Perimeter air injection systems which shall be installed in native soil between the refuse and the area to be protected. Injection wells shall not be located in the refuse. The system shall be designed and operated to prevent air infiltration into the landfill but maintain methane concentrations to compliance levels.

(3) Passive systems, including cutoff trenches, slurry walls, and vent trenches, when used shall be constructed with an impermeable geomembrane liner. The passive systems shall be installed to the depth of permanent low seasonal ground water or keyed into a low permeability layer below the limit of migration..

(d) When the results of monitoring in on site structures indicate levels in excess of those specified in §20923(a), the operator shall take appropriate action to mitigate the effects of landfill gas accumulation in on site structures. Gas control measures to protect structures, and public health and safety, shall include one or more of the following:

(1) Flexible membrane liners,

(2) Active collection systems,

(3) Passive collection systems designed to be upgraded to an active system,

(4) Alarms,

(5) Ignition source control,

(6) Utility collars installed within structures and outside in trenches, and

(7) Ventilation.

(e) To ensure that the gas control system is operating at optimum efficiency to control landfill gas, the operator shall provide for system monitoring and adjustment.

(f) To provide for the safe, efficient operation of the gas control system, the operator shall implement a maintenance program in accordance with the following requirements:

(1) A site specific operations and maintenance manual shall be maintained and kept current to reflect any expansion or modifications to the gas control system.

(2) An operations and maintenance manual shall provide for periodic inspections and servicing of gas control equipment.

(3) Operations and maintenance shall be recorded and the records shall be retained by the operator.

(g) Construction Quality Assurance/Quality Control

(1) The operator shall be responsible for providing inspections, as needed, to ensure the integrity of the system.

(2) Prior to construction, the designer shall obtain and review all applicable test reports, shop drawings, and manufacturer's certificates to verify that all equipment used in the gas control system has been manufactured in accordance with industry standards.

NOTE: Authority cited: Sections 40502 and 45020, Public Resources Code; and Section 66796.22(d), Government Code. Reference: Section 43021 and 43103 Public Resources Code; and Section 66796.22(d), Government Code.

§20945. [Reserved by SWRCB]

Subchapter 5. Closure and Post-Closure Maintenance

Article 1. General Standards For All Waste Management Units

20950. SWRCB - General Closure and Post-Closure Maintenance Standards Applicable to Waste Management Units (Units) for Solid Waste. (C15: §2580)

[Note: For landfills, see also §21790 et seq.]

(a) **General.**

(1) **Applicability** — Dischargers who are implementing final closure of a new or existing classified solid waste management unit (Unit) or are implementing complete final closure of a portion of a solid waste landfill [incremental closure under §21090(b)(1)(D)] shall comply with the provisions of this article. The discharger shall carry out both mandatory closure (under §22190) and normal closure (e.g., at the end of the active life of the Unit) in accordance with a closure and post-closure plan (under §21769) which the RWQCB finds meets all applicable requirements that section and of this Subchapter, including but not limited to applicable performance standards under (a)(2). For the purposes of the RWQCB, the final closure plan the discharger submits under this section constitutes an amendment to the report of waste discharge (under §21750). If a portion of a Unit was completely closed in accordance with an approved closure plan by November 27, 1984, the cover over the closed portion does not need to be modified to conform to the SWRCB's additional closure requirements in these regulations, unless monitoring data indicate impairment of beneficial uses of ground water. Classified Units shall be closed according to an approved closure and post closure maintenance plan which provides for continued compliance with the applicable SWRCB-promulgated standards for waste containment and precipitation and drainage controls in Article 4, Subchapter 2, Chapter 3 of this subdivision (§20310 et seq.), and the monitoring program requirements in Article 5, Subchapter 2, Chapter 3 of this subdivision (§20380 et seq.), throughout the closure period and the post closure maintenance period. Relative to the applicable SWRCB-promulgated requirements of this title, the post closure maintenance period shall extend as long as the wastes pose a threat to water quality; for Units concurrently regulated by the RWQCB and by other state agencies (including the agents of such agencies), the RWQCB's finding that the waste in the Unit no longer poses a threat to water quality shall release the discharger only from the need to comply with the SWRCB-promulgated portions of this title, for that Unit. For land treatment facilities, relative only to the applicable SWRCB-promulgated requirements of this title, the post-closure maintenance period shall extend until treatment is complete.

(2) **Performance Standards** — The performance standards applicable to closure of a Unit and, for Units that are not clean-closed, to post-closure maintenance at the Unit are as follows:

(A) **Unit Closed as a Landfill** — for landfills that are not clean-closed and for waste piles and surface impoundments that are closed as a landfill:

1. **Closure** — for landfills and for waste piles and surface impoundments closed as landfills, the goal of closure, including but not limited to the installation of a final cover, is to minimize the infiltration of water into the waste, thereby minimizing the production of leachate and gas. For such Units, after closure, the final cover constitutes the Unit's principal waste containment feature; and

2. **Post-Closure Maintenance** — the goal of post-closure maintenance at such Units is to assure that the Unit continues to comply with the performance standard of , (a)(2)(A)1. until such time as the waste in the Unit no longer constitutes a potential threat to water quality;

(B) **Unit Clean-Closed** — for Units that are clean-closed, the goal of closure is to physically remove all waste and contaminated materials from the Unit and from its underlying and surrounding environs, such that the waste in the Unit no longer poses a threat to water quality. Successful completion of clean-closure eliminates the need for any post-closure maintenance period and removes the Unit from being subject to the SWRCB-promulgated requirements of this subdivision; and

(C) **LTUs** — for land treatment units (LTUs):

1. **Closure** — the goal of closure is to initiate the post-closure maintenance period;

2. **Post-Closure Maintenance** — the goal of post-closure maintenance is to continue Unit operations, without discharging additional waste to the Unit, in a manner which maximizes the degradation rate of the waste remaining within the treatment zone.

(b) **Closure Supervision** — Closure shall be under the direct supervision of a registered civil engineer or a certified engineering geologist.

(c) **Unit Type** — Class II Units and Class III landfills shall be closed in accordance with one of the following options:

(1) **landfill:** pursuant to §21090;

(2) **surface impoundment:** pursuant to §21400;

(3) **waste pile:** pursuant to §21410; or

(4) **land treatment:** pursuant to §21420.

(d) **Surveying Monuments** — Closed Units shall be provided with at least two permanent monuments installed by a licensed land surveyor or a registered civil engineer, from which the location and elevation of wastes, containment structures, and monitoring facilities can be determined throughout the post closure maintenance period.

(e) **Vegetation** — For landfills and for waste piles and surface impoundments that are closed as landfills, all vegetation for the closed Unit's vegetative cover layer shall meet the requirements of §21090(a)(3)(A)1. [in cases where the Unit does not utilize the mechanically erosion resistant layer of §21090(a)(3)(A)2.].

(f) **Closure/Post-Closure Financial Assurance** — The RWQCB shall require the discharger to establish an irrevocable fund (or to provide other means) for closure and post-closure maintenance (see Articles 1 & 2 of Chapter 6 of this subdivision) to ensure closure and post closure maintenance of each classified Unit in accordance with an approved plan. *[Note: corrective action financial assurance standards continue to apply throughout closure and post-closure maintenance {see §20380(b) & §22222.}]* For landfills required by the CIWMB to have financial assurance mechanisms under Chapter 6, the RWQCB shall assist the CIWMB:

(1) by verifying the amount of coverage proposed by the discharger to meet applicable SWRCB-promulgated requirements of this subdivision *[Note: the CIWMB is responsible for the review, approval, and management of the financial assurance mechanisms for such Units]*; and

(2) by participating in the CIWMB's periodic review of the adequacy of financial assurance mechanisms, and in any enforcement action that such review reveals, as necessary.
NOTE: Authority cited: Section 1058, Water Code. Reference: Section 13172, Water Code; Section 43103, Public Resources Code.

§20960. CIWMB - General Standards For Disposal Sites and Landfills. [Reserved]

Article 2. Closure and Post-Closure Maintenance Standards for Disposal Sites and Landfills

.21090. SWRCB - Closure and Post-Closure Maintenance Requirements for Solid Waste Landfills. (C15: §2581 // T14: §17777, §17779)

[Note: For SWRCB's final cover performance standard, see §20950(a)(2)(A); for related CIWMB requirements, see §21790 et seq.]

(a) **Final Cover Requirements** — Final cover slopes shall not be steeper than a horizontal to vertical ratio of one and three quarters to one, and shall have a minimum of one fifteen-foot wide bench for every fifty feet of vertical height. Designs having any slopes steeper than a horizontal to vertical ratio of three to one, or having a geosynthetic component [under .(a)(2)], shall have these aspects of their design specifically supported in the slope stability report required under §21750(f)(5). The RWQCB can require flatter slopes or more benches where necessary to ensure preservation of the integrity of the final cover under static and dynamic conditions. The cost estimate, under §21769, for the final cover shall include a description of the type and estimated volume (or amount, as appropriate) of material needed for each component of the final cover based upon the assumption that all materials will need to be purchased; if on-site materials are to be used, the submittal shall include test results confirming the availability of such on-site materials and their suitability for such use. The RWQCB can allow any alternative final cover design that it finds will continue to isolate the waste in the Unit from precipitation and irrigation waters at least as well as would a final cover built in accordance with applicable prescriptive standards under .(a)(1-3).

(1) **Foundation Layer** — Closed landfills shall be provided with not less than two feet of appropriate materials as a foundation layer for the final cover. These materials may be soil, contaminated soil, incinerator ash, or other waste materials, provided that such materials have appropriate engineering properties to be used for a foundation layer. The foundation layer shall be compacted to the maximum density obtainable at optimum moisture content using methods that are in accordance with accepted civil engineering practice. A lesser thickness may be allowed for Units if the RWQCB finds that differential settlement of waste, and ultimate land use will not affect the structural integrity of the final cover.

(2) **Low-Hydraulic-Conductivity Layer** — In order to protect water quality by minimizing the generation of leachate and landfill gas, closed landfills shall be provided with a low-hydraulic-conductivity (or low through-flow rate) layer consisting of not less than one foot of soil containing no waste or leachate, that is placed on top of the foundation layer and compacted to attain an hydraulic conductivity of either 1×10^{-6} cm/sec (i.e., 1 ft/yr) or less, or equal to the hydraulic conductivity of any bottom liner system or underlying natural geologic materials, whichever is less permeable, or another design which provides a correspondingly low through-flow rate throughout the post-closure maintenance period. Hydraulic conductivity determinations for cover materials shall be as specified in Article 4, Subchapter 2, Chapter 3 of this subdivision [§20310 et seq.], but using water as the permeant, and shall be appended to the closure and post-closure maintenance report. For landfills or portions thereof in which the final cover is installed after July 18, 1997, as part of the final closure plan for the Unit, the discharger shall provide a plan, as necessary [see .(a)(4)], for protecting the low-hydraulic-conductivity layer from foreseeable sources of damage that could impair its ability to prevent the throughflow of water *(e.g., desiccation, burrowing rodents, or heavy equipment damage)*.

(3) **Erosion-Resistant Layer** — The low-hydraulic-conductivity layer of .(a)(2) shall be directly overlain by an erosion-resistant layer, as follows.

(A) Closed landfills shall be provided with an uppermost cover layer consisting of either:

1. **Erosion-Resistance Via a Vegetative Layer** — a vegetative layer consisting of not less than one foot of soil which:

a. contains no waste (including leachate);

b. is placed on top of all portions of the low-hydraulic-conductivity layer described in .(a)(2);

c. is capable of sustaining native, or other suitable, plant growth;

d. is initially planted — and is later replanted as needed to provide effective erosion resistance — with native or other suitable vegetation having a rooting depth not exceeding the depth to the top of the low-hydraulic-conductivity layer described in .(a)(2). For any proposed vegetative cover, the discharger shall propose a species mix which harmonizes with the proposed post-closure land use, and which requires as little long-term maintenance as feasible by virtue of its tolerance of the vegetative layer's soil conditions *(e.g., the presence of landfill gas)*, its resistant to foreseeable adverse environmental factors *(e.g., climate, disease, and pests)*, its rapidity of germination and growth, its persistence and ease of self-propagation, its high percentage of surface coverage (sufficient to prevent surface erosion), and its minimal need for irrigation and maintenance; and

e. by virtue of its composition, its maintained vegetation density, and its finished-and-maintained grade, will be resistant to foreseeable erosion effects by wind-scour, raindrop impact, and runoff; or

2. **Mechanically Erosion-Resistant Layer** — an erosion- and ultraviolet light-resistant layer which, by virtue of its composition and finished-and-maintained grade, resists foreseeable erosion effects by wind-scour, raindrop impact, and runoff *(e.g., a 1-foot thick layer of cobbles, the interstices of which are filled with gravel)*.

(B) The discharger shall maintain all components of the erosion-resistant layer throughout the post-closure maintenance period, and, if closed after July 18, 1997, shall implement such maintenance in accordance with an approved Cover-Integrity Monitoring and Maintenance Program, pursuant to .(a)(4).

(4) **Cover Maintenance Plan & Annual Cost Estimate** — The final cover shall be designed and constructed to function with the minimum maintenance possible. For landfills and for other Units closed as landfills, if the closure occurs after July 18, 1997, the preliminary and final closure and post-closure maintenance plan shall incorporate a cover-integrity monitoring and maintenance program which includes at least the following components. The annualized post-closure maintenance plan cost analysis [of §21769(c)] shall include an itemized estimate of the annual cost of each component:

(A) **Periodic Leak Search** — a schedule for carrying out periodic monitoring of the integrity of the low-hydraulic-conductivity layer, including a method for effectively identifying and repairing breaches in that layer *[for example and where allowed, by temporarily discontinuing active gas extraction and using surface gas probes or inserted soil gas probes to identify locations where landfill gas is emerging]*;

(B) **Periodic Identification of Other Problem Areas** — a schedule for periodically identifying and addressing other cover problems, including at least:

1. areas of the vegetative cover, if any, requiring replanting;

2. eroded portions of the erosion-resistant layer requiring regrading, repair, or (for areas where the problem persistently reoccurs) increased erosion resistance;

3. eroded portions of the low-hydraulic-conductivity layer needing repair or replacement;

4. areas lacking free drainage;

5. areas damaged by equipment operation;

6. [Reserved]; and

7. localized areas identified in the iso-settlement survey [of .(e)(2)] as having sustained repeated or severe differential settlement.

(C) **Prompt Cover Repair** — a plan for repairing, in a timely manner, any breach or other cover problem discovered pursuant to . (a)(4)(A or B). For any repairs of the low-hydraulic-conductivity layer, this plan shall either contain a Construction Quality Assurance (CQA) plan [under §21710(a)(5)], or shall accomplish this goal through the incorporation-by-reference of appropriate portions of an approved CQA plan; and

(D) **Vegetation Maintenance** — for a final cover utilizing a vegetated erosion resistant layer [under . (a)(3)(A)1.], a plan for maintaining this vegetative cover, including fertilization, irrigation, elimination of species that violate the rooting depth limit [of . (a)(3)(A)1.d.], replanting, and irrigation system maintenance.

(5) **Discharges of Liquids to Covers.**

(A) **Leachate** and Gas Condensate — The discharge of leachate, gas condensate, or other waste liquids to any final-covered portion of an MSW landfill is subject to the restrictions under §20200(d). *[Note: see also 1) definitions of "leachate" and "landfill gas condensate" in §20164, and 2) §20705(f), re: daily and intermediate cover.]*

(B) **Other Liquids** — The discharger shall moderate the application rate of liquids discharged to the cover for dust control, irrigation of the vegetative layer, or other non-disposal purpose in a manner that minimizes the potential for throughflow to the underlying waste. The RWQCB can establish cover throughflow monitoring requirements *(e.g., via intermittent tensiometer measurements of the cover)* to ensure compliance with this requirement.

(6) **Stability Analysis** — For any portions of the final cover installed after July 18, 1997, for which the RWQCB has not approved a slope and foundation stability report on or before that date, the discharger shall meet the requirements of §21750(f)(5).

(b) **Grading Requirements.**

(1) **Prevent Ponding, Erosion, and Run-On.**

(A) **General** — The final drainage plan shall be included as part of the approved final closure plan for the Unit. In spite of differential settlement, the final cover of closed landfills (including waste piles and surface impoundments closed as landfills) shall be designed, graded, and maintained to prevent ponding and to prevent soil erosion due to high run-off velocities. Except as provided in . (b)(1)(B), all portions of the final cover shall have a slope of at least three percent. *[Note: for additional requirements concerning final grading, see §21142.]*

(B) **Flatter Areas** — The RWQCB can allow portions of the final cover to be built with slopes of less than three percent if the discharger proposes an effective system for diverting surface drainage from laterally-adjacent areas and preventing ponding in the allowed flatter portion. Analyses submitted in support of such a proposal shall take into account the design storm intensity for the Unit [under §20365].

(C) **Qualified Professional** — The final grading design shall be designed and approved by a registered civil engineer or certified engineering geologist to meet the performance standards of . (b)(1)(A and B), taking into consideration pertinent natural and constructed topographic features (including any related to the proposed post-closure land use), and climate.

(D) **Prompt Incremental Closure** — This paragraph applies unless the RWQCB has approved, as part of the final closure plan, a waiting period (for installation of the final cover) not to exceed five years after the date a portion of the landfill reaches final elevation, in order to avoid subjecting the final cover to potential damage from the high rate of differential settlement that so often occurs during the first few years following the final receipt of waste. To the extent feasible, based on site-specific factors, the complete closure, including final grading and installation of the final cover, for each portion of the landfill shall be implemented as soon as possible after that portion reaches final elevation. *[For additional related requirements, see . (d), §21110, §21120.]*

(E) **CQA** — After July 18, 1997, both the initial construction of the final cover and any later repair work that involves the cover's low-hydraulic-conductivity layer [of . (a)(2)] shall be carried out in accordance with an approved CQA plan [see §20323 & §20324].

(2) **Steeper-Sloped Portions** — Areas with slopes greater than ten percent, areas having surface drainage courses, and areas subject to erosion by water or wind shall be protected from erosion or shall be designed and constructed to prevent erosion.

(3) **Precipitation & Drainage Plan** — The final closure plan for the Unit shall incorporate a precipitation and drainage control plan for the closed landfill, and shall meet the requirements of §20365.

(c) **General Post-Closure Duties** — Throughout the post closure maintenance period, the discharger shall:

(1) maintain the structural integrity and effectiveness of all containment structures, and maintain the final cover as necessary to correct the effects of settlement or other adverse factors;

(2) continue to operate the leachate collection and removal system as long as leachate is generated and detected;

(3) maintain monitoring systems and monitor the ground water, surface water, and the unsaturated zone in accordance with applicable requirements of Article 1, Subchapter 3, Chapter 3, Subdivision 1 (§20380 et seq.);

(4) prevent erosion and related damage of the final cover due to drainage; and

(5) protect and maintain surveyed monuments [installed under §20950(d)].

(d) **Landfill Closure Deadline** — For landfill Units subject to the CIWMB-promulgated provisions of this division, any closure deadline extensions the discharger proposes to the EA (under §21110) shall be effective only after concurrence by the RWQCB.

(e) **Final Cover Surveys.**
This subsection [i.e., through .(e)(3)] applies only to landfills, or portions thereof, that are final-closed after July 18, 1997.

(1) **Initial Survey and Map** — For a closed landfill (including a surface impoundments or waste pile closed as a landfill), upon completion of all closure activities for the Unit [or portion thereof, pursuant to .(b)(1)(D)], the discharger shall conduct an aerial photographic survey [or alternative survey under .(e)(3)] of the closed portions of the Unit and of its immediate surrounding area, including at least the surveying monuments [of §20950(d)]. The data so obtained shall be used to produce [or to augment, in the case of incremental closure under .(b)(1)(D)] a topographic map of the site at a scale and contour interval sufficient to depict the as-closed topography of each portion of the Unit, and to allow the early identification of any differential settlement, pursuant to .(e)(2). For landfills undergoing incremental closure [under .(b)(1)(D)], the survey for each closed portion of the landfill shall be carried out immediately following completion of closure activities for that portion of the landfill; such data shall be used to create or augment a map showing the closure date and as-closed topography of each portion of the Unit. The map produced pursuant to this paragraph shall act as a base-line against which to measure the total settlement, through time, of all portions of the final cover since the date when that landfill, or portion thereof, was closed. Upon completion of this topographic map (or, in the case of incremental closure, of each revision thereof), the discharger shall submit a copy to the RWQCB, the CIWMB, and the EA.

(2) **Five-Yearly Iso-Settlement Map** — At least every five years after completing closure of the landfill [or of the last remaining portion, for landfills undergoing incremental closure under .(b)(1)(D)], the discharger shall produce and submit to the RWQCB an iso-settlement map accurately depicting the estimated total change in elevation of each portion of the final cover's low-hydraulic-conductivity layer. Therefore, for each portion of the landfill, this map shall show the total lowering of the surface elevation of the final cover, relative to the baseline topographic map [of .(e)(1)], and shall indicate all areas where visually noticeable differential settlement [noted under .(e)(4)] may have been obscured by grading operations. The map shall be drawn to the same scale and contour interval as the topographic map under .(e)(1), but showing the current topography of the final cover and featuring overprinted isopleths indicating the total settlement to-date. The RWQCB shall apply the requirements of this paragraph only to a closed landfill which the RWQCB finds is likely to undergo differential settlement of such magnitude as to impair either the Unit's containment features (e.g., final cover) or the free drainage of surface flow. *[Note: The RWQCB's choosing to forego requiring iso-settlement mapping for the purpose of water quality protection does not preclude the CIWMB/EA from requiring such mapping for other purposes (e.g., structural integrity considerations regarding a building sited on top of the closed landfill); see §21142(b).]*

(3) **Alternative Surveying Techniques** — The RWQCB can approve the use of any alternative technique (to an aerial survey) for producing the maps required by . (e)(1 & 2), so long as the maps so produced meet the performance standards of . (e)(1 & 2).

(4) **Tracking Differential Settlement** — Prior to conducting periodic grading operations on the closed landfill [under . (b)(1)(A)], the discharger shall note on a map of the landfill the approximate location and outline of any areas where differential settlement is visually obvious. Each five-yearly iteration of the iso-settlement map [under . (e)(2)] shall show all areas where differential settlement has been noted (under this paragraph) since the previous map submittal, and shall highlight areas of repeated or severe differential settlement. Map notations and delineations made pursuant to this paragraph need not be surveyed, so long as all areas where differential settlement was visually identifiable prior to regrading can be relocated. Such notation and delineation shall be made by, or under the supervision of, a registered civil engineer or registered geologist.

(f) **Optional Clean-Closure** — Notwithstanding any other SWRCB-promulgated closure or post-closure maintenance requirement in this subdivision, a discharger proposing to clean-close a landfill shall submit a clean-closure plan meeting the requirements of this subsection. *[Note: see also CIWMB's additional landfill clean-closure requirements under §21810.]* The purpose of clean-closure is to render the landfill (including all surrounding environs contaminated by waste released from the landfill) no longer capable of posing a threat to water quality. The purpose of a clean-closure plan is to propose a series of actions, including an accurate estimate of the cost of each such action, that will meet the requirements of this paragraph. Upon the RWQCB's finding that the discharger has successfully completed clean-closure under this paragraph, the landfill shall no longer be subject to the SWRCB-promulgated requirements of this title. Nevertheless, if the RWQCB finds that the discharger's attempt to clean-close the landfill does not meet the requirements of this subsection, the discharger shall close the landfill and carry out post-closure maintenance in the same manner as though the discharger had not attempted clean-closure. For the purpose of this paragraph, the discharger shall have successfully clean-closed a landfill only if:

(1) all waste materials, contaminated components of the containment system, and affected geologic materials — including soils and rock beneath and surrounding the Unit, and ground water polluted by a release from the Unit — are either removed and discharged to an appropriate Unit or treated to the extent that the RWQCB finds they no longer pose a threat to water quality; and

(2) all remaining containment features are inspected for contamination and, if contaminated, discharged in accordance with . (f)(1).

NOTE: Authority cited: Section 1058, Water Code. Reference: Section 13172, Water Code; Section 43103, Public Resources Code.

. 21099. CIWMB - Purpose. (new)

(a) For purposes of the CIWMB promulgated sections of this article, "closed" refers to the status of a disposal site that either 1) has received a closure certification pursuant to §21880, or 2) has, on or before November 18, 1990, completed all closure activities required pursuant to regulations in effect at the time of the last receipt of waste.

(b) For purposes of the CIWMB promulgated sections of this article, "closing" means the period that commences when implementation of an approved final closure or partial final closure plan begins, and that ends when implementation of an approved final closure or partial final closure plan is complete.

NOTE: Authority cited: Sections 40502, 43020, 43021 and 43509, Public Resources Code. Reference: Sections 43020, 43021, 43509 and 43103, Public Resources Code.

§21100. CIWMB - Scope and Applicability. (T14:§17760)

(a) This article sets forth the performance standards and the minimum substantive requirements for proper closure, postclosure maintenance and ultimate reuse of disposal sites. The EA may require the operator or owner to address site-specific conditions as part of the solid waste facility permit or any plan needed for closure of the site to ensure that public health and safety and the environment are protected. *[For water quality aspects of closure and/or postclosure maintenance, refer to requirements set forth in §20950.]*

(b) The regulations contained in this article apply to:

(1) disposal sites that did not complete closure prior to November 18, 1990, in accordance with all applicable requirements; and

(2) new postclosure activities that may jeopardize the integrity of previously closed disposal sites or pose a potential threat to public health and safety or the environment.

(c) All closure plans submitted after the effective date of the regulations shall conform to the regulations in this article. Closure plans submitted prior to the effective date of this article that have been deemed complete and for which detailed comments have been supplied by the CIWMB and the EA within 12 months of the original submittal date shall not need to be resubmitted. Closure plans submitted prior to the effective date of this article that have been deemed complete but for which detailed comments have not yet been supplied by the CIWMB and the EA may not need to be resubmitted.

(d) Closed sites for which closure plans were not approved pursuant to §20164 or §21099, and illegal or abandoned disposal sites which pose a threat to public health and safety or the environment shall implement the provisions of these regulations as required by the EA.

(e) [Reserved]

(f) The EA shall apply these regulations to non-MSWLF units, except for disposal sites that have received household or commercial wastes, only as necessary to protect public health and safety, until such time as those non-MSWLF units or disposal sites have been placed into the regulatory tier structure set forth in Subchapter 2 of Chapter 4 (§21460 et seq.) The EA shall implement these regulations in coordination with RWQCB or other agencies as applicable.

[Note: Subsection (e) (reserved) has been added to address closure of disposal sites which have been or will be slotted by the Board into regulatory tiers (e.g. non-MSWLF construction and demolition landfills and monofills for ash and contaminated soils).]

NOTE: Authority cited: Sections 40502 and 43020, Public Resources Code; and Section 66796.22(d), Government Code. Reference: Section 43021 and 43103, Public Resources Code, and Section 66796.22(d), Government Code.

21110. CIWMB - Time Frames for Closure. (T14:§17763, parts of §17258.60 and 17258.61)

(a) Within thirty (30) days of receipt of the final shipment of waste to a discrete unit or if the entire disposal site has reached permitted capacity, the operator shall begin implementation of the closure schedule as specified in the approved closure plan.

(b) Closure activities shall adhere to the time frames specified in the approved closure plan.

(c) In the event that the time frames for completion of specific activities cannot be adhered to due to adverse weather or other factors not in the control of the operator, then the time frames may be lengthened based upon those specific factors.

(1) The operator shall notify the EA of any change in schedule due to adverse weather or other factors not in their control. The notification shall be made as soon as the operator becomes aware of a needed change.

(2) The EA may deny the change requested pursuant to (c)(1) if the factors justifying the change are in the control of the operator.

(d) The owner or operator of a solid waste landfill must complete closure activities in accordance with the approved closure plan within 180 days following the beginning of closure. Extensions of the closure period may be granted by the EA if the owner or operator demonstrates that closure will, of necessity, take longer than 180 days and the owner or operator has taken and will continue to take all steps to prevent threats to human health and safety and the environment from the unclosed solid waste landfill.

NOTE: Authority cited: Sections 40502 and 43020, Public Resources Code; and Section 66796.22(d), Government Code. Reference: Section 43021 and 43103, Public Resources Code; and Sections 66796.22(d) and 66796.22(g) Government Code.

21120. CIWMB - Partial Final Closure. (T14:§17764)

(a) The operator shall to the extent feasible, based on site specific factors, implement partial and/or partial final closure activities as the site operation progresses, consistent with the closure of the entire site.

(b) Partial closure may be accomplished by implementing one or a combination of individual closure activities pursuant to CIWMB and SWRCB requirements including, but not limited to: placement of final cover, final grading, drainage control, revegetation, and installation of environmental monitoring and/or control systems (all of the foregoing) consistent with the approved closure and postclosure maintenance plan.

(c) Partial final closure may be accomplished by closing discrete units in a manner consistent with the approved closure and postclosure maintenance plan.

(d) The approval and implementation of any closure plan for a portion of the landfill shall be subject to the same process and time frames as for the approval and implementation of a closure and postclosure maintenance plan for the entire landfill (see §21110 and §21860).

NOTE: Authority cited: Sections 40502 and 43020, Public Resources Code; and Section 66796.22(d), Government Code. Reference: Section 43021 and 43103, Public Resources Code; and Sections 66796.22(d) and 66796.22(g), Government Code.

§21125. CIWMB - Clean Closure. [Reserved]

21130. CIWMB - Emergency Response. (T14:§17766)

Water quality protection aspects for emergency response plan are addressed in §21132.

(a) The operator shall maintain a written postclosure emergency response plan at the facility or at an alternate location as approved by the EA. The emergency response plan must identify occurrences that may exceed the design of the site and endanger public health or the environment. The plan shall describe specific procedures that minimize these hazards to protect public health and safety. The events that the plan shall address include, but are not limited to: vandalism, fires, explosions, earthquakes, floods, the collapse or failure of artificial or natural dikes, levees or dams; surface drainage problems; and other waste releases.

(b) The emergency response plan shall contain the following:

(1) identification of events which could require the implementation of emergency response actions. This section shall not apply to the gas monitoring provisions;

(2) a description of the actions to be taken, and the sequence and implementation timetable needed to mitigate the conditions; and

(3) a statement regarding the general availability of equipment required to mitigate each type of emergency.

(c) The operator shall amend the emergency response plan under the following conditions:

(1) whenever a failure or release occurs for which the plan did not provide an adequate response;

(2) when the postclosure land use and/or structures on the site change and these changes are not addressed in the existing plan; or

(3) if the EA notifies the operator in writing that the current emergency response plan is inadequate under the provisions of this section. The notifying agency shall include within the written notice the items the plan needs to consider for it to comply with this section. The operator shall submit an amended emergency response plan to the EA within thirty (30) days of notification of an inadequacy.

(d) Whenever the operator amends the emergency response plan pursuant to (c)(1 or 2), the operator shall submit a written copy of the amended plan to the EA.

NOTE: Authority cited: Sections 40502 and 43020, Public Resources Code; and Section 66796.22(d), Government Code. Reference: Section 43021 and 43103, Public Resources Code; and Sections 66796.22(d) and 66796.22(g), Government Code.

21132. SWRCB - Landfill Emergency Response Plan Review. (new)

(a) **Review & Notification** — For landfills, the RWQCB shall review the emergency response plan, in coordination with the Enforcement Agency (EA), to assure that no proposed response to a foreseeable emergency will result in a threat, or increased threat, to beneficial uses of waters of the state.

(b) **Submittal** — For landfills for which the CIWMB requires an emergency response plan *(e.g., pursuant to §21130)*, the discharger shall submit a copy of that plan, including any proposed amendments thereto, to the RWQCB. For landfills having an existing emergency response plan that has already been reviewed by the RWQCB, the discharger need not resubmit the plan for review by the RWQCB until such time as the plan is amended. For landfills having an existing emergency response plan (i.e., approved by the EA) that has not as yet been reviewed by the RWQCB, the discharger shall submit a current copy of the plan for RWQCB review prior to July 18, 1998. For proposed emergency response plans (including proposed amendments to an existing plan), this submittal shall occur at the same time as the discharger submits the proposed plan to the EA.

(c) **Coordinate On New Response** — In the event that the discharger proposes to respond to an emergency in a manner other than specified in the emergency response plan, the RWQCB shall coordinate with the EA to assure that the proposed response does not pose a threat to water quality.

Note: Authority cited: Section 1058, Water Code. Reference: Sections 13172, 13226, 13227, 13263, 13267, Water Code; Section 43103, Public Resources Code.

21135. CIWMB - Site Security. (T14:§17767)

(a) Sign(s) shall be posted at all points of access to a site sixty (60) days prior to the last receipt of waste at the site and for a period of not less than one hundred eighty (180) days after the facility has received the final shipment of waste stating the intended date of last receipt of waste at the site and the location of alternative permitted solid waste management facilities. A notice shall be placed in a local newspaper(s) thirty (30) days prior to the last receipt of waste which includes the intended date of the last receipt of waste at the site and the location of alternative solid waste management facilities.

(b) Sites which do not allow public disposal and which have not allowed public access to the site for more than one year prior to cessation of acceptance of waste, or are undertaking partial final closure pursuant to §21120, shall be exempt from the provisions of this section.

(c) The EA may require more signs, signs written in additional languages, larger signs, or signs of clearer design, if necessary to protect public health and safety.

(d) The EA may grant variances from the sign provisions of this section after receiving a written request by the operator.

(e) Sedimentation and detention basins shall be secured and maintained during the closure and postclosure maintenance period to prevent unauthorized access.

(f) The operator shall ensure that all points of access to the site are restricted to protect public health and safety as of the date the final shipment of waste is received. Components of any monitoring, control or recovery systems at the site shall be protected from access other than that allowed in accordance with the approved closure and postclosure maintenance plans.

(g) Once closure activities are complete, site access by the public may be allowed in accordance with the postclosure maintenance plan, as approved by the EA.

NOTE: Authority cited: Sections 40502 and 43020, Public Resources Code; and Section 66796.22(d), Government Code. Reference: Section 66796.22(d), Government Code; and Section 44100 and 43103, Public Resources Code.

21137. CIWMB - Structure Removal. (T14:§17771)

(a) the operator shall dismantle and remove site structures at the time of closure to protect public health and safety in accordance with the implementation schedule of the approved final closure plan.

(b) The operator shall ensure that structures and components of landfill gas and leachate control systems not intended for reuse that have come into contact with leachate or landfill gas, and that are dismantled at the time of closure or during the postclosure period are:

(1) disposed of within the landfill, in accordance with the approved final closure plan; or

(2) transported to another solid waste facility which is approved for receipt of such materials. Transportation and disposal should be accomplished in a manner to protect public health and safety.

NOTE: Authority cited: Sections 40504 and 43020, Public Resources Code; and Section 66796.22(d), Government Code. Reference: Section 43021 and 43103, Public Resources; and Section 66796.22(d), Government Code.

21140. Section CIWMB - Final Cover. (T14:§17773)

(a) The final cover shall function with minimum maintenance and provide waste containment to protect public health and safety by controlling at a minimum, vectors, fire, odor, litter and landfill gas migration. The final cover shall also be compatible with postclosure land use.

(b) In proposing a final cover design meeting the requirements under §21090, the owner or operator shall assure that the proposal meets the requirements of this section. Alternative final cover designs shall meet the performance requirements of (a) and, for MSWLF units, 40 CFR 258.60(b); shall be approved by the enforcement agency for aspects of (a).

(c) The EA may require additional thickness, quality, and type of final cover depending on, but not limited to the following:

(1) a need to control landfill gas emissions and fires;

(2) the future reuse of the site; and

(3) provide access to all areas of the site as needed for inspection of monitoring and control facilities, etc.

NOTE: Authority cited: Sections 40502 and 43020, Public Resources Code; and Section 66796.22(d), Government Code. Reference: Section 43021 and 43103, Public Resources Code; and Section 66796.22(d), Government Code.

21142. CIWMB - Final Grading. (T14:§17776,§17777)

(a) Final grades must be designed and maintained to reduce impacts to health and safety and take into consideration any postclosure land use. *[Note: for final grading requirements concerning water quality protection, see section §21090(b).]*

(b) Subsequent to the creation and submittal of the initial postclosure topographic map, pursuant to §21090(e)(1), the EA shall require the owner and/or operator to produce five-yearly iso settlement maps meeting the requirements of §21090(e)(2)and(3) only if:

(1) the RWQCB does not require such maps (for the purpose of water quality protection at the landfill); and

(2) the EA finds that such maps are needed for reasons other than water quality protection.

NOTE: Authority cited: Sections 40502 and 43020, Public Resources Code; and Section 66796.22(d), Government Code. Reference: Sections 43021, 43103 and 44100, Public Resources Code; and Section 66796.22(d), Government Code.

21145. CIWMB - Slope Stability. (T14:§17777)

(a) The operator shall ensure the integrity of final slopes under both static and dynamic conditions to protect public health and safety and prevent damage to postclosure land uses, roads, structures, utilities, gas monitoring and control systems, leachate collection and control systems to prevent public contact with leachate, and prevent exposure of waste. Slope stability analyses shall be conducted and reported pursuant to the requirements of Division 2, Subdivision 1, Chapter 4, Subchapter 3, Article 4 Section 21750(f)(5).

(b) The operator shall notify the EA, CIWMB, and RWQCB in the event of any slope failure.

NOTE: Authority cited: Sections 40502 and 43020, Public Resources Code; and Section 66796.22(d), Government Code. Reference: Sections 43021, 43103 and 44100, Public Resources Code; and Section 66796.22(d), Government Code.

21150. CIWMB - Drainage and Erosion Control. (T14:§17778 & §17779)

[Water quality protection aspects for drainage and erosion control are addressed in §20365 and §21090, and in Table 4.1 (in Article 4, Subchapter 2, Chapter 3 of this subdivision).]

(a) The drainage and erosion control system shall be designed and maintained to ensure integrity of postclosure land uses, roads, and structures; to prevent public contact with waste and leachate; to ensure integrity of gas monitoring and control systems; to prevent safety hazards; and to prevent exposure of waste.

(b) In cases where the design precipitation event in Table 4.1, Article 4, Subchapter 2 of Chapter 3, is not adequate for the protection of public health and safety, the EA, in consultation with the RWQCB, may require the implementation of a more stringent design.

(c) Slopes not underlain by waste shall be stabilized to prevent soil erosion. Methods used to protect slopes and control erosion shall include, but are not limited to, terracing, contour furrows, and trenches.

NOTE: Authority cited: Sections 40502 and 43020, Public Resources Code; and Section 66796.22(d), Government Code. Reference: Section 43021 and 43103, Public Resources Code; and Section 66796.22(d), Government Code.

21160. CIWMB - Landfill Gas Control and Leachate Contact. (T14:§17781, 17783)

(a) The operator shall implement and maintain landfill gas control and prevent leachate contact with the public or animals according to the requirements of this section.

(b) Gas monitoring and control shall be conducted during the closure and postclosure maintenance period pursuant to Article 6, Subchapter 4 of this chapter.

(c) During the closure/postclosure maintenance period, the owner/operator shall ensure that leachate collection and control is done in a manner which prevents public contact and controls vectors, nuisance and odors.

(d) In designing the LCRS to meet the requirements under §20340, the owner/operator shall also assure that the LCRS neither:

(1) interferes with landfill gas control; nor

(2) promotes landfill gas migration.

NOTE: Authority cited: Sections 40502 and 43020, Public Resources Code; and Section 66796.22(d), Government Code. Reference: Section 66796.22(d), Government Code; and Section 44100 and 43103, Public Resources Code.

21170. CIWMB - Recording. (T14:§17787)

(a) The owner or operator, upon completion of closure of the site, shall file a detailed description of the closed site, including a map, with the Recorder of the County in which the site is located, with the EA and with the local agency that has been selected to maintain the county integrated waste management plan. The site description, upon completion of closure of the site, shall include but not be limited to the following:

(1) the date that closure was completed;

(2) the boundaries including height and depths of the filled area. If the site was closed in increments, the boundaries of each waste management unit;

(3) the location where the closure and postclosure plans can be obtained; and

(4) a statement that the future site use is restricted in accordance with the postclosure maintenance plan.

NOTE: Authority cited: Sections 40502 and 43020, Public Resources Code; and Section 66796.22(d), Government Code. Reference: Section 44100 and 43103, Public Resources; and Section 66796.22(d), Government Code.

21180. CIWMB - Postclosure Maintenance. (T14:§17788)

[Water quality protection aspects for postclosure maintenance are addressed in §21090.]

(a) Postclosure maintenance for the purposes of reducing impacts to health and safety, shall be conducted to ensure the integrity of the final cover and environmental control systems. The landfill shall be maintained and monitored for a period of not less than thirty (30) years after the completion of closure of the entire solid waste landfill. Any areas in which final cover is placed prior to the closure of the entire landfill shall be maintained in accordance with an approved postclosure maintenance plan, but the thirty (30) year monitoring period shall not commence until closure of the entire landfill is complete. Maintenance and monitoring shall include, but not be limited to the following:

(1) site security;

(2) gas monitoring and control system maintenance as specified in the final closure and postclosure maintenance plans.

(b) If nonliquid waste is exposed during postclosure maintenance activities at a solid waste landfill, the waste may be returned to that landfill provided that the integrity of the final cover is maintained.

(c) The operator shall provide to the CIWMB and the EA copies of the maps and reports provided to the RWQCB pursuant to§21090(e)(2) describing the amount of differential settlement.

NOTE: Authority cited: Sections 40502 and 43020, Public Resources Code; and Section 66796(d), Government Code. Reference: Section 43021 and 43103, Public Resources Code; and Section 66796.22(d), Government Code.

21190. CIWMB - Postclosure Land Use. (T14:§17796)

(a) Proposed postclosure land uses shall be designed and maintained to:

(1) protect public health and safety and prevent damage to structures, roads, utilities and gas monitoring and control systems;

(2) prevent public contact with waste, landfill gas and leachate; and

(3) prevent landfill gas explosions.

(b) The site design shall consider one or more proposed uses of the site toward which the operator will direct its efforts, or shall show development as open space, graded to harmonize with the setting and landscaped with native shrubbery or low maintenance ground cover.

(c) All proposed postclosure land uses, other than non-irrigated open space, on sites implementing closure or on closed sites shall be submitted to the EA, RWQCB, local air district and local land use agency. The EA shall review and approve proposed postclosure land uses if the project involves structures within 1,000 feet of the disposal area, structures on top of waste, modification of the low permeability layer, or irrigation over waste.

(d) Construction on the site shall maintain the integrity of the final cover, drainage and erosion control systems, and gas monitoring and control systems. The owner or operator shall demonstrate to the satisfaction of the EA that the activities will not pose a threat to public health and safety and the environment. Any proposed modification or replacement of the low permeability layer of the final cover shall begin upon approval by the EA, and the RWQCB.

(e) Construction of structural improvements on top of landfilled areas during the postclosure period shall meet the following conditions:

(1) automatic methane gas sensors, designed to trigger an audible alarm when methane concentrations are detected, shall be installed in all buildings;

(2) enclosed basement construction is prohibited;

(3) buildings shall be constructed to mitigate the effects of gas accumulation, which may include an active gas collection or passive vent systems;

(4) buildings and utilities shall be constructed to mitigate the effects of differential settlement. All utility connections shall be designed with flexible connections and utility collars;

(5) utilities shall not be installed in or below any low permeability layer of final cover;

(6) pilings shall not be installed in or through any bottom liner unless approved by the RWQCB;

(7) if pilings are installed in or through the low permeability layer of final cover, then the low permeability layer must be replaced or repaired; and

(8) periodic methane gas monitoring shall be conducted inside all buildings and underground utilities in accordance with§20933 of Article 6, of Subchapter 4 of this Chapter.

(f) The EA may require that an additional soil layer or building pad be placed on the final cover prior to construction to protect the integrity and function of the various layers of final cover.

(g) All on site construction within 1,000 feet of the boundary of any disposal area shall be designed and constructed in accordance with the following, or in accordance with an equivalent design which will prevent gas migration into the building, unless an exemption has been issued:

(1) a geomembrane or equivalent system with low permeability to landfill gas shall be installed between the concrete floor slab of the building and subgrade;

(2) a permeable layer of open graded material of clean aggregate with a minimum thickness of 12 inches shall be installed between the geomembrane and the subgrade or slab;

(3) a geotextile filter shall be utilized to prevent the introduction of fines into the permeable layer;

(4) perforated venting pipes shall be installed within the permeable layer, and shall be designed to operate without clogging;

(5) the venting pipe shall be constructed with the ability to be connected to an induced draft exhaust system;

(6) automatic methane gas sensors shall be installed within the permeable gas layer, and inside the building to trigger an audible alarm when methane gas concentrations are detected; and

(7) periodic methane gas monitoring shall be conducted inside all buildings and underground utilities in accordance with Article 6, of Subchapter 4 of this chapter (§20920 et seq.).

NOTE: Authority cited: Sections 40502 and 43020, Public Resources Code; and Section 66796.22(d), Government Code. Reference: Sections 43021, 43103 and 44105, Public Resources Code; and Section 66796.22(d), Government Code.

§21194. [Reserved by SWRCB]

21200. CIWMB - Change of Ownership During Closure or Postclosure Maintenance.

(T14:§17792)

(a) Before the title to a disposal site is transferred to another person during closure or postclosure maintenance, the new owner shall be notified by the previous owner or his agent of the existence of these standards and of the conditions and agreements assigned to assure compliance.

(b) The previous owner shall notify the EA of the change in title within thirty (30) days and shall provide the name, firm, mailing address, and telephone number of the new owner.

NOTE: Authority cited: Sections 40502 and 43020, Public Resources Code; and Section 66796.22(d), Government Code. Reference: Sections 43021, 43103 and 44005, Public Resources Code; and Section 66796.22(d), Government Code.

Article 3. SWRCB - Closure Standards for Units Other Than Landfills

.21400. SWRCB - Closure Requirements for Surface Impoundments. (C15: §2582)

(a) **Remove Free Liquids** — All free liquid remaining in a surface impoundment at the time of closure shall be removed and discharged at an approved waste management unit (Unit). All residual liquid shall be treated to eliminate free liquid.

(b) **Options** — Following removal and treatment of liquid waste, impoundments shall be closed in one of two ways, as approved by the RWQCB.

(1) **Mandatory Clean-Closure Attempt** — Unless the discharger demonstrates, and the RWQCB finds, that it is infeasible to attempt clean-closure of the impoundment, then all residual wastes, including sludges, precipitates, settled solids, and liner materials contaminated by wastes, shall be completely removed from the impoundment and discharged to an approved Unit. Remaining containment features shall be inspected for contamination and, if not contaminated, can be dismantled. Any natural geologic materials beneath or adjacent to the closed impoundment that have been contaminated shall be removed for disposal at an appropriate Unit. For surface impoundments that are successfully clean-closed, as herein described, the RWQCB shall declare the Unit no longer subject to the SWRCB-promulgated requirements of this title. If, after reasonable attempts to remove such contaminated materials, the discharger demonstrates that removal of all remaining contamination is infeasible, the surface impoundment shall be closed as a landfill or land treatment unit, as appropriate, pursuant to .(b)(2).

(2) **Fallback Closure Options** — In cases where clean-closure [under .(b)(1)] is infeasible, the discharger shall propose for RWQCB approval either:

(A) **Closure As a Landfill** — that all residual wastes, including sludges, precipitates, settled solids, and liner materials, shall be compacted, and the Unit shall be closed as a landfill pursuant to §21090, provided that the closed Unit meets applicable standards for landfill Units in Articles 3 and 4 of Subchapter 2, Chapter 3, Subdivision 1 of this division (§20240 et seq.), and further provided that the moisture content of residual wastes, including sludges, does not exceed the moisture holding capacity of the waste either before or after closure; or

(B) **Closure As an LTU** — for surface impoundments which contain only decomposable wastes at closure, that the Unit be closed as a land treatment unit under §21420(a)(2 B 4).

NOTE: Authority cited: Section 1058, Water Code. Reference: Section 13172, Water Code; Section 43103, Public Resources Code.

.21410. SWRCB - Closure Requirements for Waste Piles. (C15: §2583)

(a) **Options** — Waste piles shall be closed in one of two ways, as approved by the RWQCB.

(1) **Mandatory Clean-Closure Attempt** — Unless the discharger demonstrates, and the RWQCB finds, that it is infeasible to attempt clean-closure of the waste pile, then all waste materials and any components of the containment system which are contaminated by wastes shall be removed from the waste pile and discharged to an appropriate Unit. Remaining containment features shall be inspected for contamination and, if not contaminated, can be dismantled. Any soil or other materials beneath the closed waste pile that have been contaminated shall be removed for disposal at an appropriate Unit. If, after reasonable attempts to achieve clean-closure (as herein described), the discharger demonstrates that removal of all remaining contamination is infeasible, then the remaining portions of the waste pile (including all contaminated portions of the underlying and surrounding geologic materials) shall be closed as a landfill pursuant to .(a)(2) and §21090.

(2) **Fallback Options** — In cases where clean-closure [under .(a)(1)] is infeasible, the discharger shall propose for RWQCB approval either of the following options, as appropriate.

(A) **Closure As a Landfill** — A waste pile can be compacted, covered, and closed as a landfill §21090, provided that the discharger has met the requirements of .(a)(1), and further provided that the closed Unit either meets applicable standards for landfill Units in Articles 3 and 4 of Subchapter 2, Chapter 3, Subdivision 1 of this division (§20240 et seq.), or contains only dry waste and was not required to have a leachate collection and removal system under §20340(a).

(B) **Closure As an LTU** — Waste piles which contain only decomposable wastes may be closed as a land treatment unit under §21420(a)(2 B 4).
NOTE: Authority cited: Section 1058, Water Code. Reference: Section 13172, Water Code; Section 43103, Public Resources Code.

21420. SWRCB - Closure Requirements for Land Treatment Units (LTUs). (C15: §2584)

(a) During the closure and post closure period, the discharger shall:

(1) continue all operations necessary to maximize degradation, transformation, or immobilization of waste constituents within the treatment zone;

(2) continue all ground water and unsaturated zone monitoring in compliance with Article 1, Subchapter 3, Chapter 3, Subdivision 1 of this division *(§20380 et seq)*;

(3) continue all operations in the treatment zone to prevent runoff of waste constituents; and

(4) maintain the precipitation and drainage control systems.
NOTE: Authority cited: Section 1058, Water Code. Reference: Section 13172, Water Code; Section 43103, Public Resources Code.

Article 4. Standards for Composting Facilities [Reserved]
§21430. CIWMB - Compost Facility Closure Requirements. [Reserved]

Chapter 4. Documentation and Reporting For Regulatory Tiers, Permits, WDRs, and Plans

Subchapter 1. CIWMB - General

§21440. Purpose. *(non-regulatory)* [Reserved]

21450. CIWMB - Scope/Applicability/Coordination. (T14:§18200)

(a) The CIWMB-promulgated sections of this chapter set forth the method of application for a Solid Waste Facility Permit (SWFP) and procedures for review and action on the application package. Also dealt with in this chapter are related matters of application for permits, reinstatement of permits after disciplinary actions, periodic revision of permits, exemptions from the application and permit requirements, and updating of certain application information. Related matters of modification, suspension, or revocation of permits upon investigation by the EA are included in PRC §44001 et seq. and §44300 et. seq.

(b) Pursuant to §20005 the EA shall coordinate all permitting aspects for disposal sites, including review of the JTD, with the RWQCB as appropriate.
Note: Authority cited: Sections 40502 and 43020, Public Resources Code. Reference: Sections 43020, 43021, and 43000-45802, Public Resources Code.

History
1. New article 3 (sections 18200-18217, not consecutive) files 5-27-77; designated effective 7-1-77 (Register 77, No. 22).
2. Change without regulatory effect amending section filed 5-17-91 pursuant to section 100, title 1, California Code of Regulations (Register 91, No. 27).
3. Amendment of section and Note filed 7-15-93; operative 7-15-93 (Register 93, No. 29).

Subchapter 2. CIWMB - Regulatory Tiers [§21460-§21560 Reserved by CIWMB]

Subchapter 3. Development of Waste Discharge Requirements (WDRs) and Solid Waste Facility Permits

Article 1. General

21563. CIWMB - Scope. (T14:§18200, §18200.1)

(a) This Subchapter sets forth the method of application for a full solid waste facility permit and procedures for review and action on the application package. This Subchapter also addresses related matters of exemptions from the permit requirements, application for changes in design or operation, reinstatement of permits after disciplinary actions, periodic reviews and revisions of permits, and ammending application information. Matters related to EA actions to amend, suspend or revoke permits are included in Article 2, Chapter 5.

(b) The provisions of this Subchapter shall apply to solid waste facilities or disposal sites and any other operations requiring a full SWFP as noted in this Division. Specific provisions of this Subchapter outlining the different responsibilities of the applicant, EA and the CIWMB may be found below as follows:

(1) Exemption from a SWFP Article 1.

(2) Applicant Requirements Article 2.

(3) EA Requirements Article 3.

(4) CIWMB Requirements Article 3.1.

(c) Except as otherwise noted, for purposes of this chapter only, "facility" means solid waste facility and/or disposal site or any other operation requiring a full SWFP as noted in this division.

(d) For purposes of these articles (Articles 1-3.1), the following definitions apply:

(1) **"Complete"** means all requirements placed upon the operation of the solid waste facility by statute, regulation, and other agencies with jurisdiction have been addressed in the application package.

(2) **"Correct"** means all information provided by the applicant regarding the solid waste facility must be accurate, exact, and must fully describe the parameters of the solid waste facility.

(3) **"Application Filing"** means the enforcement agency has determined the application package is complete and correct and the statutory time limit contained in PRC Section 44008 commences.
Note: Authority cited: Section 40502 and 43020, Public Resources Code. Reference: Sections 43020, 43021, and 43000-45802, Public Resources Code.

21565. CIWMB - Exemptions from Requirement of a Permit. (T14:§18215)

(a) After a public hearing the EA may grant an exemption from the requirement that the operator of a facility obtain a permit. Such an exemption may be granted if the facility falls within one of the classifications (b) and all of the following findings are made:

(1) The exemption is not against the public interest.

(2) The quantity of solid wastes is insignificant.

(3) The nature of the solid wastes poses no significant threat to health, safety, or the environment.

(b) Classifications of solid waste facilities that may be exempted are:

(1) Facilities or portions thereof doing research funded primarily by government grants;

(2) Construction disposal sites for short-term use (less that 90 days), in which only inert wastes are to be placed by city, county, or state agencies;

(3) Drilling mud disposal sumps for short-term use (less than one year) if significant quantities of hazardous or toxic materials are not present in the mud, fluids and cuttings from drilling and associated operations; *[Note: currently, on-site sumps are exempted under T23 §2511(g) & in §20090(g) of this subdivision]*

(4) Unclassified waste management units as defined by the State Water Resources Control Board (SWRCB);

(5) Farm or ranch disposal sites for one- or two-family use;

(6) Resource Recovery facilities intended only for demonstration purposes and not for profit;

(7) Disposal sites to be used exclusively for one of the following: for spreading of either cannery wastes or oily wastes, mine tailings, ashes and residues, agricultural wastes, street sweepings, dirt from excavations, slag if disposed of on site, or waste water treatment sludge if disposed of on site or to specified agricultural lands; and

(8) Evaporation ponds for disposing of salts from oil and geothermal drilling operations.

(c) All exemptions shall be forwarded to the CIWMB within seven days after the decision is issued.

[Comment: In exempting facilities, the EA should recognize that only facilities which are solid waste facilities, as defined in Public Resources Code section 40194, must obtain either a permit or an exemption. The following are examples of facilities that need not apply for an exemption or a permit:
1. A facility solely engaged in purchase or sale of salvaged separated materials.
2. Scrap metal, glass, cardboard and fiber brokers and manufacturing firms, which utilize salvaged materials.
3. Recycling centers that only handle salvaged separated materials for reuse.
4. Salvaged separated material collection, storage, or processing activities.]
NOTE: Authority cited: Section 40502, Public Resources Code. Reference: Sections 43020, 43021 and 43103, Public Resources Code.

21565.5. CIWMB - Filing Requirements for Exemptions from Solid Waste Facility Permit (SWFP). (T14:§17616)

An applicant must file with the EA information containing applicable sections of a Report of Facility Information/Joint Technical Document (**RFI/JTD**) to establish that an exemption should be granted.
NOTE: Authority cited: Section 40502, 43020 and 43021, Public Resources Code. Reference: Sections 43020, 43021 and 43103, Public Resources Code.

Article 2. CIWMB - Applicant Requirements.

21570. CIWMB - Filing Requirements. (T14:§18201)

(a) Any operator of a disposal site who is required to have a full SWFP and waste discharge requirements pursuant to Public Resources Code, Division 31 and §20080(f) shall submit an application package for a solid waste facility permit in duplicate to the EA pursuant to (f). The applicant shall also simultaneously submit one copy of the application form and the Joint Technical Document (**JTD**) to the Regional Water Quality Control Board (**RWQCB**). The applicant shall ensure demonstration of financial assurances to the CIWMB pursuant to Chapter 6 of this Subdivision.

(b) All other applicants who are required to have a full SWFP shall submit an application package for a SWFP in duplicate to the EA pursuant to (f). The applicant shall also simultaneously submit one copy of the application form to the RWQCB.

(c) Any application package submitted to the EA shall be accompanied by the fee specified by the EA pursuant to PRC §44006(c).

(d) The application package shall require that information be supplied in adequate detail to permit thorough evaluation of the environmental effects of the facility and to permit estimation of the likelihood that the facility will be able to conform to the standards over the useful economic life of the facility. The application package shall require, among other things, that the applicant and the owner give the address at which process may be served upon them.

(e) All information in the application package shall be certified by the applicant and the owner of the site as being true and accurate to the best knowledge and belief of each. The applicant, owner of the facility, or both, shall supply additional information as deemed necessary by the EA.

(f) A complete and correct application package shall include, but not necessarily be limited to, the following items:

(1) Completed Joint Application Form *(CIWMB E-1-77, Version 6-96, Appendix 1)*; and

(2) Complete and correct Report of Facility Information. In the case of disposal sites, this will be a Report of Disposal Site Information (RDSI) or a RDSI in the format of a JTD; and

(3) California Environmental Quality Act (CEQA) compliance information as follows:

(A) Evidence that there has been compliance with the CEQA, Division 13 (commencing with section 21000) of the Public Resources Code, regarding the facility; or

(B) Information on the status of the application's compliance with the CEQA regarding the facility, including the proposed project description. Once there has been compliance with the CEQA regarding the facility, evidence of compliance shall be submitted to the EA; and

(4) Any CEQA Mitigation Monitoring Implementation Schedule; and

(5) Conformance finding information, including one of the following:

(A) Until a countywide or regional agency integrated waste management plan has been approved by the CIWMB, the application shall include statements that: the facility is identified and described in or conforms with the County Solid Waste Management Plan, or otherwise complies with Public Resources Code section 50000; and that the facility is consistent with the city or county General Plan and compatible with surrounding land use, in accordance with Public Resources Code section 50000.5; or

(B) After a countywide or regional agency integrated waste management plan has been approved by the CIWMB, the application shall include a statement that: the facility is identified in either the countywide siting element, the nondisposal facility element, or in the Source Reduction and Recycling Element for the jurisdiction in which it is located; or, that the facility is not required to be identified in any of these elements pursuant to Public Resources Code section 50001; and

(6) For disposal sites, completeness determination of Preliminary or Final Closure/Postclosure Maintenance Plan (Subchapter 4 of this Chapter); and

[Note: The operator has the option of submitting the preliminary closure plan with the JTD, in which case the EA and RWQCB (and possibly the CIWMB if acting as the consultant for the EA for technical review) would review it at the same time. If deemed complete by the reviewing agencies, the permit application package could then be accepted for filing if all other information in the JTD is accepted by the EA. Or the operator can submit a stand alone preliminary closure plan to be deemed complete by reviewing agencies before the application package is submitted to the EA. For CIWMB purposes, all final closure/postclosure plans are stand alone documents but can be processed jointly with a proposed permit revision as long as the final plan is determined complete prior to approval of the proposed permit. The JTD Index prepared for the EA should show where each closure requirement is addressed in the closure/post-closure plan.]

(7) For disposal sites, current documentation of acceptable funding levels for Financial Assurance Mechanism (in accordance with Chapter 6, Division 2); and

(8) For disposal sites, current documentation of compliance with operating liability requirements in accordance with Chapter 6;

(9) Land Use and/or Conditional Use Permits.

Note: Authority cited: Sections 40002, 40502 and 43020, Public Resources Code. Reference: Sections 43103, 44001-44017, 44100-44101, 44300-44301, 44500-44503, and 44813-44816, Public Resources Code.

History

1. Change without regulatory effect amending section filed 5 17-91 pursuant to section 100, title 1, California Code of Regulations (Register 91, No. 27).

21580. CIWMB - Submittal of an Incomplete Application Package (T14:§18203)

The applicant may request, in writing, that the EA accept an incomplete application package. As a condition of acceptance, the applicant shall waive the statutory time limit contained in PRC §44008. The application package shall conform to section 21570 within 180 days from the date the EA agrees to accept the package as incomplete or

the application package shall be rejected. Upon submittal of an incomplete package, the applicant shall list the deficiencies in the package, reasons for the incomplete submittal, and a proposed schedule as to when the deficiencies will be submitted.

Note: Authority cited: Sections 40502 and 43020, Public Resources Code. Reference: Sections 43103, 44001-44006 and 44007-44010, Public Resources Code.

. 21585. SWRCB - Joint Technical Document (JTD). (new)

Regulations in this section were promulgated by the State Water Resources Control Board (**SWRCB**), are administered by the appropriate Regional Water Quality Control Board (**RWQCB**) through the issuance of waste discharge requirements (**WDRs**) or other enforceable orders, and are applicable both to the RWQCB and to the owner or operator of a waste management unit (**Unit**) for the treatment, storage, or disposal of solid waste, in cases where the Unit is jointly regulated by the RWQCB and by one or more other state agencies.

(a) **JTD Addresses All Post-CUP Permitting Agency Requirements** — After July 18, 1997, for any Unit jointly regulated by the RWQCB and another state agency (or agencies), the report of waste discharge (**ROWD**) submitted to the RWQCB in support of the development or revision of WDRs for that Unit shall be in the form of a joint technical document (**JTD**) which includes all applicable information required under Article 4 of Subchapter 3 of this chapter (§21710 et seq.), in addition to all information necessary to support the development (or modification, as appropriate) and issuance of any state or local agency permits, other than the conditional use permit, that are required to operate the Unit (including but not limited to the lateral expansion of any Unit).

(1) **JTD Submittal Date** — For new Units for which the ROWD is initially submitted (as part of the application for WDRs) after July 18, 1997, the discharger shall submit the ROWD in the form of a JTD when applying for WDRs for the Unit. For all other new Units and for existing Units, the discharger need not reorganize and resubmit, as a JTD, those portions of the ROWD submitted prior to July 18, 1997. For new and existing Units, after July 18, 1997, except for scheduled monitoring reports, each submittal regarding the Unit, whether initiated by the discharger or requested by RWQCB, shall be made in the form of a separate addendum to the JTD, pursuant to . (a)(4).

(2) **JTD Scope** — The discharger is responsible for identifying all state and local agencies for which the JTD will serve as a joint permitting information document, pursuant to . (a). Nevertheless, for a landfill, the list of agencies addressed in the JTD shall include at least the RWQCB, the CIWMB, the EA, and the AQMD or APCD..

(3) **Integration** — The discharger is free to organize the JTD in any manner that maximizes the readability and compactness of the document. Nevertheless, to the extent feasible, with respect to any portion of the JTD that discusses a subject of regulatory concern to more than one agency, the discharger shall integrate the discussion to satisfy the concerns of all agencies concerned with that subject. Likewise, to the extent feasible, for facilities having more than one Unit, the JTD shall address topics which are germane to all Units at the facility *(e.g., the hydrogeology of the facility and surrounding area)* in a manner which integrates and incorporates all concerns applicable to each individual Unit and to the facility in general.

(4) **JTD Addenda** — After July 18, 1997, each submittal made to any permitting agency encompassed by the JTD shall be in the form of a numerically-sequential addendum to the JTD (i.e., Addendum 76 would be followed by Addendum 77). For any given topic being addressed by a given addendum, the discharger shall send a copy of that addendum simultaneously to each permitting agency listing that topic in their agency-specific JTD Index, and shall include an updated JTD page listing for each Water Board JTD index line-item [under . (b)] that is addressed by that addendum.

(b) **Water Board (JTD) Index** — As of July 18, 1997, each RWQCB shall make available to the discharger (both in hard copy and on magnetic media) a JTD index (**Water Board Index**) listing, by unique line-item number, each topic which the JTD must address to provide the RWQCB information needed to write and adopt or revise WDRs. For each line item (i.e., for each separately listed topic) in the Water Board Index, the discharger shall list all JTD pages (by page number or ranges thereof) addressing that topic. In cases where the preliminary or final closure and post-closure maintenance plan is submitted as a separable part of the JTD, as allowed by §21769(a), the component parts of the plan shall nevertheless be listed as part of the JTD index.

(c) **Coordination** — Upon the submittal of a new JTD or addendum, the RWQCB shall concentrate the initial review upon those line-items in the Water Board Index which are coded as being of joint interest with other agencies. Regarding all such joint-interest line-items in the Water Board Index, the RWQCB shall coordinate with staff from the other interested agencies, as appropriate, to ensure that WDRs (or proposed changes thereto) do not duplicate or conflict with the requirements of the other agencies.

NOTE: Authority cited: Section 1058, Water Code. Reference: Section 13140, 13146, 13172, Water Code; Section 43103, Public Resources Code.

.21590. CIWMB - Joint Technical Document for Disposal Facilities. (new)

Any operator of a disposal site which is required to submit a RDSI, closure/postclosure maintenance plan, and/or a ROWD or any other report that addresses similar regulatory concerns, may address those requirements under one JTD. The JTD will be used in place of the RDSI only if it meets all the requirements set forth in §21600 and lists where each requirement has been satisfied in the document in the form of a JTD index, pursuant to .(c).

(a) After July 18, 1997, any operator of an existing facility who submits an application package to the EA, pursuant to §21570, which proposes to change the facility's operations, or to change the SWFP shall do one of the following:

(1) Submit the updated information as an amendment to the existing JTD along with, a JTD index as described in .(c), referencing the new or updated information; or

(2) Submit a complete JTD as described in §21600 along with a JTD index as described in subsection c.

(b) After July 18, 1997, any operator of a new facility that submits an application package to the EA pursuant to §21570, shall submit a complete JTD pursuant to §21600, and an index of the topics addressed in the JTD to be used by the EA as described in .(c).

(c) As of July 18, 1997, the operator shall include with the JTD a copy of an index specifically for use by the EA. The page number or the first line number within the JTD which addresses the topic shall be noted next to that topic in the index. The EA shall make available to the operator either in hard copy and/or on magnetic media a JTD index listing, (Index found in Appendix 2) showing each topic which the JTD must address to provide the EA with relevant facility information for writing or revising the facility permit.

(d) These requirements do not apply to those facilities which have filed a ROWD or RDSI and application for SWFP prior to July 18, 1997. In the event the EA determines the application package for an RDSI first submitted prior to the effective date of these regulations to be incomplete, additional information requested shall be submitted as part of the RDSI and/or application for SWFP, as appropriate.

Note: Authority Cited: Sections 40502, 43020, and 43021, Public Resources Code. Reference: Sections 43000-45802, Public Resources Code.

.21600. CIWMB - Report of Disposal Site Information (RDSI).

(T14:§17607,17616,17626,17628,17629,18222)

(a) In order to obtain a solid waste facility permit, each operator of a disposal site must file with the EA a RDSI as required in §21600 and §21590. The information contained in the RDSI shall be used to determine whether a permit should be issued and to provide information to be included within the permit if applicable. In order to maintain the permit, the operator must file amendments to the RDSI as required in §21665. Such amendments or lack thereof may become the basis for changes in the permit or for revocation of the permit. The submittal shall contain only those items listed in §21570(f) that have changed or otherwise specified by the enforcement agency.

(b) **A RDSI shall contain the following:**

(1) **General**

(A) **Facility Overview** — Provide a statement including the name of the site, the name of the person who will operate the site, the name of the person who owns the land, and a description of the operation cycle.

(B) **Site Plan** — Provide facility plan(s), including the pre-disposal topography of the site, the facility boundary of the site (clearly illustrating parcels owned by the operator and/or any parcels leased), the total permitted acreage of the site, the acreage of the disposal area, fill sequencing and excavation plans, the extent of

any buffer zones between the disposal area and the permitted property boundaries provided by the facility layout, and the vertical limits of the site. The map required for a ROWD/JTD may be used for the RDSI providing all requirements of this subsection are met.

(C) **Hours** — State the hours and days of operation for the site, including but not limited to maintenance, site operation, receipt of waste, and public and commercial access.

(2) **Waste Classification and Management**

(A) **Waste Types/Volumes** — Describe the types of wastes accepted or proposed for acceptance. Estimated waste volumes should be presented, including current daily average and peak daily waste flows as well as a five year projected waste flow. Specific mention shall be made concerning the receipt of liquid, designated, special wastes or hazardous waste, if taken.

(3) **Waste Management Unit Classification and Siting**

(A) **Airport Safety** — Provide documentation that the Federal Aviation Administration and appropriate airport officials were notified if a new MSWLF unit or lateral expansion will be sited within a five-mile radius of any airport runway end used by turbojet or piston-type aircraft. Include results of the demonstration requirement, if required by §20270.

(B) **Volumetric Capacity** — Provide calculations for volumetric capacity of the site expressed in cubic yards, net permitted capacity available for waste disposal, including the amount of capacity consumed by soils used for liner construction, daily and intermediate cover, and final cover, if included in the total capacity given. Attach topographic maps, including the delineation of the site property boundary and the disposal area used for the volumetric calculations and the date of survey. This information shall be certified by a registered civil engineer or registered geologist.

(C) **Site Life Estimate** — Provide an estimate of the site life based on the capacity of the site and the waste flow projections, and assumptions regarding the compaction density used in life expectancy calculations. Include any other factors which may effect site life (e.g. local restrictions).

(D) **Site Location** — Describe the site location, referencing a location map highlighting the legal boundaries, points of access, and major access routes for waste deliveries to the site.

(E) **Land Use** — Describe and provide a plot plan showing land uses and land use zoning for all properties within 1000 feet of the facility boundary shown on a site plan. The site plan must show structures located on these adjacent properties or distances to the nearest structures. The plot plan shall include specific limits of the existing and planned disposal areas, in relationship to the surrounding land use.

(F) **Ancillary Facilities** — Describe and provide a plot plan showing all ancillary facilities at the site, including, but not limited to, administration buildings, entrance facilities, scales, maintenance structures, and hazardous materials storage areas.

(4) **Design and Construction Standards for all Sites**

(A) **General Design Parameters** — Describe how the site design accommodates or provides for the service area, climatological factors, physical setting, soils, drainage, and other pertinent information. The design shall be developed by a registered civil engineer or registered geologist. If the site is to be used by the general public, show how the design accommodates such use.

(B) **Design Responsibility** — Design of a new disposal site shall be under the direction of a registered civil engineer. The designer shall utilize expert advice as appropriate from persons competent in soils, hydrology, geology, landscape design, chemistry and other disciplines.

(C) **Construction Sequencing Plans** — Describe sequencing plans showing the anticipated phases of site development. A map showing the topographical contours prior to filling and the existing topographical contours of the permitted boundary.

(D) **Grading Plan** — Include a grading plan showing the proposed final elevations of the completed disposal site, and excavation depth, including existing and proposed borrow area.

(E) **Gas Management Plan** — The gas management plan shall include a description of the facility's gas control and monitoring systems. The site plan shall show locations of monitoring wells. The plan shall describe how the facility will comply with §20919 and §20919.5. Describe any possible use of landfill decomposition gases. Reference any additional information provided in the closure plans pursuant to Article 6.

(5) **Operating Criteria**

(A) **Records** — Describe the procedures for maintaining accurate records as required in §20510 and 20515.

(B) **Security** — Describe how the operator will discourage unauthorized access by persons or vehicles.

(C) **Sanitary Facilities** — Describe the sanitary facilities available to site personnel and the public.

(D) **Communications Systems** — Describe the communications systems utilized and emergency communications procedures followed at the site.

(E) **Lighting** — Describe the locations, numbers, and types of all permanent and portable lighting to assure safety of employees during nighttime operations, if applicable.

(F) **Safety Equipment** — List personal safety equipment used by operating and maintenance personnel.

(G) **Personnel Requirements** — tate the minimum numbers and qualifications of personnel required for site operations, maintenance, environmental controls, records, emergency, and health and safety.

(H) **Personnel Training** — Describe the training required by the various personnel identified above and how that training is to be provided in order to comply with §20610.

(I) **Supervisory Structure** — Describe supervisory structure, including the management organization which will operate the site and the name of supervisor(s).

(J) **Spreading and Compaction** — Describe the equipment and methods used to spread and compact wastes.

(6) **Cover**

(A) **Cover Materials** — Provide a plot plan identifying cover material quantities required from on-site sources, excavation sequence of the site, alternative daily cover if applicable and stockpile locations if stockpiled for a significant amount of time. Identify or describe off-site sources or types of cover materials needed for a five year duration if not included on plot plan.

(B) **Cover Frequency** — State the cover frequency proposed or the alternative daily cover proposed for use in lieu of soil as daily cover. Provide information regarding compliance with §§20680 and 20685 if applicable.

(C) **Intermediate Cover** — Describe the operator's methods for placing intermediate cover on all areas of the landfill which have not received waste for an 180 day or more time frame.

(7) **Handling**

(A) **Public Health Design Parameters** — Disposal sites shall be designed in such a manner as to minimize the propagation or harborage of flies, rodents or other vectors, and the creation of nuisances by reason of solid wastes being deposited at the site. Other factors which shall be taken into consideration are air and water quality, noise control, odor control, public safety and other pertinent matters related to the protection of public health.

(B) **Salvaging Activities** — If salvaging activities are proposed, describe types of materials handled, and procedures to ensure that salvaging and other waste activities are conducted in a planned and controlled manner so they do not interfere with other aspects of site operation. Provide an EA approved list of items which the facility is permitted to salvage. Describe the storage area for salvaged materials generated on-site or imported. Describe the procedures to ensure that salvage is removed at a frequency which will prevent health or fire problems.

(C) **Volume Reduction Activities** — If volume reduction activities such as baling and shredding are proposed, describe procedures to ensure proposed operations are conducted in a controlled manner so that they do not interfere with proper construction and maintenance of the site, and do not create health, safety or environmental problems.

(D) **Equipment** — Describe the minimum equipment requirements necessary to assure ongoing compliance with the state minimum standards. List on-site equipment designated as standby, or provide an up-to-date list of

firms or agencies which can supply replacement units within a period of time short enough to ensure compliance with all regulatory requirements. Describe preventative maintenance activities for the equipment listed above.

(E) **Waste Handling** — Describe dimensions of unloading area and unloading practices. Include procedures for handling, unloading and disposal of liquid waste, special waste, or hazardous waste, if accepted.

(8) **Controls**

(A) **Nuisance** — Describe procedures to prevent or control public nuisances.

(B) **Fire** — Describe procedures for handling burning waste and preventing landfill fires.

(C) **Leachate** — Describe methods for controlling surface leachate to prevent contact with the public.

(D) **Dust Control** — Describe procedures which will be taken to control and minimize the creation of dust and prevent safety hazards due to obscured visibility.

(E) **Vectors** — Describe measures to be taken to control or prevent the propagation, harborage or attraction of flies, rodents, or other vectors and to minimize bird problems.

(F) **Drainage and Erosion** — Provide a conceptual design and description of the drainage system as it pertains to roads, structures and gas monitoring systems, preventing safety hazards and preventing the exposure of waste.

(G) **Litter** — Describe the collection frequency for controlling litter and windblown materials in order to prevent the accumulation of quantities which cause a public nuisance or other problems. Include the litter control method used, i.e. litter fences, litter crews, etc.

(H) **Noise** — Describe the methods for ensuring that noise from site operations are controlled to prevent nuisance to persons using the site and nearby residents.

(I) **Traffic** — Describe the traffic control plan, showing that the traffic flow into, on, and out of the site is controlled to minimize interference and safety problems for traffic on-site and adjacent public streets or roads.

(J) **Hazardous Waste** — Describe in detail the hazardous waste screening program.

(9) **Compilation of approvals** — Provide a list of all approvals having jurisdiction over the disposal site.

NOTE: Authority cited: Section 40502, Public Resources Code. Reference: Sections 43000 - 45802, Public Resources Code.

21610. CIWMB - Amendments to Application Package. [T14:§18202(a)]

At any time after the application package has been submitted and before issuance or denial of the permit or alteration thereof, the applicant shall promptly notify the EA of any changes in any of the information required in the application package. Such notice shall be given by filing two copies of the amendments to the application within seven days of the applicant's first knowledge of the changes. For processing additions, revisions or amendments to the proposed permit and accompanying documents, refer to section 21685(d).

Note: Authority cited: Sections 40502 and 43020, Public Resources Code. Reference: Sections 43103, 44001-44006, Public Resources Code.

21615. CIWMB - Completeness Appeal. [T14: §18203(f)]

If an application is determined not to be complete, the applicant may appeal the decision to the EA within fifteen (15) days of the date of notification. Such an appeal must be in writing and specify the grounds for the appeal. A final written determination on the appeal shall be made by the hearing panel designated pursuant to Public Resources Code §§44308 or 44309, whichever is applicable, no later than 60 days after the EA's receipt of the applicant's appeal.

Note: Authority cited: Sections 40502 and 43020, Public Resources Code. Reference: Sections 43000-45802, Public Resources Code.

21620. CIWMB - Change in Operation. (new)

(a) Any applicant proposing to make a significant change in the design or operation of the facility shall file an amendment to the RFI with the EA at least 150 days prior to the proposed change unless otherwise determined by the EA.

(b) RFI or amendments to the RFI shall be accompanied by an application form. All amendments shall be submitted as specified in §21570. The applicant shall only submit those items listed in §21570(f) that have changed or are proposed to change, unless otherwise specified by the EA. Such amendments or lack thereof may become the basis for changes in the permit as determined by the EA as described in §21665. The operator shall have the right to appeal the EA's decision before the hearing panel.

(c) If the change in operation does not meet the requirements of §21665(c), the operator shall submit an application package for revision pursuant to §21570 and be processed by the EA pursuant to §21650.
Note: Authority Cited: Sections 40502,43020, and 43021, Public Resources Code. Reference: Sections 43103, 44004 and 44012, Public Resources Code.

21630. CIWMB - Change of Owner, Operator, and/or Address. (T14:§18216 & 18217)

(a) Owners and/or operators of a facility who plan to sell, encumber, transfer or convey the ownership or operation of the facility or land to a new owner or operator, or who plan to change their address shall notify the EA and the CIWMB 45 days prior to the anticipated transfer. *[Note: Although it is similar to the previous requirement for a change in owner, this significantly reduces the requirements for incorporating a new operator into the SWFP.]* This notification shall include names, address(es), where notice can be sent and phone number(s) of the new owner/operator.

(b) The anticipated owner/operator shall provide the following:

(1) Documentation that the anticipated owner/operator meet the financial assurance and operating liability requirements.

(2) A signed affidavit certifying that the anticipated owner/operator has read the governing permit and conditioning documents and will operate in accordance with the existing SWFP terms and conditions and conditioning documents and that all new information submitted is correct.

(3) Amendments to the RFI which reflect the change in owner/operator or address.

(c) any information provided pursuant to (a) shall not be a matter of public record and shall be considered confidential information until such time as the owner encumbers, sells, transfers, or conveys the property.

(d) Every applicant for a permit, every operator of a solid waste facility, and every owner of property on which a facility is located shall notify the EA and the CIWMB of each change of address. Notice shall be given within seven days after the change is effective and shall be given on a form specified by the CIWMB.
NOTE: Authority cited: Sections 40502, 43020, and 43021, Public Resources Code. Reference: Section 6255, Government Code; and Sections 43020, 43021 and 43000-45802, Public Resources Code.

21640. CIWMB - Review of Permits. (T14:§18213)

(a) Except as provided in §21680, all full SWFPs shall be reviewed and, if necessary, revised, from the date of last issuance at least once every five years.

(b) No less than 150 days before the permit is due for review, the operator shall submit an application for permit review. The application shall be made in the manner specified in §§21570 and 21590 and shall contain the following:

(1) identify the proposed changes in design and operation; and

(2) updated amendments to the Report of Facility Information (**RFI**);

(3) for disposal sites only, the updated amendments shall include an estimate of the remaining site life and capacity.

Note: Authority Cited: Sections 40502 and 43020, Public Resources Code. Reference: Section 43103 and 44015, Public Resources Code.

Article 3. CIWMB - Enforcement Agency (EA) Requirements

.21650. CIWMB - EA Processing Requirements. (T14:§18203)

(a) Upon its receipt, the EA shall stamp the application package with the date of receipt. The EA shall examine the application package to determine whether it meets the requirements of §21570. If the EA finds the package meets the requirements of §21570, the application package shall be accepted and stamped with the date of acceptance. Notwithstanding any other provision of this division, the application package shall be deemed filed on the date of acceptance.

(b) The EA shall either accept or reject the application package within thirty days of its receipt.

(c) Within five days of filing, the EA shall notify the CIWMB, and the RWQCB if applicable, of its determination. The EA shall submit as its notification to the CIWMB a copy of the accepted application form. The EA shall also forward a copy of the application form to the RWQCB if applicable.

(d) If the EA determines that the application package does not meet the requirements of §21570, it shall reject and not file the application, and it shall, within five days of determination, so notify the applicant, the CIWMB, and the RWQCB if applicable, enumerating the grounds for rejection. The EA shall include in its notification to the CIWMB a copy of the rejected application form. The application package, together with the notice of rejection, shall be kept in the EA's file.

(e) Upon request of the applicant, the EA may accept an incomplete application package. As a condition of acceptance, the enforcement agency shall waive the statutory time limit contained in the Public Resources Code Section 44009. *[Note: Section 21580 is the section for processing the applicant's waiver of timeframes.]* The EA shall notify the applicant within 30 days if the applicant's request for review under this subsection has been accepted. If the application package does not conform with the requirements of §21570 within 180 days from the date of the EA agreeing to accept the package as incomplete the EA shall reject the application package, pursuant to .(d). If the EA finds the application package meets the requirements of §21570, the application package shall be accepted pursuant to .(c).

(f) No later than 55 days after the application package has been filed, the EA shall mail to the CIWMB the following:

(1) A copy of the proposed permit;

(2) The accepted application package;

(3) A certification from the EA that the permit application package is complete and correct, including a statement that the RFI meets the requirements of §21600, 14CCR .18221 or .17863.

(4) Documentation, if applicable, of the applicant's compliance with any RWQCB enforcement order or the status of the applicant's WDRs, as described in PRC §44009.

(5) Any written public comments received on a pending application. Subsequent to the transmittal of the proposed permit, the EA shall, within five (5) days of receipt, provide a copy of any additional written public comments to the CIWMB.

(6) A permit review report which has been prepared pursuant to §21675, within the last five years.

(7) EA finding that the proposed permit is consistent with and is supported by existing CEQA analysis, or information regarding the progress toward CEQA compliance.

(g) At the time the EA submits the proposed permit to the CIWMB, the EA shall submit a copy of the proposed permit to the applicant, the RWQCB if applicable, and any person so requesting in writing. The copy of the proposed permit provided to the applicant shall also be accompanied by a form for request for hearing, which the applicant may use to obtain a hearing before a hearing panel to challenge any condition in the permit. In cases

where a hearing panel may be requested, the EA shall notify the CIWMB within seven days of being noticed by the operator.

(h) The proposed permit shall contain the conditions the EA proposes to include in the permit. The proposed permit shall not contain conditions pertaining solely to air or water quality, nor shall the conditions conflict with conditions from WDRs issued by the RWQCB.

[Note: The process to obtain a full SWFP might not include the RWQCB if the facility is other than a landfill or disposal site. Therefore, EA submittals of forms and documents to the RWQCB will be made if applicable to the type of facility.]

Note: Authority cited: Sections 40502 and 43020, Public Resources Code. Reference: Sections 40056, 43103 and 44001-44014, Public Resources Code.

21655. CIWMB - Amendments to Application Package. [T14:§18202(b)(c)]

(a) If the EA determines that the amendment submitted pursuant to 21610 fundamentally alters the nature of the application, which requires evaluation, within twenty days of the filing of the amendment, the EA may deem the amendment a new application. This amendment will supersede the previous application and incorporating unamended portions of the previous application, in which case the time for the EA to act on the amendment shall be computed from the date of filing of the amendment. Any such determination by the EA shall be documented within five days of the determination by written notice to the applicant.

(b) If the amendment is submitted to the EA eleven days or more after the date the EA has stamped the package as received, the 30 day review period may be extended as long as the EA still complies with (a).

Note: Authority cited: Sections 40502 and 43020, Public Resources Code. Reference: Sections 43103, 44001-44006, Public Resources Code.

21660. CIWMB - Public Notice and Comment; Recordkeeping Requirements. (T14:§18204)

(a) The EA shall maintain a current list of all pending applications at its offices. The list shall be publicly available during normal business hours.

(b) The EA shall mail written notice of an application to every person who has submitted a written request for such notice.

(c) Written public comments on an application shall be retained by the EA.

Note: Authority cited: Sections 40502, 43020, and 43021, Public Resources Code. Reference: Sections 43020, 43021, and 43000-45802, Public Resources Code.

21663. CIWMB - Issuance of Permit. (T14:§18208)

(a) Upon compliance with the CEQA and this article, and upon the concurrence of the CIWMB, the EA shall issue the permit as provided in Public Resources Code section 44014. The permit shall specify the person authorized to operate the facility and the boundaries of the facility. The permit shall contain such conditions as are necessary to specify a design and operation for which the applicant has demonstrated in the proceedings before the EA the ability to control the adverse environmental effects of the facility.

(1) As used herein, "design" means the layout of the facility (including numbers and types of fixed structures), total volumetric capacity of a disposal site [or total throughput rate of a transfer/processing station, transformation facility, or composting facility] vehicular traffic flow, and patterns surrounding and within the facility, proposed contouring, and other factors that may be considered a part of the facility's physical configuration.

(2) As used herein, "operation" means the procedures, personnel, and equipment utilized to receive, handle and dispose of solid wastes and to control the effects of the facility on the environment.

Note: Authority cited: Sections 40502 and 43200, Public Resources Code. Reference: Sections 43103, 44012 and 44014, Public Resources Code.

. 21665. CIWMB - Processing Report of Facility Information (RFI) Amendments. (new)

(a) The applicant shall submit an RFI amendment and application package pursuant to . 21570 and §21600, or 14 CCR §18221.5, 18221.6, or §17863 to the EA. The submittal shall contain only those items listed in §21570(f) that have changed, are proposed for change or as otherwise specified by the EA.

(b) the EA shall review the applicant's amendments to the RFI and determine if such amendments or lack thereof are the basis for changes in the permit.

(c) The EA may approve and file the amendment to the RFI without revising the permit if all of the following criteria are met:

(1) the proposed change is consistent with all applicable certified and/or adopted CEQA documents, or has been determined by the EA that the change would not create any adverse environmental impacts and is exempt from the requirements of CEQA;

(2) the EA has deemed the proposed change acceptable and consistent with, but not limited to, state minimum standards pursuant to Chapter 3 of this subdivision or applicable minimum standards in Title 14 (commencing with §17200), and including financial assurances and operating liability criteria pursuant to Chapter 6 of this subdivision if applicable; and

(3) the changes do not conflict with the terms and conditions in the current SWFP.

(d) The EA shall determine if the RFI amendments meet the requirements of . (c) within 30 days of receipt.

(e) Within 5 days of acceptance for filing of the RFI amendment and application package, the EA shall notify the operator, the CIWMB and the RWQCB of their determination. The EA shall include in their notification to the CIWMB, a copy of the amended RFI, and a copy of the application form along with the EA determination specified in . (d).

[Note: Submittal of an Application Form in . (e) is for tracking purposes.]

(f) In cases where amendments do not follow the criteria set in this section, the EA may either require the operator to revise the SWFP pursuant to §21570, or deny the proposed amendment, in which case the applicant shall have thirty (30) days within which to appeal the decision to the hearing panel.

Note: Authority Cited: Sections 40502,43020, and 43021, Public Resources Code. Reference: Sections 43103, 44004 and 44012, Public Resources Code.

. 21670. CIWMB - Change of Owner Operator, and/or Address. (T14:§18216 and 18217)

(a) The EA shall review the submitted notification prescribed in §21630 and any available records to determine if the current and anticipated operators/owners have provided the required information and that the facility is and will be able to operate within the terms and conditions of their permit and RFI. If the anticipated operator/owner has satisfied all of the requirements and the EA has obtained a written confirmation from the CIWMB that the anticipated owner/operator has complied with PRC §43040 and §43600, the EA shall notify the operator and CIWMB within 30 days of receipt of the notification. Then, the EA has 15 days (from informing the operator and CIWMB that the notification was adequate) to send the operator and CIWMB a copy of the changed permit, to reflect the changes in the name of the owner, operator and / or facility name. This section does not authorize the EA to change any other aspect of the SWFP, including the issuance date or permit review date.

(b) If the EA determines that the operator/owner has not provided adequate documentation or if the EA has reason to believe that the anticipated operator or owner will be operating outside the terms and conditions of the governing SWFP, the EA shall inform the operator and the CIWMB, in writing, within 30 days of receipt of the notification. The EA shall provide the basis for the notification being determined inadequate.

(c) Any information provided pursuant to . (a) shall not be a matter of public record and shall be considered confidential until such time as the owner's encumbering, selling, transferring, or conveying of the property, occurs.

(d) This action will not take the place of a permit review or revision pursuant to §§21620 or 21640.

(c) Every operator of a solid waste facility, and every owner of property on which a facility is located shall notify the EA and the CIWMB of each change of address. The EA shall keep this information on file.
NOTE: Authority cited: Sections 40502, 43020, and 43021, Public Resources Code. Reference: Sections 6255, Government Code; and Sections 43020, 43021, 43103 and 43000-45802, Public Resources Code.

21675. CIWMB - Review of Permits. (T14:§18213)

(a) Except as provided in §21680, all full SWFPs shall be reviewed and if necessary revised, from the date of last issuance at least once every five years. The EA shall give the operator notice of the five year review no less than 180 days before it is due.

(b) The EA shall review the operator's submittal in accordance with §21640 and prepare a permit review report.

(1) The permit review report shall include documentation that the following have been reviewed: the operator's submittal pursuant to §21640(b), the current permit and conditioning documents, all RFI amendments since the last permit review, the CEQA, and any other information in the record to identify any changes.

(2) The permit review report shall determine any actions required by the operator.

(c) A copy of the permit review report shall be submitted to the CIWMB within 150 days from receipt of the application for permit review.
Note: Authority Cited: Sections 40502 and 43020, Public Resources Code. Reference: Section 43103 and 44015, Public Resources Code.

21680. CIWMB - Reinstatement of Suspended and Revoked Permits. (T14:§18212)

(a) If a permit has been suspended, it is reinstated without further action on the date specified in the suspension or upon completion of specified acts. A suspended permit shall be due for review five years after its original issuance or last review or revision, including the period of suspension.

(b) If a permit has been revoked, it may be reinstated by application, no less than one year after the effective date of the revocation and no less than one year after any similar application. Such an application shall be made in the manner specified in §21570 and shall be handled in the same manner as an application for a new permit; however, nothing in this section is intended to prevent the EA, hearing panel, or CIWMB from considering the revocation and grounds therefor in reviewing the application. A permit reinstated after revocation shall be due for review five years after its reinstatement.

(c) No less than one year after the effective date of the revocation and no less than one year after any similar petition, a person whose permit has been revoked may petition the EA for reduction of the penalty. If the petition is denied, the person is entitled to a hearing before the hearing panel.

[Comment: Suspension of a permit is a punitive or remedial action not intended to deprive the permit holder indefinitely of the right to operate. Revocation of a permit, a more severe action, closes the facility for at least one year, at the end of which the holder of the revoked permit may apply for reinstatement in the same manner as one applies for a permit for a new facility.]
NOTE: Authority cited: Sections 40502 and 43020, Public Resources Code. Reference: Sections 43103, 44500-44503 and 44817, Public Resources Code.

Article 3.1. CIWMB - CIWMB Requirements

21685. CIWMB - Proposed Permit; CIWMB Processing Requirements. (T14:§18207, §17608)

(a) The CIWMB shall stamp the proposed permit with the date of receipt at the time the envelope is opened. The CIWMB shall consider each proposed permit, any public testimony, and comments. Written comments may be submitted to the CIWMB and will become part of the CIWMB record. Such written comments shall be made available to the EA.

(b) The CIWMB shall not concur in issuance of the proposed permit if the following information, if applicable, has not been submitted to the EA and the CIWMB pursuant to PRC §44009:

(1) complete and correct Report of Facility Information as certified by the EA,

(2) EA's Permit Review Report pursuant to §21675,

(3) EA's proposed permit written pursuant to this Subchapter.

(4)(A) Information that the facility is identified and described in or conforms with the County Solid Waste Management Plan (PRC §50000); and that the facility is consistent with the city or county General Plan and compatible with surrounding land use, in accordance with PRC §50000.5; or

(B) After a countywide or regional agency integrated waste management plan has been approved by the CIWMB, the EA's finding that the facility has met the requirements of PRC §50001.

(5) Documentation that a Preliminary or Final Closure/Postclosure Maintenance Plan has been deemed complete, if applicable;

(6) Land Use and/or Conditional Use Permits;

(7) (A) Current documentation of acceptable funding levels for Financial Assurances Documentation in accordance with Chapter 6, if applicable; and

(B) Current documentation of compliance with Operating Liability Requirements, if applicable (Chapter 6).

(8) The CIWMB shall ensure the facility is operating consistent with State Minimum Standards, pursuant to Subchapter 4 of Chapter 3 of this subdivision or applicable minimum standards in Title 14 (. 17200 et seq.),

(9) The EA finding that existing CEQA documentation is consistent with and supports the proposed permit and RFI or supporting information indicating the EA has found that approval of the proposed permit would not lead to any adverse environmental impacts and is exempt from the requirements of CEQA.

(c) The CIWMB shall either concur or object to the issuance of the proposed permit within sixty days of receipt, except as authorized by PRC §44009, or by operator's consent. If the CIWMB objects to a proposed permit, it shall accompany its objection with an explanation of its action, which may suggest conditions or other amendments that may render the proposed permit unobjectionable; however, such suggestions do not constitute approval of the proposed permit subject to incorporation of the suggestions.

(d) If an applicant or enforcement agency requests that revisions, additions or amendments be considered, these will be considered in accordance with the conditions specified in §21580 and Subsection (e) of §21650 respectively.

Note: Authority cited: Sections 40502 and 43020, Public Resources Code. Reference: Sections 43103, 44007-44010, and 44014, Public Resources Code.

21686. CIWMB - Change in Owner/Operator and/or Address. (new)

Within 20 days of receipt of the notification pursuant to §21630, the CIWMB shall provide a written determination of the adequacy of the financial assurances and operating liability.

Note: Authority cited: Sections 40502 and 43020, Public Resources Code. Reference: Sections 43103, 44007-44010, and 44014, Public Resources Code.

Article 3.2 CIWMB - Other Requirements

§21690. CIWMB - Report of Woodwaste Disposal Site Information. [Reserved]

Article 4. SWRCB - Development of Waste Discharge Requirements (WDRs)

.21710. SWRCB - Report Of Waste Discharge (ROWD) and Other Reporting Requirements. [C15: §2590]

(a) **General** — Any person discharging or proposing to discharge solid waste to land where water quality could be affected as a result of such discharge shall submit to the RWQCB a report of waste discharge **(ROWD)**, unless the report is waived by the RWQCB; nevertheless, the RWQCB shall not waive the report for any MSW landfill subject to regulation under SWRCB Resolution No. 93-62. After July 18, 1997, any person proposing to discharge solid waste at a waste management unit **(Unit)** that is subject to regulation by both the CIWMB/EA and the RWQCB shall make all ROWD submittals (including updates to a previously submitted ROWD) in the form of a Joint Technical Document (JTD), as provided in §21585. After July 18, 1997, this reporting requirement also applies to the expansion of the RWQCB-Permitted Area of a new or existing Unit and to the development of new Units at an existing facility. Dischargers shall submit any applicable information required by this article to the RWQCB upon request. Dischargers shall provide information on waste characteristics, geologic and climatologic characteristics of the Unit and the surrounding region, installed features, operation plans for waste containment, precipitation and drainage controls, and closure and post closure maintenance plans as set forth in §§21740, 21750, 21760, and 21769. For non-MSW Class III landfills, the RWQCB can waive the submittal of information it deems unnecessary to rendering a decision on the issuance of appropriate WDRs.

(1) [Reserved.]

(2) **Final Closure/Post-Closure Plan** — For Class II and III Units, a Final Closure and Post Closure Maintenance Plan shall be submitted with the closure notice required by .(c)(5), unless, for landfill Units, the CIWMB requires submittal at an earlier date.

(3) **Waiving Post-Closure Maintenance** — The RWQCB can waive the post closure portion of the report if the discharger successfully completes clean-closure pursuant to §21090(f) [for landfills], §21400(b)(1) [for surface impoundments], or §21410(a)(1) [for waste piles], or if the RWQCB finds that post closure maintenance is not necessary to prevent adverse impacts on waters of the state; provided that the RWQCB shall not waive post-closure maintenance for an MSW landfill subject to SWRCB Resolution No. 93-62 unless the Unit has been clean-closed. *[Note: see also §21900 for corresponding CIWMB requirements.]*

(4) **Notification of Change** — The discharger shall notify the RWQCB of changes in information submitted under the applicable SWRCB-promulgated requirements of this division, including any material change in: the types, quantities, or concentrations of wastes discharged; site operations and features; or proposed closure procedures, including changes in cost estimates. The discharger shall notify the RWQCB a reasonable time before the changes are made or become effective. No changes shall be made without RWQCB approval following authorization for closure pursuant to the site closure notice required by .(c)(5).

(5) **Construction Quality Assurance Plan (CQA Plan).**

(A) **Submittal (new Units)** — For Units constructed (or reconstructed) after July 18, 1997, the discharger shall submit a preliminary CQA Plan as an integral or separable part of the initial ROWD/JTD under .(a). The discharger shall make such changes to the CQA Plan as may be necessary to maintain continued compliance with §§20323 and 20324 *(e.g., in the event of design changes, or as directed by the RWQCB)*. For a revised CQA Plan, the discharger shall submit the revised portions of the plan at least two weeks before beginning construction of any liner system or cover system.

(B) **Submittal (existing Units)** — For existing Units that do not have a CQA Plan meeting all the foregoing requirements, the discharger shall submit such a plan, or submit suitable modifications to an existing plan, prior to constructing, installing, or modifying any engineered feature at the Unit. In the absence of such construction, installation, or modification, the discharger shall make this submittal as part of whichever of the following documents is submitted first:

1. the final closure and post-closure plan under .(a)(2); or

2. in the event that a release is discovered, as part of the proposed corrective action program under §20425(d)..

(b) **ROWD/WDR Out-Of-Date or Nonexistent** — Dischargers who own or operate a new or existing Unit which has not been classified under previous versions of these regulations, or for which the discharger has not submitted a report of waste discharge (**ROWD**) before July 18, 1997, shall notify the RWQCB of the existence of their Unit prior to July 18, 1998, and shall submit a ROWD which complies with . (a) before July 18, 1999, together with the appropriate filing fee. Dischargers who own or operate an existing Unit for which WDRs were last revised before November 27, 1984, shall submit a ROWD which complies with . (a) to the RWQCB, together with the appropriate filing fee, on request.

(c) **Notification.**

(1) **Change of Ownership** — The discharger shall notify the RWQCB in writing of any proposed change of ownership or responsibility for construction, operation, closure, or post closure maintenance of a Unit. This notification shall be given prior to the effective date of the change and shall include a statement by the new discharger that construction, operation, closure, and post closure maintenance will be in compliance with any existing WDRs and any revisions thereof. The RWQCB shall amend the existing WDRs to name the new discharger.

(2) **Response to Failure** — The discharger shall promptly notify the RWQCB of any slope failure, occurring at the Unit. The discharger shall promptly correct any failure which threatens the integrity of containment features or the Unit, after approval of the method, in accordance with a schedule established by the RWQCB.

(3) **Leachate Production Change Notification** — The discharger shall notify the RWQCB within seven days if fluid is detected in a previously dry leachate collection and removal system or unsaturated zone monitoring system, or if a progressive increase is detected in the volume of fluid in a leachate collection and removal system.

(4) **Monitoring Reports and Notifications** — The discharger shall comply with the notification (and other submittal) requirements in Article 1, Subchapter 3, Chapter 3 of this division (§20380 et seq.).

(5) **Notification of Closure.**

(A) **Landfills** — For landfills subject to the CIWMB-promulgated regulations of this division, the discharger shall notify the RWQCB that the Unit is to be closed, and shall provide such notice either at the same time as for the CIWMB, under §21110, or 180 days prior to beginning any final closure activities (for the entire Unit or portion thereof), whichever is sooner.

(B) **Other Units** — For Units not subject to the CIWMB-promulgated regulations of this division, the discharger shall notify the RWQCB of Units to be closed at least 180 days prior to beginning any final closure activities, unless the RWQCB specifies a shorter interval in the WDRs for such a Unit.

(C) **Affirmation** — The notice provided pursuant to . (c)(5)(A or B) shall include a statement that all closure activities will conform to the most recently approved closure plan and that the plan provides for site closure in compliance with all applicable federal and state regulations.

(6) **Closure Completion Notice** — The owner or operator of a Unit shall notify the RWQCB within 30 days after the completion of all closure activities for a Unit [or portion thereof, in the case of a landfill undergoing incremental closure under §21090(b)(1)(D)]. The discharger shall certify under penalty of perjury that all closure activities were performed in accordance with the most recently approved final closure plan and in accordance with all applicable regulations. The discharger shall certify that closed Units shall be maintained in accordance with an approved post closure maintenance plan unless post closure maintenance has been waived pursuant to . (a)(3).

(d) **Appropriate Professional** — Any report submitted under this section or any amendment or revision thereto which proposes a design or design change (or which notes occurrences) that might affect a Unit's containment features or monitoring systems shall be approved by a registered civil engineer or a certified engineering geologist.
NOTE: Authority cited: Section 1058, Water Code. Reference: Sections 13172, 13260 and 13267, Water Code; Section 43103, Public Resources Code.

21720. SWRCB - Waste Discharge Requirements (WDRs). (C15: §2591)

(a) **WDR Scope & Purpose** — The RWQCB shall adopt waste discharge requirements (WDRs) that implement the applicable provisions of this title.

(b) **WDR Revision** — The RWQCB shall revise WDRs as necessary to implement the provisions of this title.

(c) **Reclassification** — Unit classifications and WDRs for existing Units shall be fully reviewed in accordance with schedules established by the RWQCB. The WDRs shall be revised to incorporate reclassification and retrofitting requirements as provided in §20080(e) and §20310, and to comply with applicable monitoring and response programs required under Article 1, Subchapter 3, Chapter 3 of this division (§20380 et seq.). The RWQCB shall specify in WDRs the schedule for retrofitting of existing Units. All retrofitting shall be complete within five years from the issuance of the revised WDRs.

(d) **Local Agencies** — WDRs for new Units or for expansion of Units beyond the RWQCB-Permitted Area on July 18, 1997, shall not be effective until the RWQCB is notified that all local agencies with jurisdiction to regulate land use, solid waste disposal, air pollution, and to protect public health have approved use of the site for discharges of waste to land.

(e) **Consolidation of Requirements at Multi-Unit Facilities** — At the discretion of the RWQCB, WDRs for all Units in a single facility can be combined into a single set of WDRs applicable to the facility as a whole and to each respective Unit within the facility, but only if the requirements that apply to each respective Unit are clearly identified. Likewise, the RWQCB can consolidate the requirements relating to precipitation and drainage control systems for two or more adjacent Units, provided that such consolidated requirements reflect standards for the highest classification of Unit involved. Each solid waste Unit at a facility shall have its own respective monitoring program(s) under Article 1, Subchapter 3, Chapter 3 of this division (§20380 et seq.); nevertheless, Units can share Monitoring Points, Background Monitoring Points, sampling efforts, and reporting periods to the degree that the RWQCB concurs that such sharing does not interfere with achieving the goal of the monitoring program(s) at each respective Unit.

(f) **Records** — The discharger shall be required to maintain legible records of the volume and type of each waste discharged at each Unit and the manner and (for Units other than surface impoundments) location of discharge. Such records shall be on forms approved by the SWRCB or RWQCB and shall be maintained at the waste management facility until the beginning of the post closure maintenance period. These records shall be available for review by representatives of the SWRCB and RWQCB at any time during normal business hours. At the beginning of the post closure maintenance period, copies of these records shall be sent to the RWQCB.
NOTE: Authority cited: Section 1058, Water Code. Reference: Sections 13172 and 13263, Water Code; Section 43103, Public Resources Code.

21730. SWRCB - Public Participation. (C15: §2592)

(a) **Notification Of Interested Parties** — To ensure adequate public participation in any RWQCB proceeding relating to land disposal of wastes, the following persons and entities shall receive individual notice of any public hearing or board meeting either involving the classification of Units or involving the issuance or revision of WDRs for classified Units subject to this division:

(1) the discharger and responsible public agencies;

(2) news media serving the county as well as communities within five miles of the Unit;

(3) citizens groups representing local residents;

(4) environmental organizations in affected counties;

(5) interested industrial organizations; and

(6) for an MSW landfill at which a release has migrated beyond the facility boundary, any persons requiring notification pursuant to SWRCB Resolution No. 93 62 [see 40CFR258.55(g)(1)(iii)].

(b) **Notice Requirements** — Notice of hearings or meetings related to Units, or to discharges subject to this division, shall be given not less than 45 days before the meeting at which such actions will be taken, and copies of the agenda package shall be available not less than 30 days before the meeting. Nevertheless:

(1) enforcement actions involving releases of hazardous wastes can be taken at meetings which comply only with the shorter (10-day) notice requirements of the California State Body Open Meetings Act; and

(2) emergency actions [as described in §647.2(d) Government Code)] taken by the RWQCB are exempt from public participation and notice requirements.

(c) **Public Input Regarding a Proposed Corrective Action Program** — Regarding the adoption of corrective action measures for an MSW landfill, including any hearing preparatory to such adoption, the RWQCB shall meet the federal requirements incorporated by reference into SWRCB Resolution No. 93-62 [i.e., see §258.56(c & d) and §258.57 of 40CFR258].

NOTE: Authority cited: Section 1058, Water Code. Reference: Sections 13172, 13260 and 13302, Water Code; Section 43103, Public Resources Code.

21740. SWRCB - Waste Characteristics. (C15: §2594)

(a) **ROWD To Include** — Dischargers shall provide in the report of waste discharge ("**ROWD**," including any such report that is integrated into a Joint Technical Document, pursuant to §21750) the following information about the characteristics of wastes to be discharged at each waste management unit (Unit) addressed by the ROWD.

(1) **Constituents & Reference Numbers** — A list of the types, quantities, and concentrations of wastes proposed to be discharged at each Unit. Wastes and known waste constituents shall be specifically identified according to the most descriptive nomenclature. A listing of all anticipated hazardous constituents that could be discharged to the Unit *(e.g., household hazardous waste discharged to an MSW landfill might include constituents listed in Appendix II to 40CFR258)*; where available, this listing shall include constituent (or waste) reference numbers from listings established by DTSC or USEPA *(e.g., Appendix IX to §66264 of Title 22 of this code)*.

(2) **TSD Methods** — A description of proposed treatment, storage, and disposal methods.

(3) **Expected Decomposition Products/Rate** — An analysis of projected waste decomposition processes for each Unit indicating intermediate and final decomposition products and the period during which decomposition will continue following discharge.

NOTE: Authority cited: Section 1058, Water Code. Reference: Sections 13301 and 13304, Water Code; Section 43103, Public Resources Code.

21750. SWRCB - Waste Management Unit (Unit) Characteristics and Attributes to be Described in the ROWD. [C15: §2595 & §2547(a) // T14: §17777, §18260, §18263, & §18264]

(a) **Identify Potential Impairment** — Dischargers shall provide in the report of waste discharge ("**ROWD**", including any such report integrated into a Joint Technical Document (**JTD**), pursuant to §21585) an analysis describing how the ground and surface water could affect the Unit and how the Unit, including how any waste, if it escapes from the Unit, could affect the beneficial uses of ground water bodies (including, but not limited to, any aquifers underlying the facility) and surface water bodies. The RWQCB shall use this information to determine the suitability of the Unit with respect to ground water protection and avoidance of geologic hazards and to demonstrate that the Unit meets the classification criteria set forth in Article 3, Subchapter 2, Chapter 3, Subdivision 1 of this division (§20240 et seq.).

(b) **Support Proposed Classification** — Dischargers shall provide the data required by this section regarding the physical characteristics of the Unit and the surrounding region in order to demonstrate suitability for the appropriate Unit classification. The ROWD shall present this information in understandable written, tabular, and graphic format, as appropriate, and this information shall be at a level of detail appropriate to support the RWQCB's approving the Unit's proposed classification. Maps, plans, diagrams, and other graphics shall be

(2) **Materials** — A description of natural geologic materials in and underlying the location of both the Unit and its surroundings, including identification of each rock's type, relative age, distribution and dimension features, physical characteristics, special physical or chemical features (e.g., alteration other than weathering), distribution, the extent of any weathered zones, susceptibility to natural surface/near-surface processes, and all other pertinent lithologic data, all in accordance with current industry-wide practice *[e.g., California Division of Mines and Geology's (CDMG's) Note 44 "Guidelines for Preparing Engineering Geologic Reports" (April, 1986)]*.

(3) **Geologic Structure** — A description of the natural geologic structure of materials underlying the location of the Unit and its surroundings, including: the attitude of bedding (if any); thickness of beds (if any); the location, attitude, and condition (tight, open, clay- or gypsum-filled, etc.) of any fractures; the nature, type (anticlinal, synclinal, etc.) and orientation of any folds; the location (surface and subsurface), age, type of surface displacement, attitude, and nature *[e.g., aperture, amount of brecciation, degree of alteration and type of alteration products (tight, gouge-filled, etc.)]* of any faults; and all other pertinent, related structural data, (all of the foregoing) in accordance with current industry-wide practices *[e.g., CDMG's Note 42 "Guidelines to Geologic/Seismic Reports" (May, 1986), and CDMG Note 49 "Guidelines for Evaluating the Hazard of Surface Fault Rupture" (May, 1986)]*.

(4) **Engineering and Chemical Properties** — The results of a testing and estimation program, carried out by a registered civil engineer or certified engineering geologist, as needed to formulate and support detailed site design criteria, including:

(A) determination of engineering and chemical properties of geologic materials underlying and surrounding the Unit, and of the Unit's containment structure components (i.e., liner, LCRS, and final cover components);

(B) determination, or estimation, of the engineering and chemical properties of the waste and other layers placed, or to be placed, within the Unit.

(5) **Stability Analysis** — A stability analysis, including a determination of the expected peak ground acceleration at the Unit associated with the maximum credible earthquake (for Class II waste management units) or the maximum probable earthquake (for Class III landfills). This stability analysis shall be included as part of the ROWD (or JTD) for the proposed Unit, and an updated stability analysis (if the original analysis no longer reflects the conditions at the Unit) shall be included as part of the final closure and post-closure maintenance plan. The methodology used in the stability analysis shall consider regional and local seismic conditions and faulting. Data and procedures shall be consistent with current practice and shall be based on an identified procedure or publication. The stability analyses shall include modifications to allow for site specific surface and subsurface conditions. The peak ground acceleration so determined shall be the stability and factors of safety for all embankments, cut slopes, and associated landfills during the design life of the unit. For landfills and for waste piles and surface impoundments closed as landfills, final cover slopes shall be designed in compliance with the slope requirements of §21090.

(A) The stability analysis shall ensure the integrity of the Unit, including its foundation, final slopes, and containment systems under both static and dynamic conditions throughout the Unit's life, closure period, and post-closure maintenance period. The stability analysis shall include:

1. the method used to calculate the factors of safety (e.g., Bishop's modified method of slices, Fellinius circle method, etc.);

2. the name of any computer program used to determine the factors of safety; and

3. a description of the various assumptions used in the stability analyses (height of fill, slope and bench configuration, etc.).

(B) The stability analysis shall address all portions of the Unit and its immediate surroundings that are located in areas subject to liquefaction or unstable areas with poor foundation conditions, as identified either in the ROWD or in the Seismic Safety Element of the County General Plan, and shall address all portions of the Unit that incorporate geomembranes as part of the Unit foundation or containment system (including the final cover).

(C) The stability analysis shall be prepared by a registered civil engineer or certified engineering geologist. Except as otherwise provided in , (f)(5)(D), the report must indicate a factor of safety for the critical slope of at

least 1.5 under dynamic conditions. Regardless of the analysis method used, the stability analysis report shall include at least the following elements:

1. report preparation shall be in accordance with CDMG Note Number 42, "Guidelines for Geologic/Seismic Reports," May 1986, and CDMG Note Number 44, "Guidelines for Preparing Engineering Geologic Reports," April 1986, *[both available from the California Division of Mines and Geology (CDMG), 801 K Street, MS14-34, Sacramento, CA 95814-3532, phone 916-445-5716]* which are both incorporated by reference, and shall include the following seismicity elements:

a. a review of earthquakes during historic times;

b. location of active major faults; and

c. surface investigation of the site and surrounding area;

2. the location of the critical slope and other slopes analyzed to determine the critical slope shall be shown in map view;

3. calculations used to determine the critical slope;

4. a profile of the critical slope geometry showing the various layers including the proposed fill surface, final cover, mitigation berms, lifts or cells of waste, fluid levels, or any feature that may serve to reduce the stability of the slope or may represent a potential failure surface; and the proposed ground surface, soil or rock layers and structural features;

5. the engineering properties of the refuse and other layers making up the site, shall be analyzed when determining the critical slope. These properties shall include a site specific assessment of the strength parameters, the unit weight and, if using . (f)(5)(D), the shear wave velocity of each of these layers;

6. an assessment of the engineering properties of the underlying foundation materials under both static and dynamic conditions based on field and laboratory tests as determined necessary by a registered civil engineer or certified engineering geologist;

7. the maximum expected horizontal acceleration in rock at the site determined for the design earthquake for the Unit under §20370 [i.e., for Class II Units, the maximum credible earthquake (MCE), and for Class III Units, at least the maximum probable earthquake (MPE)], as supported by data and analysis. For Class III landfills, the maximum expected acceleration in rock from the MCE can be used instead of the MPE;

8. seismic shaking parameters other than acceleration shall also be included in any assessment of dynamic slope stability. These parameters shall include at least earthquake magnitude and duration;

9. documentation of any peer reviewed reduction factor for acceleration applied to attenuate the acceleration through the soil column or fill materials; and

10. documentation, as part of the dynamic stability determination, of any peer reviewed amplification factor used for acceleration in loose saturated soils, if the Unit is located in an area subject to liquefaction, poor foundation conditions, or seismic amplification.

(D) In lieu of achieving a factor of safety of 1.5 under dynamic conditions, pursuant to . (f)(5)(C), the discharger can utilize a more rigorous analytical method that provides a quantified estimate of the magnitude of movement. In this case, the report shall demonstrate that this amount of movement can be accommodated without jeopardizing the integrity of the Unit's foundation or the structures which control leachate, surface drainage, erosion, or gas.

(6) [Reserved.]

(7) **Fault Identification & Proximity** — Dischargers who own or operate new Class II Units [including expansions (of new or existing Units) built after November 27, 1984] shall identify any known Holocene fault within 200 feet of the facility (including any portions of such a fault underlying the Unit) in accordance with a procedure approved by the RWQCB. Dischargers who own or operate new Class III landfills [including expansions (of new or existing) landfills] shall identify any known Holocene fault underlying the landfill according to a

procedure approved by the RWQCB. After July 18, 1997, dischargers required to submit a slope stability report, under . (f)(5), shall provide a review of historical seismicity within a 100 km (62 mile) radius of the facility, including the name of the fault, type of faulting, activity on the fault, design event for the fault (for Class II Units, the fault's MCE, for Class III Units, the fault's MPE), distance from the facility, the expected ground motions (horizontal and vertical) at the facility resulting from the fault's design event, the expected duration of strong motion at the site resulting from the fault's design event, and an estimation of the cumulative duration of strong motion from aftershocks.

(g) **Hydrogeology.**

(1) **General** — An evaluation of the water bearing characteristics of the natural geologic materials identified under . (f)(2)including determination of hydraulic conductivity, delineation of all ground water zones and basic data used to determine the above.

(2) **Hydraulic Conductivity** — An evaluation of the in-place hydraulic conductivity of soils immediately underlying the Unit. This evaluation shall include:

(A) hydraulic conductivity data, in tabular form, for selected locations within the perimeter of the Unit;

(B) a map of the unit showing test locations where these hydraulic conductivity data were obtained; and

(C) an evaluation of the test procedures and rationale used to obtain these hydraulic conductivity data.

(3) **Flow Direction(s)** — An evaluation of the perennial direction(s) of ground water movement within the uppermost ground water zone(s) within one mile of the waste management facility's perimeter.

(4) **Capillary Rise** — Estimates of the height to which water rises due to capillary forces above the uppermost ground water zone(s) beneath and within one mile of the waste management facility perimeter. These estimates shall include an evaluation of the methods and rationale used in their development.

(5) **Springs** — A map showing the location of all springs within the waste management facility and within one mile of its perimeter. The map shall be accompanied by tabular data indicating the flow and the mineral quality of the water from each spring.

(6) **Water Quality** — An evaluation, supported by water quality analyses, of the quality of water known to exist under or within one mile of the waste management facility's perimeter, including all data necessary to establish the water quality protection standard (Water Standard) for the Unit, under §20390.

(7) **Background** — A tabulation of background water quality for all applicable Monitoring Parameters and indicator parameters identified for each applicable monitoring program under §§20420-20435 and for all Constituent of Concern (COCs) identified under §20395.

(A) Background water quality for an indicator parameter, Monitoring Parameter or COC in ground water shall be based on data from quarterly sampling of wells upgradient from the Unit for one year. These analyses shall:

1. account for measurement errors in sampling and analysis; and

2. account for seasonal fluctuations in background water quality, if such fluctuations are expected to affect the concentration of the waste constituent.

(B) In case an evaluation monitoring program is initiated prior to fulfilling the requirements of . (g)(7)(A), the discharger shall, where feasible, establish background water quality based on a combination of all background data then available — including (1) all background data so far taken to satisfy . (g)(7)(A), (2) all background data obtained during accelerated sampling efforts under §20425(b), and (3) all appropriate water quality data from before WDRs were issued — in lieu of the one-year monitoring program under . (g)(7)(A).

(C) Background water quality of ground water shall be based on sampling of wells that are not upgradient from the Unit only where:

1. hydrogeologic conditions do not allow the determination of the upgradient direction; or

2. sampling at other wells will provide a representative indication of background water quality.

(D) In developing the data base used to determine a background value for each indicator parameter or waste constituent in ground water, the discharger shall take a minimum of one sample from each well used to determine background. A minimum of four samples shall be taken from the entire system used to determine background water quality, each time the system is sampled. In a case where there is only one background well, the four measurements per quarter shall be obtained by taking four independent samples, pursuant to §20415(e)(12)(B), and conducting separate analyses for each such sample.

(h) **Land and Water Use.**

(1) **Well Map** — A map showing the locations of all water wells, oil wells, and geothermal wells within the facility boundary and showing the locations of all such wells within one mile outside of the facility boundary.

(2) **Well Owner** — Name and address of the owner of each well indicated in .(h)(1).

(3) **Well Information** — Well information, where available, for each water well indicated in .(h)(1) including, but not limited to:

(A) total depth of well;

(B) diameter of casing at ground surface and at total depth;

(C) type of well construction (cable tool, rotary, etc.);

(D) depth and type of perforations;

(E) name and address of well driller;

(F) year of well construction;

(G) use of well (agricultural, domestic, stock watering, etc.);

(H) depth and type of seals;

(I) lithologic, geophysical, and other types of well logs, if available; and

(J) water levels, pump tests, water quality, and other well data, if available.

(4) **Land Use** — Current land use within one mile of the perimeter of the Unit, including:

(A) types of land use *(e.g., residential, commercial, industrial, agricultural, recreational, etc.)*;

(B) types of crops;

(C) types of livestock; and

(D) number and location of dwelling units.

(5) **G.W. Use** — Current and estimated future use of ground water within one mile of the facility perimeter.

(i) **Preliminary Closure Plan** — For any proposed Unit (including a proposed lateral expansion of a Unit's RWQCB-Permitted Area) and for any Unit not yet required to undergo final closure, the ROWD shall contain a preliminary closure and post-closure maintenance plan, under §21769, containing a generalized cost estimate for closure costs and for annualized post-closure costs, supported by sufficient detail to validate the plausibility of the estimate. For any Unit (or portion thereof, in the case of a landfill undergoing complete final closure of a portion of the Unit) that is closing (or that is required to close), the ROWD shall be amended to contain a final closure plan, under §21769, containing sufficient detail for the RWQCB to validate that the closed Unit will meet all applicable SWRCB-promulgated closure-related requirements of this title, and containing an updated, itemized closure cost estimate.

NOTE: Authority cited: Section 1058, Water Code. Reference: Sections 13172 and 13267, Water Code; Section 43103, Public Resources Code.

21760. SWRCB - Design Report and Operations Plan. (C15: §2596)

(a) **Design Report.**

(1) **Preliminary and As-Built Plans** — As part of the report of waste discharge ("**ROWD**", including any such report integrated into a Joint Technical Document, pursuant to §21585), dischargers who own or operate classified waste management units (**Units**) shall submit, for each such Unit, detailed preliminary and (later, after completion) as built plans, specifications, and descriptions for all liners (under §20330) and other containment structures *(e.g., final cover, under §21090)*, leachate collection and removal system components (under §20340), leak detection system components [under §20415(b-d)], precipitation and drainage control facilities (under §20365), and interim covers installed or to be installed or used (under §20705). In addition, the ROWD shall contain a description of, and location data for, ancillary facilities including roads, waste handling areas, buildings, and equipment cleaning facilities, only insofar as the location and operation of these ancillary facilities could have an effect upon water quality.

(2) [Reserved.]

(3) **Monitoring System Plans and Rationale** — Dischargers shall submit detailed plans and equipment specifications for compliance with the ground water and unsaturated zone monitoring requirements of Article 1, Subchapter 3, Chapter 3, Subdivision 1 of this division (§20380 et seq.). Dischargers shall provide a technical report which includes rationale for the spatial distribution of ground water and unsaturated zone monitoring facilities, *[e.g., the location and design of Monitoring Points and Background Monitoring Points for each monitored medium under §20415(b-e)]*, and for the selection of other monitoring equipment. This report shall be accompanied by the following information, which shall be updated throughout the Unit's active life, closure period, and post-closure maintenance period as needed to reflect the as-built system:

(A) **Map** — a map showing the locations of proposed monitoring facility components; and

(B) **Plans & Specifications** — drawings and data showing construction details of proposed monitoring facilities. These data shall include:

1. casing and test hole diameter;
2. casing materials (PVC, stainless steel, etc.);
3. depth of each test hole;
4. the means by which the size and position of perforations shall be determined, or verified, in the field;
5. method of joining sections of casing;
6. nature of filter material;
7. depth and composition of seals;
8. method and length of time of development; and

(C) **Unsaturated Zone Monitoring** — specifications, drawings, and data for location and installation of unsaturated zone monitoring equipment.

(4) **Inspection Procedures** — Dischargers shall submit proposed construction and inspection procedures for the Unit [including, after July 18, 1997, a CQA Plan under §21710(a)(5)] to the RWQCB for approval.

(b) **Operation Plans** — Dischargers shall submit operation plans describing those Unit operations which could affect water quality, including but not limited to:

(1) a description of proposed treatment, storage, and disposal methods;

(2) contingency plans for the failure or breakdown of waste handling facilities or containment systems, including notice of any such failure, or any detection of waste or leachate in monitoring facilities, to the RWQCB, local governments, and water users downgradient of Units; and

(3) a description of inspection and maintenance programs which will be undertaken regularly during disposal operations and the post closure maintenance period.

NOTE: Authority cited: Section 1058, Water Code. Reference: Section 13360, Water Code; Section 43103, Public Resources Code.

Subchapter 4. Development of Closure/Post-Closure Maintenance Plans

21769. SWRCB - Closure and Post-Closure Maintenance Plan Requirements. [C15: §2597 // T14: §17776, §17778(g), §18260, §18261.3(a)(2 & 7), §18262, §18263, §18264]

[Note: see also §21790 et seq.]

(a) **Scope, Applicability, & Purpose** — The SWRCB-promulgated sections in this subchapter set forth the requirements for the discharger's development and implementation of the preliminary and final closure and post-closure maintenance plans and for the RWQCB's review and approval of such plans. The SWRCB-promulgated sections of this Subchapter apply to all dischargers who own or operate a Class II or Class III Unit that is subject to the SWRCB-promulgated requirements of this subdivision. The purpose of such plans is to ensure that:

(1) **Performance Standards** — the discharger will close the Unit, and will maintain the Unit during the post-closure maintenance period, in a manner that achieves applicable performance standards under §20950(a)(2); and

(2) **Funding** — the discharger provides funds, through an acceptable financial mechanism, to achieve the goals of (a)(1).

(b) **Preliminary Closure/Post-Closure Maintenance Plan.**

(1) **Purpose** — The preliminary closure and post-closure maintenance plan for a Unit shall provide a reasonable estimate of the maximum expected cost that would be incurred at any time during the Unit's projected life for a third party both to close the Unit and to carry out the first thirty years of post-closure maintenance, pursuant to all applicable SWRCB-promulgated requirements of this subdivision, including but not limited to the closure and post-closure requirements under Subchapter 5 of Chapter 3 (§20950 et seq.).

(2) **Contents** — For Units not jointly regulated by the RWQCB and the CIWMB/EA, this information shall be included as an integrated or separable *[e.g., separately bound]* part of the ROWD under §21710. For Units jointly regulated by both the RWQCB and the CIWMB/EA, this information shall be included as an integral or separable part of the JTD under §21585. At a minimum, the plan shall include:

(A) **Cost Analysis** — a lump sum estimate of the cost of carrying out all actions necessary to close the Unit, to prepare detailed design specifications, to develop the final closure and post-closure maintenance plan, and to carry out the first thirty years of post-closure maintenance, pursuant to all applicable SWRCB-promulgated requirements of Subchapter 5 of Chapter 3 (§20950 et seq.); and

(B) **Map** — a topographic map, drawn at appropriate scale and contour interval, and drawn to an appropriate level of detail, showing:

1. the boundaries of the Unit to be closed, including the proposed final limits of waste placement;
2. the boundaries of the facility; and
3. the boundaries of the waste received, if any, as of the date of the plan submittal;
4. the proposed final contours of the Unit and of its surrounding area; and
5. any changes in surface drainage patterns caused by the proposed final contours of the Unit and of its surrounding area, as compared to the preexisting natural drainage patterns.

(c) **Final Closure/Post-Closure Maintenance Plan.**

(1) **Purpose** — The purpose of the final closure and post-closure maintenance plan is:

(A) to provide, for review by the RWQCB, an accurate, detailed list and schedule of all actions necessary to close the Unit and to carry out post-closure maintenance in accordance with all applicable SWRCB-promulgated requirements of this subdivision, including but not limited to the closure and post-closure requirements under Subchapter 5 of Chapter 3 (§20950 et seq.);

(B) to provide, for review by the RWQCB, an accurate estimate of the cost of achieving each action listed in the plan; and

(C) upon the plan's being approved by the RWQCB, to provide an enforceable list and schedule of actions necessary for providing water quality protection at the Unit during the closure and post-closure maintenance periods.

(2) **Contents** — The final closure and post-closure maintenance plan for the Unit shall include at least the following information. For Units not jointly regulated by the RWQCB and the CIWMB/EA, this information shall be included as an integrated or separable [e.g., separately bound] part of the ROWD under §21710. For Units jointly regulated by both the RWQCB and the CIWMB/EA, this information shall be included as an integral or separable part of the JTD under §21585. Minimum plan contents shall include:

(A) **Itemized Cost Analysis** — a detailed itemized listing of all actions, and their associated costs, necessary to close the Unit and to carry out the first thirty years of post-closure maintenance, pursuant to all applicable SWRCB-promulgated requirements of Subchapter 5 of Chapter 3 (§20950 et seq.);

(B) **Closure Schedule** — a proposed schedule for final closure including, where appropriate, for incremental closure (complete closure of successive portions of the landfill);

(C) **Final Treatment Procedures** — a description of any final treatment procedures which the discharger proposes to use for the wastes in each Unit, including methods for total removal and decontamination, if applicable. If the discharger is proposing alternative treatment or disposal procedures for particular Units (or, as appropriate, for the entire facility), the plan shall include a description of the alternatives;

(D) **Map** — a topographic map, drawn at appropriate scale and contour interval, and drawn to an appropriate level of detail, showing:

1. the boundaries of the Unit(s) to be closed and of the facility;

2. the projected final contours of the Unit and its surrounding area;

3. any changes in surface drainage patterns, as compared to the preexisting natural drainage patterns; and

4. the final limits of waste placement;

(E) **Changes To Description Under §21750** — a revised and updated submittal of any Unit characteristics of the closed Unit to the extent that they differ from the description provided by the discharger in the existing ROWD (under §21750);

(F) **Changes To Description Under §21760** — a description of the following aspects of the closed Unit, to the extent that they differ from the description provided by the discharger under the Design Report and Operations Plan submitted pursuant to §21760:

1. the design and the location of all features and systems which will provide waste containment during the post closure maintenance period;

2. the precipitation, drainage, and erosion control features;

3. the leachate control features and procedures at closed Units, including the design and operation of the LCRS;

4. a discussion, including a map, of ground water and unsaturated zone monitoring programs for the closure and post-closure maintenance periods, addressing the location, construction details, and rationale of all monitoring facilities;

(G) **MSW** — for MSW landfills only, all additional federal requirements incorporated by reference in SWRCB Resolution No. 93-62 for the protection of water quality [see §§258.60(c-j), and §§258.61(c)(3) and (e) of 40CFR258]; and

(H) **Land Use of Closed Unit** — the proposed post-closure land use of the disposal site and the surrounding area. If the Unit is to be used for purposes other than nonirrigated open space during the post closure maintenance period, the discharger shall submit a map showing all proposed structures, landscaping, and related features to be installed and maintained over the final landfill cover. This map shall be at a scale of 1" = 100', unless the RWQCB allows use of another scale that is more appropriate to a given Unit, and shall be accompanied by:

1. **Water Balance Analysis** — a description and quantification of water entering, leaving, and remaining on site from all sources to determine potential adverse impacts due to the proposed use, and corresponding mitigative design features and monitoring schemes that will ensure the physical and hydraulic integrity of the final cover in spite of the proposed post-closure land use;

2. **Water Penetration Detection Method** — detailed design plans and description(s) of the monitoring schemes, including any associated monitoring system(s), that will effectively detect penetration of the final cover by precipitation or applied irrigation waters; and

3. **Final Cover Protection** — for Units to be closed after July 18, 1997, a description of how the features described in (c)(2)(H) will be installed, operated, and maintained in a manner that does not jeopardize the performance of the final cover [see §20950(a)(2)(A)].

(d) **Plan Review and Approval** — The RWQCB shall review and approve all preliminary and final closure and post-closure maintenance plans for all portions of the plans which are related to the protection of the waters of the state, including the associated CQA plan, for Class II Units and Class III landfills. For landfill Units jointly regulated by the RWQCB and the CIWMB/EA, the RWQCB's review and approval of preliminary and final closure and post-closure maintenance plans shall follow the same schedule as for the development or revision of WDRs (see PRC §43506). For landfills, the RWQCB shall review final closure and post-closure maintenance plans in coordination with the EA, pursuant to §21585(b & c).

NOTE: Authority cited: Section 1058, Water Code. Reference: Section 13360, Water Code, and Sections 43103, 43506, 43509, and 43601, Public Resources Code.

21770. CIWMB - Scope and Applicability. (T14:§18250)

The CIWMB-promulgated sections in this Subchapter set forth requirements that are additional to the water quality protection requirements set forth in SWRCB-promulgated §§20950, 21090, and 21769. Pursuant to §20005, closure plan review should be coordinated as appropriate with other reviewing agencies.

(a) The CIWMB-promulgated sections of this Subchapter set forth the requirements for the development and approval of closure and postclosure maintenance plans and their implementation. The development of such plans is to ensure that a solid waste landfill will be closed in such a manner as to protect the public health, safety and the environment and to ensure that adequate resources will be available to properly accomplish closure and to maintain the landfill during postclosure maintenance period.

(b) The regulations contained in this Subchapter apply to all solid waste landfills required to be permitted pursuant to PRC §44001 et seq. that were operating on or after January 1, 1988.

(c) The plans required by the CIWMB promulgated sections within this Subchapter shall include other pertinent facilities other than surface impoundments, waste piles, and LTUs regulated by the RWQCB located at the site of the solid waste landfill which are related to the disposal activities at the solid waste landfill.

(d) Closure and Postclosure Maintenance Plans shall be written plans to describe the closure of the entire landfill and maintenance requirements after closure in accordance with the requirements of the closure/postclosure standards of Article 2, Subchapter 5, Chapter 3 (§21100 et seq.). The plan shall:

(1) Identify the steps necessary to close a solid waste landfill at the point in its active life when the extent and manner of operation would make closure the most expensive;

(2) Propose a closure that minimizes the extent of postclosure maintenance necessary while ensuring protection of public health and safety and the environment; and

(3) Provide a third party with specific tasks and cost estimates for the closure and postclosure of a solid waste landfill in the event that a third party must assume the responsibility for closure and/or postclosure maintenance.

NOTE: Authority cited: Sections 40502 and 40509, Public Resources Code. Reference: Sections 43020, 43021, 43103, 43501, 43509, 44001, 44002 Public Resources Code; and Title 40, Code of Federal Regulations, Sections 258.60 and 258.61.

21780. CIWMB - Submittal of Closure and Postclosure Maintenance Plans.

(T14:§18267, §18268, and §18255)

(a) Each submittal shall be certified by a registered civil engineer or a certified engineering geologist. Each submittal shall include:

(1) The preliminary or final closure and postclosure maintenance plans containing all of the elements specified under §21790 through §21840, as applicable.

(2) Updated cost estimates for closure and postclosure activities to reflect the components under §21820 and §21840.

(3) An updated demonstration of financial responsibility in accordance with Subchapter 2 of Chapter 6 (§22205 et seq). This demonstration shall reflect the updated cost estimates for closure and postclosure activities required under (a)(2).

(b) The operator shall submit two copies of each document to the EA, the RWQCB and the local air district. All drawings shall be submitted at an appropriate scale that clearly shows all pertinent features. The closure and postclosure maintenance plans shall be clearly marked "preliminary" or "final", depending on the status. For partial final closure, those sections submitted pursuant to §21800, shall be clearly marked "partial final."

(c) Plans for complete site closure of a solid waste landfill shall be submitted in accordance with the following schedule:

(1) Preliminary closure and postclosure maintenance plans for existing solid waste landfills shall be submitted as part of the JTD or as a separate document at the time of application for each SWFP review or revision;

(2) preliminary closure and postclosure maintenance plans for new landfills not operating prior to the effective date of the regulations shall be submitted as part of the JTD at the time of application for a SWFP. For the purposes of this Subchapter, lateral expansions of landfills are considered new municipal solid waste landfills.

(3) final closure and postclosure maintenance plans for solid waste landfills shall be submitted two years prior to the anticipated date of closure. Within five years of the anticipated date of closure, the operator may submit the final closure and postclosure maintenance plans in lieu of submitting new or updated preliminary closure and postclosure maintenance plans.

(d) Partial final closure of a solid waste landfill shall be allowed in accordance with the following:

(1) for the complete closure of discrete units, partial final closure and postclosure maintenance plans shall be submitted for each unit 2 years prior to the anticipated date of closure of that discrete unit in accordance with §§21800 and 21830. Closure of such a discrete unit shall not commence until approval of the partial final closure and postclosure maintenance plans for that discrete unit. The specific closure details for each discrete unit shall be compatible with closure of the entire landfill; and

(2) for the implementation of any one or a combination of individual final closure activities, partial final closure and postclosure maintenance plans for the activities shall be approved before implementation of such closure activities.

(e) If immediate closure of a disposal site is necessary to protect public health and safety and the environment, closure plans shall be submitted in accordance with a schedule specified by the EA. An emergency corrective action plan may be required by the EA, to be submitted for approval by the EA. The emergency corrective action plan may be implemented prior to the submittal of the closure plan.

(f) The owner or operator of a MSWLF unit shall notify the EA that closure and postclosure maintenance plans have been prepared and placed in the operating record in accordance with 40 CFR 258.60(d) and 258.61(d).
NOTE: Authority cited: Section 40502, Public Resources Code; and Section 66796.22(d), Government Code. Reference: Sections 66796.22(b) and 66796.22(d), Government Code; and Sections 43020, 43021, 43022 and 43103, Public Resources Code.

21790. CIWMB - Preliminary Closure Plan Contents. (T14:§18261,18261.3)

(a) The purpose of the preliminary plan is to provide a basis for the operator to establish a preliminary estimate of closure costs certified for accuracy by a registered civil engineer or certified engineering geologist, and enable the CIWMB to assess the reasonableness of the cost estimate for non-water quality aspects of closure.

(b) The plan shall identify the steps necessary to perform either partial final closure, in accordance with §21120, or complete landfill closure and shall include, but is not limited to, the following information:

(1) a closure cost estimate pursuant to §21820;

(2) location maps indicating property boundaries and the existing, permitted, and proposed final limits of waste placement; entry roads; and structures outside the property boundary but within 1000 feet of the property boundary. A location map shall also be included showing the general location of the landfill;

(3) [Reserved];

(4) a location map of the current monitoring and control systems including: leachate control and drainage and erosion control systems as required pursuant to chapter 3 (§20180 et seq.); landfill gas monitoring and control systems as required pursuant to chapter 3 (§20180 et seq.);

(5) a description of proposed postclosure land uses;

(6) an estimate of the maximum extent of the landfill that will ever require closure at any given time during the life of the landfill;

(7) an estimate of the closure date based on volumetric calculations, including supporting documentation. The estimate shall account for the effects of settlement and for volume occupied by daily cover material; and

(8) a preliminary description of closure activities including schedules for implementation. The activities described shall include, but are not limited to:

(A) site security and structure removal pursuant to §§21135 and 21137;

(B) final cover and grading pursuant to §§21140 and 21142. The description shall include type of materials and estimate of the volume or amount needed of each type of material. If on site materials are planned for use in the final cover for the low permeability layer, test results confirming the suitability of such materials shall be included;

(C) construction quality assurance methods pursuant to §§20323 & 20324;

(D) drainage and erosion control systems pursuant to §21150;

(E) landfill gas monitoring and control systems pursuant to Article 6, Subchapter 4, Chapter 3 (§20920 et seq.);

(F) leachate monitoring and control measures pursuant to §21160.

NOTE: Authority cited: Section 40502, Public Resources Code; and Section 66796.22(d), Government Code. Reference: Section 66796.22(b) and 66796.22(d), Government Code; and Sections 43020, 43021 and 43103, Public Resources Code.

21800. CIWMB - Final Closure Plan Contents. (T14:§18262,18262.3)

(a) The purpose of the final closure plan is to provide a basis for the operator to establish an accurate detailed estimate of closure costs certified for accuracy by a registered civil engineer or certified engineering geologist, enable the CIWMB to assess the reasonableness of the cost estimate for non-water quality aspects of closure, provide a detailed plan and schedule for the operator to implement upon closure of the landfill, and allow monitoring of closure activities to determine that all requirements of landfill closure have been implemented in accordance with the appropriate plan.

(b) Final closure plans for partial final closure (i.e. the complete closure of discrete units) shall conform to the requirements of this section. Final closure plans for partial closure (i.e. implementation of any one or a combination of individual final closure activities) shall conform to the requirements of this section as applicable.

(c) The final closure plan shall include, but is not limited to, a detailed description of each item contained in §21790(b)(1) through (b)(8). In addition, the final closure plan shall include a detailed description of the sequence of closure stages, giving tentative implementation dates.

(d) The final closure plan shall also include a detailed schedule for disbursement of funds for closure activities from a trust fund, or enterprise fund if applicable, for either:

(1) advance payment for activities to be performed in accordance with the plan, or

(2) reimbursement of costs paid for activities performed in accordance with the plan

NOTE: Authority cited: Section 40502, Public Resources Code; and Section 66796.22(d), Government Code. Reference: Sections 66796.22(b) and 66796.22(d), Government Code; and Sections 43020, 43021 and 43103, Public Resources Code.

21810. CIWMB - Final Closure Plan Contents for Clean Closure. (new)

[Note: see also the SWRCB's clean closure requirements under §21090(f)]

(a) The operator of a solid waste landfill may submit a closure plan for solid waste landfills that will be closed by removing solid wastes and contaminated soils (clean closure).

(b) The purpose of the plan for clean closure is to:

(1) establish a closure method for a disposal site that will partially or completely remove solid wastes and contaminated soils to provide remediation of a threat to public health and safety, reduce or eliminate the need for postclosure maintenance, prepare the site for postclosure land uses, or recover materials for recycling or reuse;

(2) provide a basis for the operator to establish an accurate detailed cost estimate for clean closure of the site; and

(3) provide a plan and schedule for the operator to implement at the time of closure.

(c) Each submittal shall be certified by a registered civil engineer or a certified engineering geologist. The minimum components of a plan for clean closure shall include, but not be limited to:

(1) a detailed implementation schedule for clean closure activities;

(2) a characterization of the site conditions to define the extent and character of wastes present and the levels and extent of any soil contamination;

(3) a description of the excavation and material management procedures to be followed;

(4) a description of health and safety procedures to be followed and specific measures to protect public health and safety during clean closure activities; and

(5) [Reserved].

(d) The plan for clean closure shall also include a detailed schedule for disbursement of funds for closure activities in accordance with §21800(d).

(e) After clean closure activities are completed, a verification report confirming that waste and residual contaminated soils have been removed shall be prepared by a registered civil engineer or a certified engineering geologist and submitted for approval to the EA and the CIWMB. The report shall include the following information as appropriate:

(1) if the plan for clean closure was part of a remedial action, a description of any postclosure maintenance activities needed to comply with the implementation of the remedial action plan. In such cases the unit will not be deemed clean closed until completion of the corrective action.

(2) if all solid waste and contaminated soils are not removed, closure and postclosure maintenance plans and a financial assurances mechanism for closure and postclosure maintenance. Such a unit shall not be regarded as having been clean closed (see §21090(f).

NOTE: Authority cited: Section 40502, Public Resources Code; and Section 66796.22(d), Government Code. Reference: Sections 66796.22(b) and 66796.22(d), Government Code; and Sections 43020, 43021 and 43103, Public Resources Code.

21820. CIWMB - Closure Cost Estimates. (T14:§18263)

(a) The operator shall provide a written cost estimate, in current dollars, of the cost of hiring a third party to close the landfill in accordance with the submitted closure plan. Cost estimates shall meet the following criteria:

(1) Cost estimates shall equal the cost of closing the landfill at the point in its active life when the extent and manner of operation would make closure the most expensive, as indicated by the closure plan;

(2) Cost estimates shall be developed for the activities anticipated for scheduled closure. The closure cost estimate shall always be high enough to ensure that, if, at any time, the landfill had to begin to close, the cost of activities for closure would not exceed the cost estimate;

(3) Cost estimates shall include or reflect the design, materials, equipment, labor, administration and quality assurance necessary for closure;

(4) The total closure cost estimate shall be increased by a factor of 20% to account for cost over runs due to unforeseen circumstances, such as adverse weather conditions and inadequate site characterization, which would result in increased closure costs. The operator may apply to the CIWMB for, and the CIWMB may approve, a contingency percentage of less than 20% at the time that the final closure plan is approved, provided that the CIWMB finds that a lesser percentage will provide acceptable coverage of potential cost overruns;

(5) The operator shall increase the closure cost estimate when changes to the plan or at the landfill increase the cost of closure; and

(6) The operator may reduce the closure cost estimate when changes to the plan or at the landfill decrease the costs of closure. The request for reduction shall be submitted to the CIWMB for approval.

(b) Closure cost estimates shall include, but are not limited to, the following information:

(1) If the documents are preliminary closure and postclosure maintenance plans, an estimate of the cost of developing final closure and postclosure maintenance plans; and

(2) an estimate of the cost of closure activities including schedules for implementation activities. The activities described shall include, but are not limited to:

(A) an estimate of the cost to install or upgrade site security;

(B) an estimate of the cost for structure removal; and

(C) an estimate of the costs to install or upgrade the landfill gas monitoring and control systems.

(c) If the document is a preliminary plan, the items required under (b)(2)(A),(B), and (C) may be provided as lump sum estimates.

NOTE: Authority cited: Section 40502, Public Resources Code; and Section 66796.22(d), Government Code. Reference: Section 66796.22(b) and 66796.22(d), Government Code; and Sections 43020, 43021 and 43103, Public Resources Code.

21825. CIWMB - Preliminary Postclosure Maintenance Plan Contents. (T14:§18264,18264.3)

(a) The purpose of the preliminary postclosure maintenance plan is to provide a basis for the operator to establish a preliminary estimate of postclosure monitoring, maintenance, and inspection costs certified for accuracy by a

registered civil engineer or certified engineering geologist, and enable the CIWMB to assess the reasonableness of the cost estimate.

(b) The preliminary postclosure maintenance plan shall include, but is not limited to the following information:

(1) a description of the planned uses of the property during the postclosure maintenance period in accordance with §21190; and

(2) a preliminary description of the methods, procedures, and processes that will be used to maintain, monitor and inspect the closed landfill during the postclosure maintenance period to comply with §21180.
NOTE: Authority cited: Section 40502, Public Resources Code; and Section 66796.22(d), Government Code. Reference: Sections 66796.22(b) and 66796.22(d), Government Code; and Sections 43020, 43021 and 43103, Public Resources Code.

21830. CIWMB - Final Postclosure Maintenance Plan Contents. (T14:§18265,18265.3)

(a) The purpose of the final postclosure maintenance plan is to provide a basis for the operator to establish an accurate detailed cost estimate certified for accuracy by a registered civil engineer or certified engineering geologist, enable the CIWMB to assess the reasonableness of the cost estimate, and provide a detailed plan for the inspection, maintenance, and monitoring of the landfill during the postclosure maintenance period.

(b) The final postclosure maintenance plan shall include, but is not limited to, the following information:

(1) the emergency response plan as required by §21130 of Chapter 3, Subchapter 5;

(2) the persons or companies responsible for each aspect of postclosure maintenance, and their addresses and telephone numbers;

(3) a description of the planned uses of the property during the postclosure maintenance period in accordance with §21190 of Chapter 3, Subchapter 5;

(4) an as built description of the current monitoring and control systems at the landfill including a detailed description of any proposed changes to be implemented as part of closure. This description shall be kept current throughout the postclosure maintenance period;

(5) a detailed description of the methods, procedures and processes that will be used to maintain, monitor and inspect the closed landfill during the postclosure maintenance period to comply with §21180 of Chapter 3, Subchapter 5;

(6) an operations and maintenance plan for the gas control system;

(7) a summary of the requirements for reporting the results of monitoring and collection, pursuant to section 21180 of chapter 3, Subchapter 5; and

(8) the postclosure maintenance cost estimates pursuant to §21840 of this Subchapter.
NOTE: Authority cited: Section 40502, Public Resources Code; and Section 66796.22(d), Government Code. Reference: Section 66796.22(b) and 66796.22(d), Government Code; and Sections 43020, 43021 and 43103, Public Resources Code.

21840. CIWMB - Postclosure Maintenance Cost Estimates. (T14:§18266)

(a) The operator shall provide a written estimate, in current dollars, of the cost of hiring a third party to maintain, monitor, and inspect the closed landfill in accordance with the postclosure maintenance plan requirements. Cost estimates shall be subject to the following requirements:

(1) Cost estimates shall be based on the activities described in the postclosure maintenance plan and account for postclosure maintenance of the entire landfill;

(2) The cost estimate used to demonstrate financial assurance, shall be the annual cost of maintenance and monitoring anticipated during the postclosure period, multiplied by thirty (30) years; and

(3) The operator shall modify the postclosure cost estimate, in accordance with §21865 of this Subchapter, when changes in the plan or landfill conditions indicate an increase or decrease in postclosure maintenance costs. Requests for modifications shall be submitted to the CIWMB for approval.

(b) Preliminary postclosure maintenance plans shall include a lump sum estimate of the annual cost of postclosure monitoring and maintenance in accordance with (c).

(c) Final postclosure maintenance plans shall include a detailed estimate of the annual costs for postclosure monitoring and maintenance, including the following:

(1) site security pursuant to §21135;

(2) maintenance and integrity of the final cover including material acquisition, labor, and placement for repair of the final cover as required due to the effects of settlement, slope failure, or erosion;

(3) maintenance of vegetation including fertilization, irrigation and irrigation system maintenance;

(4) monitoring, operation and maintenance of the landfill gas monitoring and control systems;

(5) maintenance of the drainage and erosion control systems including clearing materials blocking drainage conveyances and repairing drains, levees, dikes and protective berms.

NOTE: Authority cited: Section 40502, 40508, and Public Resources Code. Reference: Sections 40508, 43020, 43021, 43103, 43501 and 43509, Public Resources Code; and Title 40, Code of Federal Regulations, Sections 258.72.

21860. CIWMB - Schedules for Review and Approval of Closure and Postclosure Maintenance Plans. (T14:§18271)

(a) The schedule for review and approval must conform to provisions of this section. An alternative schedule may be proposed by the operator provided it complies with applicable statute and the EA and RWQCB concur.

(b) Within 30 days of receipt of closure and postclosure maintenance plans shall be deemed complete by default unless the RWQCB, the EA (or the CIWMB, pursuant to 14CCR §18072), determines and informs the operator that the plan is incomplete pursuant to applicable CIWMB and SWRCB requirements. If determined to be incomplete, the EA and the RWQCB shall provide to each other and to the operator a list of specific items missing from the submittal.

(c) If the closure and postclosure maintenance plan is determined by the RWQCB, the EA (or the CIWMB pursuant to Title 14, §18072), to be incomplete, the operator shall resubmit a revised closure and postclosure maintenance plan incorporating all items deemed to be missing from the prior submittal within 60 days following such determination, unless the EA and the RWQCB approve an alternate schedule.

(d) Within 120 days of submittal, a complete closure and postclosure maintenance plan shall be deemed approved unless the RWQCB, the EA and, as appropriate pursuant to 14CCR §18072, the CIWMB, determines and informs the operator that the plan cannot be approved because of lack of compliance with applicable CIWMB and SWRCB requirements. The RWQCB, the EA and, as appropriate pursuant to Title 14, §18072, the CIWMB, shall coordinate their review of the closure and postclosure maintenance plans, including any revisions thereto, to the extent feasible during the 120 day period. These agencies shall also coordinate with the operator to allow for revisions, if feasible, of the closure and postclosure maintenance plan, to the extent that these revisions ensure that the plan can be approved.

(e) If the closure and postclosure maintenance plan is determined by the EA and, as appropriate pursuant to Title 14, §18072, the CIWMB, to be unapprovable, or is disapproved by the RWQCB, the operator shall resubmit a revised closure and postclosure maintenance plan that ensures compliance with applicable requirements, within 60 days following such determination or disapproval, unless the EA and the RWQCB approve an alternate schedule.

(f) Within 30 days after the end of the 120-day review and approval period, the EA and the RWQCB shall inform the CIWMB by letter of whether they have approved or denied the closure and postclosure maintenance

plan. The RWQCB shall provide copies of any WDR adopted or revised as a result of the review and approval process. In addition, the EA shall provide the CIWMB with two copies of the approvable closure and postclosure maintenance plans.

(g) Within 30 days of receipt of the approval letters from the EA and the RWQCB, and copies of the approvable closure and postclosure maintenance plans, the CIWMB shall determine if an approval letter for the plans can be issued by the CIWMB. The CIWMB shall not approve the plans if:

(1) the EA has determined the closure and postclosure maintenance plan or its revised version cannot be approved or the RWQCB has disapproved the plan; or

(2) the CIWMB determines that the closure and postclosure maintenance plan is inadequate due to substantive deficiencies in the plan or in the financial assurance mechanism, or that the mechanism is not adequately funded for that point in the landfill's life.

(h) If the CIWMB does not approve a closure and postclosure maintenance plan, it shall provide to the operator an explanation of its action and reasons for disapproval, and shall provide notice to the EA and the RWQCB.

NOTE: Authority cited: Section 40502, Public Resources Code; and Section 66796.22(d), Government Code. Reference: Sections 66796.22(b) and 66796.22(d), Government Code; and Sections 21080.5 and 43103, Public Resources Code.

21865. CIWMB - Amendment of Closure and Postclosure Maintenance Plans. (T14:§18272)

(a) Preliminary closure and postclosure maintenance plans shall be submitted as part of the JTD or a separate document every time a review or revision of the SWFP is conducted. If the preliminary closure and postclosure maintenance plans have been previously approved and a new horizontal or vertical expansion of a solid waste landfill is not proposed, the form of submittal shall be as amendments to the existing plans as necessary. Submittal shall be in accordance with §21780. The evaluation and approval of the plan amendments shall be as specified under §21860.

(b) The plans shall be amended to reflect the following:

(1) A change in operation or solid waste landfill design which would affect the implementation of the closure and/or postclosure maintenance plans;

(2) A change in the anticipated year of closure;

(3) Any change in the financial mechanism required pursuant to §22227, "Substitution of Mechanisms" or §22231, "Cancellation or Nonrenewal by a Provider of Financial Assurance"; or

(4) Updates of the cost estimates as required by Chapter 6 to reflect any changes outlined under .(b)(1) and .(b)(2). These updates shall be adjusted for inflation which has occurred since the previous approval.

NOTE: Authority cited: Section 40502, Public Resources Code; and Section 66796.22(d), Government Code. Reference: Section 66796.22(d), Government Code; and Section 43103, Public Resources Code.

21870. CIWMB - Implementation of Closure Plan. (new)

(a) Closure Plan implementation shall adhere to the schedules specified in §21800 and 21810.

(b) Closure, partial final closure, and partial closure activities shall not commence until there is an approved closure and postclosure maintenance plan for the solid waste landfill.

(c) Closure, partial final closure, and partial closure activities shall be conducted pursuant to the approved closure and postclosure maintenance plan.

(d) The EA shall be responsible for ongoing inspections of closure activities and for approval of minor changes from the specifications contained in the approved closure plan. The CIWMB shall inspect closure activities as necessary to authorize release of financial assurances and shall upon concurrence with the EA approve significant changes from the specifications contained in the approved closure plan.

(e) On the day that implementation of the closure plan begins for the complete closure of a solid waste landfill, the SWFP shall be null and void, and the provisions of the closure and postclosure maintenance plans shall be enforceable.

NOTE: Authority cited: Section 40502, Public Resources Code; and Section 66796.22(d), Government Code. Reference: Section 66796.22(d), Government Code; and Section 43103, Public Resources Code.

21880. CIWMB - Certification of Closure. (T14:§18275)

(a) The operator shall submit to the CIWMB, the EA, and the RWQCB for approval a certification, under penalty of perjury, that the solid waste landfill has been closed in accordance with the approved final closure plan.

(b) The certification shall be completed by a registered civil engineer or certified engineering geologist and include a report with supporting documentation. The report shall include a Final Construction Quality Assurance (CQA) report pursuant to Article 2 of Subchapter 1 of Chapter 3 (§20323 and §20324 et seq.) and any other documentation as necessary to support the certification. The certification, Final CQA report and any other documentation as necessary to support the certification shall be incorporated into the approved postclosure maintenance plan.

(c) Once the certification has been approved by the CIWMB and the EA, the CIWMB shall release the operator from the financial mechanism for closure.

(d) On the day that the certification of closure is approved, the closure plan shall be superseded by the postclosure maintenance plan as the enforceable document for the disposal site.

NOTE: Authority cited: Section 40502, Public Resources Code; and Section 66796.22(d), Government Code. Reference: Section 66796.22(d), Government Code; and Sections 43020, 43021, 43103 and 44006, Public Resources Code.

21890. CIWMB - Revision of Approved Plans For Closure and Postclosure Maintenance. (T14:§18276)

(a) The operator shall adhere to the final closure and postclosure maintenance plans approved pursuant to §21860. Significant changes to the closure and postclosure maintenance plans, after approval of the final plan, shall upon concurrence with the EA be approved by the CIWMB, and the RWQCB.

(b) Postclosure maintenance plans may be revised during the postclosure maintenance period upon concurrence with the EA and approval by the CIWMB, and the RWQCB.

NOTE: Authority cited: Section 40502, Public Resources Code; and Section 66796.22(d), Government Code. Reference: Sections 66796.22(b)(2) and 66796.22(h), Government Code; and Section 43103, Public Resources Code.

21900. CIWMB - Release From Postclosure Maintenance. (T14:§18277)

(a) The operator of a solid waste landfill may be released from postclosure, after a minimum period of thirty (30) years upon demonstration to and approval by the CIWMB, the EA, and the RWQCB that the solid waste landfill no longer poses a threat to the public health and safety and the environment.

NOTE: Authority cited: Sections 40502 and 43020, Public Resources Code; and Section 66796.22(d), Government Code. Reference: Section 66796.22(d), Government Code; and Sections 43020, 43021 and 43103, Public Resources Code.

Chapter 5. Enforcement
Articles 1-3. (Reserved - CIWMB)
Article 4. Enforcement by Regional Water Quality Control Board (RWQCB)

22190. SWRCB - Mandatory Closure (Cease and Desist Orders). (C15: §2593)

(a) **Source Control** — If the RWQCB finds that early closure of a waste management unit (**Unit**) is necessary to prevent (or curtail) violation of waste discharge requirements [e.g., as a source control measure in corrective action, under §20430(c)], it shall adopt a Cease and Desist Order, pursuant to §13302 of the Water Code, which requires closure according to a closure and post closure maintenance plan approved by the RWQCB.

(b) **New/Updated Plan** — Any time a Unit is subjected to early closure, under (a), the discharger shall, in accordance with a schedule of compliance issued by the RWQCB, submit to the RWQCB a report including an appropriate closure and post closure maintenance plan (under §21769), if such a plan applicable to the early-closed configuration of the Unit was not submitted with the report of waste discharge and including a revised schedule for immediate termination of operations and closure.

NOTE: Authority cited: Section 1058, Water Code. Reference: Sections 13301 and 13304, Water Code; Section 43103, Public Resources Code.

Chapter 6. Financial Assurances at Solid Waste Facilities and at Waste Management Units for Solid Waste
Subchapter 1. Definitions for Financial Assurance Demonstrations and Requirements

22200. CIWMB - Definitions. (T14:§18281)

When used in this Chapter, the following terms shall have the meanings given below:

(a) **"Accidental occurrence"** means an event, including pollution exposures, which occurs during the operation of a disposal facility prior to closure, that results in bodily injury and/or property damage, and includes continuous or repeated exposure to conditions, neither expected nor intended from the standpoint of the facility operator.

(b) **"Admitted carrier"** means an insurance company entitled to transact the business of insurance in this state, having complied with the laws imposing conditions precedent to transactions of such business.

(c) **"Annual capacity filled"** means the portion of a solid waste landfill's total permitted capacity that was filled during the following period:

(1) From August 18, 1989 until 60 days prior to the anniversary date of the establishment of a trust fund or an enterprise fund; and

(2) From 60 days prior to each anniversary date of the establishment of a trust fund or an enterprise fund that occurs before the subsequent anniversary date.

(d) **"Assets"** means all existing and all probable future economic benefits obtained or controlled by a particular entity as a result of past transactions.

(e) **"Auto"** means a land motor vehicle, trailer or semitrailer designed for travel on public roads, including any attached machinery or equipment. But "auto" does not include "mobile equipment," as defined in (aa).

(f) **"Bodily injury"** means any injury to the body, sickness or disease sustained by a person, including death resulting from any of these at any time. Damages because of "bodily injury" include damages claimed by any person or organization for care, loss of services or death resulting at any time from the "bodily injury."

"Bodily injury" excludes:

(1) "Bodily injury" expected or intended from the standpoint of the operator. This exclusion does not apply to "bodily injury" resulting from the use of reasonable force to protect persons or property.

(2) "Bodily injury" for which the operator is obligated to pay damages by reason of the assumption of liability in a contract or agreement. This exclusion does not apply to liability for damages that the operator would have in the absence of the contract or agreement.

(3) Any obligation of the operator under a workers compensation, disability benefits or unemployment compensation law or any similar law.

(4) "Bodily injury" to:

(A) An employee of the operator arising out of and in the course of employment by the operator; or

(B) The spouse, child, parent, brother or sister of that employee as a consequence of .(A) above.

This exclusion applies:

1. Whether the operator may be liable as an employer or in any other capacity; and

2. To any obligation to share damages with or repay someone else who must pay damages because or the injury.

(5) "Bodily injury" arising out of the ownership, maintenance, use or entrustment to others of any aircraft, "auto" or watercraft owned or operated by or rented or loaned to any operator. Use includes operation and loading or unloading. This exclusion does not apply to:

(A) Parking an "auto" on, or on the ways next to, premises the operator owns or rents, provided the "auto" is not owned by or rented or loaned to the operator;

(B) "Bodily injury" arising out of the operation of any of the equipment listed in .(6)(A) or .(6)(B) of the definition of "mobile equipment", found in .(aa) below.

(g) **"Cash plus marketable securities"** means all the cash plus marketable securities held by the local government on the last day of the fiscal year, excluding cash and marketable securities designated to satisfy past obligations such as pensions. Cash plus marketable securities form the numerator of the liquidity ratio.

(1) Cash and cash equivalents means bank deposits, very short-term debt securities, and money market funds.

(2) Marketable securities means interest or dividend bearing securities in the General Fund, Special Revenue Funds, Debt Service Fund, Enterprise Funds and Internal Service Funds, as reported on the comprehensive annual financial report's (CAFR's) Combined Balance Sheet and that are expected to be held for less than one year.

(3) Excluded from this definition are accounts receivable, retirement assets, real property, fixed assets, and other non-current assets, as well as any assets (including cash) in Capital Projects Funds.

(h) **"Comprehensive Annual Financial Report (CAFR)"** means annual financial report prepared by local governments.

(i) **"Cumulative capacity filled"** means the sum of the annual capacities filled since August 18, 1989.

(j) **"Current assets"** means cash or other assets or resources commonly identified as those that are reasonably expected to be realized in cash or sold or consumed during the normal operating cycle of the business.

(k) **"Current closure cost estimate"** means the most recent of the estimates prepared in accordance with §21820.

(l) **"Current liabilities"** means obligations whose liquidation is reasonably expected to require the use of existing resources properly classifiable as current assets or the creation of other current liabilities.

(m) **"Current postclosure cost estimate"** means the most recent of the estimates prepared in accordance with §21840.

(n) **"Debt service"** means the amount of principal and interest due on a loan in the latest completed fiscal year. Annual debt service is the numerator of the debt service ratio. The debt service ratio provides an indicator of ability to meet financial obligations in a timely manner.

(1) Sum of amounts in any debt service category including bond principal, other debt principal, interest on bonds, interest on other debt in the General Fund, Special Revenue Funds, Debt Service Fund, and Capital Projects Funds.

(2) Debt service amounts are reported in the comprehensive annual financial report's (CAFR's) Combined Statement of Revenues, Expenditures and Changes in Fund Balances/Equity.

(3) Interest expense in Enterprise Funds and Internal Service Funds are reported on comprehensive annual financial report's (CAFR's) Combined Statement of Revenues, Expenses and Changes in Retained Earnings/Fund Balances.

(o) **"Enterprise fund"** means a fund meeting the requirements of §22241, of Article 2, of Subchapter 3, of this Chapter, that is established to account for the financing of self-supporting activities of a government unit that renders services on a user-fee basis.

(p) **"Excess coverage"** means assurance for third party bodily injury and property damage costs that are above a specified level (i.e., above the primary coverage level or a limit of lower excess coverage) but up to a specified limit.

(q) **"Federal entity"** means the United States Government, or any department, agency, or instrumentality thereof.

(r) **"Financial means test"** means the financial assurance mechanism specified in §22246 of Article 2 of Subchapter 3 of this Chapter by which an operator demonstrates his or her ability to pay third party claims for bodily injury and property damage caused by accidental occurrences and/or to pay future postclosure maintenance costs by satisfying the prescribed set of financial criteria.

(s) **"Financial reporting year"** means the twelve-month period for which financial statements that are used to support the financial means test are prepared.

(t) **"Fully funded"** means the value of a closure and/or postclosure maintenance and/or corrective action fund is equal to, or greater than, the total current closure and/or postclosure maintenance and/or corrective action cost estimate(s) for the facility(ies) covered.

(u) **"Government securities"** means financial obligations meeting the requirements of §22242 of Article 2 of Subchapter 3 of this Chapter that are issued by a federal, state, or local government, including but not limited to, general obligation bonds, revenue bonds, and certificates of participation.

(v) **"Guarantee"** means a contract meeting the requirements of §22247, of Article 2 of Subchapter 3 of this Chapter, by which a guarantor promises that, if the operator fails to perform postclosure maintenance, or to adequately compensate legitimate third party claimants for bodily injury and/or property damage caused by an accidental occurrence, the guarantor will perform postclosure maintenance, compensate the third party for damages, or will establish and fund a trust fund in the name of the operator to pay for such activities.

(w) **"Guarantor"** means a parent corporation, or a corporation with a substantial business relationship to the operator who guarantees payment of a present or future obligation(s) of an operator.

(x) **"Insurance"** means a contract meeting the requirements of §22248 or §22251 of Article 2 of Subchapter 3 of this Chapter by which an insurer promises to pay for closure, postclosure maintenance or corrective action, or a claim by a third party for bodily injury and property damage caused by an accidental occurrence.

(y) **"Legal defense costs"** means expenses that an operator or a provider of financial assurance incurs in defending claims brought:

(1) By or on behalf of a third party for bodily injury and/or property damage caused by an accidental occurrence; or

(2) By any person to enforce the terms of a financial assurance mechanism.

(z) **"Letter of credit"** means a contract meeting the requirements of §22243, of Article 2 of Subchapter 3 of this Chapter, by which the issuing institution promises to extend credit on behalf of an operator to the CIWMB upon the presentation of the mechanism in accordance with its terms.

(aa) **"Liabilities"** means probable future sacrifices of economic benefits arising from present obligations to transfer assets or provide services to other entities in the future, as a result of past transactions or events.

(bb) **"Minimum fund balance"** means the required minimum balance maintained in a trust fund or enterprise fund in compliance with the formula(s) in §22225 or §22226 of Article 1 of Subchapter 3 of this Chapter.

(cc) **"Mobile equipment"** means any of the following types of land vehicles, including any attached machinery or equipment:

(1) Bulldozers, farm machinery, forklifts and other vehicles designed for use principally off public roads;

(2) Vehicles maintained for use solely on or next to premises the operator owns or rents;

(3) Vehicles that travel on crawler treads;

(4) Vehicles, whether self-propelled or not, maintained primarily to provide mobility to permanently mounted:

(A) Power cranes, shovels, loaders, diggers or drills; or

(B) Road construction or resurfacing equipment such as graders, scrapers or rollers;

(5) Vehicles not described in . .(1), (2), (3) or (4) above that are not self-propelled and are maintained primarily to provide mobility to permanently attached equipment of the following types:

(A) Air compressors, pumps and generators, including spraying, welding, building cleaning, geophysical exploration, lighting and well servicing equipment; or

(B) Cherry pickers and similar devices used to raise or lower workers;

(6) Vehicles not described in . .(1), (2), (3) or (4) above maintained primarily for purposes other than the transportation of persons or cargo. However, self-propelled vehicles with the following types of permanently attached equipment are not "mobile equipment" but will be considered "autos":

(A) Equipment designed primarily for:

1. Snow removal;

2. Road maintenance, but not construction or resurfacing;

3. Street cleaning;

(B) Cherry pickers and similar devices mounted on automobile or truck chassis and used to raise or lower workers; and

(C) Air compressors, pumps and generators, including spraying, welding, building cleaning, geophysical exploration, lighting and well servicing equipment.

(dd) **"Net working capital"** means current assets minus current liabilities.

(ee) **"Net worth"** means total assets minus total liabilities and is equivalent to owner's equity.

(ff) **"Operating deficit"** means total expenditures minus total revenues.

(gg) **"Parent corporation"** means a corporation that owns directly or through its subsidiaries at least 50 percent of the voting stock of another corporation.

(hh) [Reserved]

(ii) **"Pledge of revenue"** means a financial assurance mechanism meeting the requirements of §22245, of Article 2 of Subchapter 3 of this Chapter, by which a government unit promises to make specific, identified future revenue available to pay future postclosure maintenance costs.

(jj) **"Primary coverage"** means the first priority coverage for third party bodily injury and property damage costs, and closure and/or postclosure maintenance costs, up to a specified limit when used in combination with other coverage.

(kk) **"Property damage"** means physical injury to tangible property, including all resulting loss of use of that property, or loss of use of tangible property that is not physically injured. "Property damage" excludes:

(1) "Property damage" expected or intended from the standpoint of the operator.

(2) "Property damage" for which the operator is obligated to pay damages by reason of the assumption of liability in a contract or agreement. This exclusion does not apply to liability for damages that the operator would have in the absence of the contract or agreement.

(3) An obligation of the operator under a workers' compensation, disability benefits, or unemployment compensation law or similar law.

(4) "Property damages" arising out of the ownership, maintenance, use or entrustment to others of any aircraft, "auto" or watercraft owned or operated by or rented or loaned to any operator. Use includes operation and loading and unloading. This exclusion does not apply to:

(A) Parking an "auto" on, or on the ways next to, premises the operator owns or rents, provided the "auto" is not owned by or rented or loaned to the operator;

(B) "Property damage" arising out of the operation of any of the equipment listed in .(6)(A) or .(6)(B) of the definition of "mobile equipment," found in .(cc) above.

(5) "Property damage" to:

(A) Any property owned, rented, or occupied by the operator;

(B) Premises that are sold, given away, or abandoned by the operator if the "property damage" arises out of any part of those premises;

(C) Property loaned to the operator;

(D) Personal property in the care, custody, or control of the operator; and

(E) That particular part of real property on which the operator or any contractors or subcontractors working directly or indirectly on behalf of the operator are performing operations, if the "property damage" arises out of those operations, or

(F) That particular part of any property that must be restored, repaired or replaced because the operator's work was incorrectly performed on it.

(ll) **"Provider of financial assurance"** means an entity, other than the operator of a disposal facility, that provides financial assurance to the operator including, but not limited to, a trustee, an institution issuing a letter of credit, a surety company, an insurer, a guarantor, or an institution providing a financial assurance mechanism used in conjunction with an enterprise fund, government securities, or pledge of revenue.

(mm) **"Remaining cost estimate"** means the value remaining when the current value of a closure and/or postclosure maintenance fund is subtracted from the current closure and/or postclosure maintenance cost estimate(s).

(nn) **"Remaining permitted capacity"** means the total permitted capacity at the disposal facility less the cumulative capacity filled at the disposal facility since August 18, 1989.

(oo) **"Substantial business relationship"** means a business relationship that arises from a pattern of recent or ongoing business transactions.

(pp) **"Surety bond"** means a contract meeting the requirements of §22244, of Article 2, of Subchapter 3, of this Chapter, by which a surety company promises that, if the operator fails to perform required closure and/or postclosure maintenance and/or corrective action, the surety company will be liable for the operator's responsibilities as specified by the bond.

(qq) **"Tangible net worth"** means the tangible assets that remain after deducting liabilities; such assets do not include intangibles such as goodwill and rights to patents or royalties.

(rr) **"Total expenditures"** means the sum of the six items listed in subsections (1) and (2) below.

(1) Items 1-3 reported on the comprehensive annual financial report's (CAFR's) Combined Statement of Revenues, Expenses and Changes in Fund Balances/Equity:

(A) Total Expenditures of the General Fund.

(B) Total Expenditures of Special Revenue Funds.

(C) Total Expenditures of the Debt Service Fund.

(2) Items 4-6 reported on the comprehensive annual financial report's (CAFR's) Combined Statement of Revenues, Expenses and Changes in Retained Earnings/Fund Balances:

(A) Total Operating Expenses Before Depreciation of Enterprise Funds

(B) If negative, Total Non-Operating Revenues (Net) of Enterprise Funds.

(C) If negative, Total Non-Operating Revenues (Net) of Internal Service Funds.

(3) Total expenditures is used in the liquidity and debt service ratios, and operating deficit limit.

(4) Include routine capital outlays that are accounted for in the General Fund, e.g. outlays for police vehicles, copy equipment; any capital outlays that are funded on a "pay-as-you-go" basis.

(5) Exclude non-routine capital outlays, which are generally accounted for in Capital Projects Funds.

(ss) **"Total permitted capacity"** means the capacity approved by the disposal facility permit, including any changes in capacity approved by a new permit or a permit modification; but excluding any capacity filled prior to August 18, 1989.

(tt) **"Total revenues"** means the sum of the seven items listed in subsections (1) and (2) below, and is used in the calculation of costs which can be assured by the local government financial test.

(1) Items 1-4 reported on the comprehensive annual financial report's (CAFR's) Combined Statement of Revenues, Expenses and Changes in Fund Balances/Equity:

(A) Total Revenues of the General Fund.

(B) Total Revenues of Special Revenue Funds.

(C) Total Revenues of the Debt Service Fund.

(D) Total Revenues of Capital Projects Funds.

(2) Items 5-7 reported on the comprehensive annual financial report's (CAFR's) Combined Statement of Revenues, Expenses and Changes in Retained Earnings/Fund Balances:

(A) Total Operating Revenues of Enterprise Funds.

(B) If positive, Total Non-Operating Revenues (Net) of Enterprise Funds.

(C) If positive, Total Non-Operating Revenues (Net) of Internal Service Funds.

(3) Total revenues is used in calculation of operating deficit and the limit on costs.

(uu) **"Trust fund"** means a contract meeting the requirements of §22240, of Article 2, of Subchapter 3 of this Chapter, by which the operator transfers assets to a trustee to hold on behalf of the CIWMB or its designee to pay

closure costs and/or postclosure maintenance costs and/or corrective action costs and/or third party operating liability claims.

NOTE: Authority cited: Sections 40502, 43040, and 43601.5, Public Resources Code. References: Sections 43040, 43103, and 43500 through 43610.1, Public Resources Code, Part 258.74(f) and (h), Title 40 Code of Federal Regulations.

Subchapter 2. Financial Assurance Requirements
Article 1. Financial Assurance for Closure

22205. CIWMB - Scope and Applicability. (T14:§18280)

(a) This article requires operators of solid waste landfills to demonstrate the availability of financial resources to conduct closure activities.

(b) The requirements of this article apply to operators of all disposal facilities that are required to be permitted as solid waste landfills pursuant to Chapter 4 of this Division and have been or will be operated on or after January 1, 1988.

(c) Operators of all disposal facilities shall comply with the requirements of this Article upon application for issuance, amendment, modification, revision or review of a SWFP, commencing the effective date of this Article.
Note: Authority cited: Section 40502 and 43509, Public Resources Code. Reference: Sections 43103, 43500, 43600, 43602 and 43603, Public Resources Code.

22206. CIWMB - Amount of Required Coverage. (T14:§18282)

(a) Except as otherwise noted in §22228 of Article 1 of Subchapter 3 of this Chapter, the operator of each solid waste landfill shall demonstrate financial responsibility to the CIWMB for closure in at least the amount of the current closure cost estimate.

Note: Authority Cited: Section 40502, Public Resources Code. Reference: Section 43103 and 43501, Public Resources Code.

22207. SWRCB - Closure Funding Requirements. [C15: §§2574(f&g) and 2580(f)]

The requirements of this section apply to dischargers who own or operate a Class II, or Class III waste management unit (**Unit**) or a mining waste management unit (**mining Unit**).

(a) **Unit Closure Funding** — At Class II and Class III Units for which the CIWMB does not require a closure fund, the RWQCB shall require the discharger to establish an irrevocable closure fund (or to provide other means) pursuant to the CIWMB-promulgated sections of this chapter but with the RWQCB named as beneficiary, to ensure closure of each classified Unit in accordance with an approved plan meeting all applicable SWRCB-promulgated requirements of this subdivision. For solid waste disposal sites, the RWQCB shall coordinate with the CIWMB, pursuant to §20950(f).

(b) **Mining Unit Closure Funding** — For mining Units only, the discharger shall provide for adequate funding to pay for the costs of closure as required by the mining regulations of Article 1, Subchapter 1, Chapter 7 of this division (§22470 et seq.). The discharger shall provide assurance of financial responsibility acceptable to the RWQCB. The RWQCB shall periodically review financial assurances for mining Units and shall modify the financial assurances as necessary to provide continued compliance with this section. If a lead agency acting under the authority of §2774(a) of the Public Resources Code requires assurances of financial responsibility for a mining Unit, these assurances can be used to fulfill the requirement under this paragraph, provided that:

(1) the RWQCB approves the assurance; and

(2) the RWQCB is named as alternate payee.

Note: Authority cited: Section 1058, Water Code. Reference: Sections 13172,13226, 13263, and 13267, Water Code; Section 43103, Public Resources Code.

Article 2. Financial Assurance for Postclosure Maintenance

22210. CIWMB - Scope and Applicability. (T14:§18280)

(a) This article requires operators of solid waste landfills to demonstrate the availability of financial resources to conduct postclosure maintenance activities.

(b) The requirements of this article apply to operators of all disposal facilities that are required to be permitted as solid waste landfills pursuant to Chapter 4 of this Division and have been or will be operated on or after January 1, 1988.

(c) Operators of all disposal facilities shall comply with the requirements of this Article upon application for issuance, amendment, modification, revision or review of a SWFP, commencing the effective date of this Article.
Note: Authority cited: Section 40502 and 43509, Public Resources Code. Reference: Sections 43103, 43500, 43600, 43602 and 43603, Public Resources Code.

22211. CIWMB - Amount of Required Coverage. (T14:§18282)

(a) Except as otherwise noted in §22225, the operator of each solid waste landfill shall demonstrate financial responsibility to the CIWMB for postclosure maintenance in at least the amount of the current postclosure cost estimate.
Note: Authority Cited: Section 40502, Public Resources Code. Reference: Section 43103 and 43501, Public Resources Code.

22212. SWRCB - Post-Closure Funding Requirements. [C15: §§2574(f&g) and 2580(f)]

The requirements of this section apply to dischargers who own or operate a Class II or Class III waste management unit **(Unit)** or a mining waste management unit **(mining Unit)**.

(a) **Non-Mining Units** — At Class II and Class III Units for which the CIWMB does not require a closure fund, the RWQCB shall require the discharger to establish an irrevocable fund (or to provide other means) pursuant to the CIWMB-promulgated sections of this chapter but with the RWQCB named as beneficiary, to ensure post closure maintenance of each classified Unit in accordance with an approved plan meeting all applicable requirements of this subdivision. For solid waste landfills, the RWQCB shall coordinate with the CIWMB, pursuant to §20950(f).

(b) **Mining Units** — The discharger shall provide for adequate funding to pay for the costs of closure post closure maintenance at mining Units, as required by the mining regulations of Article 1, Subchapter 1, Chapter 7 of this division (§22470 et seq.). The discharger shall provide assurance of financial responsibility acceptable to the RWQCB. The RWQCB shall periodically review financial assurances for mining Units and shall modify the financial assurances as necessary to provide continued compliance with this section. If a lead agency acting under the authority of §2774(a) of the Public Resources Code requires assurances of financial responsibility for a mining Unit, these assurances can be used to fulfill the requirement under this paragraph, provided that:

(1) the RWQCB approves the assurance; and

(2) the RWQCB is named as alternate payee.
Note: Authority cited: Section 1058, Water Code. Reference: Sections 13172,13226, 13263, and 13267, Water Code; Section 43103, Public Resources Code.

Article 3. CIWMB - Financial Assurance Requirements for Operating Liability

22215. CIWMB - Scope and Applicability. (T14:§18230)

(a) This article requires operators of disposal facilities to demonstrate adequate financial ability to compensate third parties for bodily injury and property damage caused by facility operation prior to closure.

(b) Operators of all disposal facilities, except state and federal operators, shall comply with the requirements of this Article upon application for issuance, amendment, modification, revision or review of a SWFP, commencing July 1, 1992.

Authority cited: Section 40502 and 43040, Public Resources Code. Reference: Section 43103 and 43040, Public Resources Code.

22216. CIWMB - Amount of Required Coverage. (T14:§18232)

(a) An operator of one or more disposal facilities shall demonstrate financial responsibility for compensating third parties for bodily injury and property damage caused by any accidental occurrences, including exposures to pollution, in at least the amount of:

(1) One million dollars ($1,000,000) per occurrence; and

(2) One million dollars ($1,000,000) annual aggregate for 1 facility.

(3) Two million dollars ($2,000,000) annual aggregate for 2 facilities.

(4) Three million dollars ($3,000,000) annual aggregate for 3 facilities.

(5) Four million dollars ($4,000,000) annual aggregate for 4 facilities.

(6) Five million dollars ($5,000,000) annual aggregate for 5 or more facilities, which is the maximum coverage required.

(b) The required amounts of coverage shall be exclusive of legal defense costs, deductibles and any self-insured retention.

(c) The required amounts of coverage shall apply exclusively to an operator's facility or facilities located in the State of California.

(d) An operator may use one or more mechanisms to provide proof of financial assurance.

(e) If a trust fund or government securities is depleted to compensate third parties for bodily injuries and/or property damages caused by accidental occurrences, the operator shall, within one year of the depletion, demonstrate financial responsibility for the full amount of coverage required by (a) by replenishing the depleted mechanism(s) and/or acquiring additional financial assurance mechanism(s).

(f) If an environmental liability fund is depleted to compensate third parties for bodily injuries and/or property damages caused by an accidental occurrence, the operator shall, within one year of the depletion, demonstrate financial responsibility for the full amount of coverage required by §22253, as if no depletion had occurred.

Note: Authority cited: Section 40502 and 43040, Public Resources Code. Reference: Section 43040 and 43103, Public Resources Code.

Article 4. Financial Assurance Requirements for Corrective Action

22220. CIWMB - Scope and Applicability. (new)

(a) This article requires operators of disposal facilities to demonstrate the availability of financial resources to conduct corrective action activities as required under Article 1, Subchapter 3, Chapter 3 (§20380 et seq.).

(b) The requirements of this article apply to operators of all disposal facilities that are required to be permitted as solid waste landfills and have been or will be operated on or after July 1, 1991.

Note: Authority cited: Sections 40502 and 40508, Public Resources Code Reference: Sections 40508, and 43103, Public Resources Code; Section 258.73, Title 40 Code of Federal Regulations.

22221. CIWMB - Amount of Required Coverage. (T14:§17258.73)

(a) Except as otherwise noted in §22226, the operator of each disposal facility shall demonstrate financial responsibility to the CIWMB for initiating and completing corrective action for all known or reasonably foreseeable releases from the disposal facility as required under Article 1, Subchapter 3, Chapter 3 (§20380 et seq.) in at least the amount of the current corrective action cost estimate reviewed and approved by the appropriate RWQCB.

(1) The operator of each disposal facility required to demonstrate financial responsibility to undertake a corrective action program must have a detailed written estimate, in current dollars, of the cost of hiring a third party to perform the corrective action in accordance with the program required under Article 1, Subchapter 3, Chapter 3 (§20380 et seq.). The corrective action cost estimate must account for the total costs of corrective action activities as described in the corrective action plan for the entire corrective action period.

(2) The operator must annually adjust the estimate for inflation until the corrective action program is completed in accordance with Article 1, Subchapter 3, Chapter 3 (§20380 et seq.).

(3) The operator must increase the corrective action cost estimate and the amount of financial assurance provided under (a) if changes in the corrective action program or disposal facility conditions increase the maximum costs of corrective action.

(4) The operator may reduce the amount of the corrective action cost estimate and the amount of financial assurance provided under (a) if the cost estimate exceeds the maximum remaining costs of corrective action. The operator must receive authorization from the CIWMB approving the reduction of the corrective action cost estimate before adjusting the financial mechanism used to demonstrate coverage.

Note: Authority cited : Sections 40502 and 40508, Public Resources Code Reference: Sections 40508 and 43103, Public Resources Code; Section 258.73, Title 40, Code of Federal Regulations.

22222. SWRCB - Corrective Action Funding Requirements. [C15: §2550.0(b) and §2580(f)]

The requirements of this section apply to dischargers who own or operate a Class II or Class III waste management unit (**Unit**). This section does not apply to discharges of mining waste to mining waste management units (**mining Units**). *[Note: The requirements of this paragraph do not preclude the RWQCB (under authority other than this subdivision) from requiring financial assurance for a known or reasonably foreseeable release at a mining Unit.]* At Units for which the CIWMB does not require financial assurances for corrective action, the RWQCB shall require the discharger to establish an irrevocable fund (or to provide other means) pursuant to the CIWMB-promulgated sections of this chapter but with the RWQCB named as beneficiary, to ensure funds are available to address a known or reasonably foreseeable release from the Unit, pursuant to §20380(b). For addressing a known or reasonably foreseeable release at a solid waste landfill, the RWQCB shall coordinate with the CIWMB, pursuant to §20380(b) and in a manner consistent with §20950(f).

Note: Authority cited: Section 1058, Water Code. Reference: Sections 13172,13226, 13263, and 13267, Water Code; Section 43103, Public Resources Code.

Subchapter 3. Allowable Mechanisms
Article 1. CIWMB - General Requirements for Mechanisms

§22225. Minimum Closure and/or Postclosure Maintenance and/or Reasonably Foreseeable Corrective Action Fund Balance Calculation. (T14:§18282)

(a) Except as provided in §(b), and §22228, an operator using a trust fund or an enterprise fund to demonstrate financial responsibility for closure and/or postclosure maintenance and/or reasonably foreseeable corrective action costs shall maintain a fund balance equal to or exceeding the amount specified by the following provisions:

(1) By each anniversary date of the establishment of the fund, the operator shall submit the following information to the CIWMB. The estimates shall be consistent with the information in the solid waste landfill's current Report of Disposal Site Information specified in §21680, and/or the most recently submitted closure plan, or postclosure maintenance plan, and/or reasonably foreseeable corrective action cost estimate.

(A) A demonstration of the minimum fund balance calculation as required in §(a)(2);

(B) The annual capacity filled during the past year;

(C) The cumulative capacity filled;

(D) The remaining cost estimate;

(E) The remaining permitted capacity; and

(F) The total permitted capacity.

(2) On each anniversary date of the establishment of the fund, the minimum fund balance shall be increased by the quantity determined by the following formulas:

(A) For anniversary dates that occur before December 31, 1993, the minimum deposit is calculated by,

$$(C_f/C_t) \text{ X } E = \text{minimum deposit},$$

where C_f is the annual capacity filled, C_t is the total permitted capacity, and E is the current closure and/or postclosure cost and/or reasonably foreseeable corrective action costs estimate(s) covered by the fund; and

(B) For anniversary dates that occur on or after December 31, 1993, the minimum deposit is calculated by,

$$(C_f/C_r) \text{ X } E_r = \text{minimum deposit},$$

where C_f is the annual capacity filled, C_r is the remaining permitted capacity, E_r is the remaining closure and/or postclosure cost and/or reasonably foreseeable corrective action costs estimate(s) to be funded.

(3) The fund must be fully funded by the time the last shipment of waste has been received at the disposal facility.

(4) The CIWMB may approve a change of the anniversary date of the establishment of the fund only once, and at the written request of the operator. The operator may execute the anniversary date change only after the CIWMB has approved the change.

(b) If an operator establishes a trust fund or enterprise fund after using one or more alternate mechanisms specified in this Article, the initial payment into the fund must be at least the amount that the fund would contain if the trust fund or enterprise fund were established initially and annual payments were made according to the formula(s) specified in this section.

Note: Authority Cited: Section 40502, Public Resources Code. Reference: Sections 43103 and 43501, Public Resources Code.

22226. CIWMB - Minimum Fund Balance Calculation for Known Corrective Action. (T14:§17258.74)

(a) An operator using a trust fund or an enterprise fund to demonstrate financial responsibility for known corrective action costs shall maintain a fund balance equal to or exceeding the amount specified by the following provisions:

(1) Payments into the known corrective action fund must be made annually by the operator over one-half of the estimated length of the known corrective action program. This period is referred to as the pay-in period.

(2) For a trust fund or enterprise fund used to demonstrate financial assurance for corrective action, the first payment into the fund must be at least equal to one-half of the current cost estimate for corrective action, divided by the number of years in the corrective action pay-in period as defined in .(a)(1). The amount of subsequent payments must be determined by the following formula:

$$\textbf{Next Payment:} \quad \frac{RB - CV}{Y},$$

where **RB** is the most recent estimate of the required fund balance for corrective action (i.e., the total costs that will be incurred during the second half of the corrective action period), CV is the current value of the fund, and Y is the number of years remaining in the pay-in period.

(3) The initial payment into the fund must be made no later than 120 days after the corrective action remedy has been selected in accordance with the requirements of Article 1, Subchapter 3, Chapter 3 (§20380 et seq.).

(4) If the operator establishes a fund after having used one or more alternate mechanisms specified in this Subchapter, the initial payment into the fund must be at least the amount that the fund would contain if the fund were established initially and annual payments made according to the specifications of this section.

(5) The fund may be terminated by the operator only if the operator substitutes alternate financial assurance as specified in this Subchapter or is no longer required to demonstrate financial responsibility in accordance with the requirements of Article 4 of Subchapter 2 of this Chapter.

Note: Authority cited: Sections 40502 and 40508, Public Resources Code. Reference: Sections 40508 and 43103, Public Resources Code; Section 258.74 Title 40 Code of Federal Regulations.

22227. CIWMB - Substitution of Mechanisms. (T14:§18241,18293)

(a) An operator may substitute any alternate financial assurance mechanism(s) acceptable to the CIWMB as specified in this Subchapter, provided that at all times the operator maintains an effective mechanism or a combination of effective mechanisms that satisfies the applicable requirements of this Subchapter.

(b) After obtaining alternate financial assurance, an operator may request that the CIWMB terminate or authorize the termination of a financial assurance mechanism. The operator shall submit such a request in writing with evidence of alternate financial assurance.

(c) Following approval by the CIWMB, the operator may cancel a financial assurance mechanism by giving notice to the provider of financial assurance.

Note: Authority cited: Section 40502, Public Resources Code. Reference: Sections 43103, 43500-43610, Public Resources Code.

22228. CIWMB - Acceptable Mechanisms and Combination of Mechanisms. (T14:§17258.74,18233,18283)

(a) Subject to the limitations and conditions of .(b) through .(j), an operator shall use any one, or any combination of mechanisms as described in Article 2 of this Subchapter:

(1) §22240, Trust Fund;

(2) §22241, Enterprise Fund;

(3) §22242, Government Securities;

(4) §22243, Letter of Credit;

(5) §22244, Surety Bond;

(6) §22245, Pledge of Revenue;

(7) §22246, Financial Means Test;

(8) §22247, Guarantee;

(9) §22248, Closure and/or Postclosure Maintenance and/or Reasonably Foreseeable Corrective Action Costs Insurance;

(10) §22249, Local Government Financial Test;

(11) .22249.5, Local Government Guarantee;

(12) §22250, Federal Certification;

(13) §22251, Liability Insurance;

(14) §22252, Self-Insurance and Risk Management;

(15) §22253, Insurance and Environmental Fund; and

(16) §22254, State Approved Mechanism.

(b) Any mechanism(s) used to demonstrate financial responsibility shall be updated within 60 days after changes are made in the amount of any current closure or postclosure cost estimate or third party liability coverage requirement or corrective action cost estimate covered by the mechanism(s).

(c) If a combination of mechanisms as described in Article 2 of this Subchapter are chosen, the operator shall designate one mechanism as "primary" and all others as "excess" coverage.

(d) If an operator combines a trust fund and/or an enterprise fund with any other mechanism to cover closure costs and/or postclosure maintenance costs and/or third party operating liability coverage requirements and/or corrective action costs, the operator may only use the fund buildup authorized by §22225 and/or §22226, for the portion of closure and/or postclosure maintenance costs and/or corrective action costs covered by the trust fund and/or enterprise fund.

(e) The enterprise fund, government securities, local government financial test, and self-insurance and risk management mechanisms are acceptable only for disposal facilities operated by government agencies. A local government guarantee and a pledge of revenue may be used by an operator or provider of financial assurances that is a government agency for a disposal facility to demonstrate financial responsibility for postclosure maintenance and/or corrective actions.

(f) An operator shall not combine a performance bond or a performance local government guarantee with any other mechanism(s) for closure, for postclosure maintenance, or for corrective action.

(g) The financial means test and guarantee mechanisms are acceptable only for disposal facilities operated by private firms. A private operator may combine a financial means test with a guarantee only if, for the purpose of meeting the requirements of the financial means test, the financial statements of the operator are not consolidated with the financial statements of the guarantor.

(h) The insurance and environmental fund mechanism shall not be combined with any other mechanisms identified in .(a).

(i) The Federal Certification mechanism provided in §22250 shall only be used by federal entities.

(j) A government agency may act as a provider of financial assurance for a disposal facility by using a pledge of revenue to demonstrate financial responsibility for postclosure maintenance on behalf of a private operator, if either:

(1) The agency owns the facility; or

(2) The agency is the rate setting authority and has control of the waste stream in the jurisdiction where the disposal facility is located.

(k) A government agency may provide a local government guarantee for a disposal facility of another government agency or private company.

NOTE: Authority cited: Sections 40502, and 43040, and 43601.5, Public Resources Code. References: Sections 43040, 43103, and 43500 through 43610 43610.1, Public Resources Code, Part 258.74(f) and (h), Title 40 Code of Federal Regulations.

22229. CIWMB - Use of Multiple Mechanisms. (T14:§17258.74)

(a) An operator may satisfy the requirements of this Chapter by establishing more than one financial mechanism per disposal facility. The mechanisms must be as specified in Article 2 of this Subchapter, except that it is the combination of mechanisms, rather than the single mechanism, which must provide financial assurance for an amount at least equal to the current coverage requirement of Subchapter 2.

Note: Authority cited: Sections 40502, Public Resources Code. Reference: Sections 43103, 43500 through 43610, Public Resources Code.

22230. CIWMB - Use of Mechanism(s) for Multiple Facilities. (new)

(a) An operator may use one or more of the financial assurance mechanisms specified in Article 2 of this Subchapter, to provide financial assurance for more than one disposal facility. The amount of funds provided shall be no less than the sum of funds that would be available if a separate mechanism had been established and maintained for each disposal facility. In directing funds for designated activities of any of the disposal facilities covered by the mechanism(s), only the amount of funds designated for that activity at that disposal facility may be used.

Note: Authority cited: Sections 40502, Public Resources Code. Reference: Sections 43103, 43500 through 43610, Public Resources Code.

22231. CIWMB - Cancellation or Nonrenewal by a Provider of Financial Assurance. (T14:§17258.74,§18242,18294)

(a) Except as otherwise provided in §22232, a provider of financial assurance may cancel or not renew a financial assurance mechanism by sending a notice of termination by certified mail to the operator, and the CIWMB.

(1) Termination of a letter of credit, a surety bond, an insurance policy, or a guarantee shall not occur until 120 days after the date on which the operator, and the CIWMB have received the notice of termination, as evidenced by the return receipts.

(2) If a provider of financial assurance cancels or fails to renew a mechanism for reasons other than its bankruptcy or incapacity, the operator shall obtain alternate coverage within 60 days after receiving the notice of termination. If the operator fails to obtain alternate coverage within the 60 days, the operator shall notify the CIWMB of such failure.

(b) The closure and/or postclosure maintenance and/or reasonably foreseeable corrective action costs insurance policy, issued in accordance with §22248, shall provide that the insurer may not cancel, terminate or fail to renew the policy except for failure to pay the premium. The automatic renewal of the policy shall, at a minimum, provide the insured with the option of renewal at the face amount of the expiring policy. If there is a failure to pay the

premium, the insurer may cancel the policy by sending notice of cancellation by certified mail to the operator, and the CIWMB 120 days in advance of cancellation. If the insurer cancels the policy, the operator must obtain alternate financial assurance as specified in §22228. If the operator fails to demonstrate alternate financial assurance as specified in §22228 within 60 days after receiving the notice of termination, the CIWMB may allow the insurer an extension to the term of the insurance policy for a period of time shorter than one year. Cancellation, termination, or failure to renew will not occur and the policy will remain in full force and effect in the event that on or before the date of expiration:

(1) The CIWMB or enforcement agency deems the disposal facility abandoned; or

(2) The permit is terminated or revoked or a new permit is denied by the CIWMB or enforcement agency; or

(3) Closure is ordered by the CIWMB, or any other state or federal agency, or a court of competent jurisdiction; or

(4) The operator is named as a debtor in a voluntary or involuntary proceeding under Title 11 (Bankruptcy) U.S. Code; or

(5) All delinquent premium payments have been brought current.

(c) Cancellation or nonrenewal of third party operating liability insurance or self-insurance and risk management for third party operating liability coverage shall occur no less than 60 days after the date on which the operator, and the CIWMB have received the notice of termination, as evidenced by the return receipts; except in the case of non-payment of insurance premiums, in which case cancellation shall occur no less than 10 days after the date on which the operator, and the CIWMB have received the notice of termination.
Note: Authority cited: Section 40502 and 43040, Public Resources Code. Reference: Sections 43040, 43103 and 43500-43610, Public Resources Code.

22232. CIWMB - Bankruptcy or Other Incapacity of Operator or Provider of Financial Assurance. (T14:§18243,18295)

(a) Within 10 days after commencement of a voluntary or involuntary proceeding under the Bankruptcy Code, Title 11 U.S.C. sections 101-1330 in which:

(1) The operator is named as debtor, the operator shall notify the CIWMB by certified mail of such commencement.

(2) A provider of financial assurance is named as debtor, such provider shall notify the operator, and the CIWMB certified mail of such commencement.

(b) An operator shall be deemed to be without the required financial assurance in the event of bankruptcy of its provider of financial assurance, or in the event of a suspension or revocation of the authority of the provider of financial assurance to issue a mechanism. If such an event occurs, the operator shall demonstrate alternate financial assurance as specified in this Article within 60 days after receiving notice of the event. If the operator fails to obtain alternate financial assurance within 60 days, the operator shall notify the CIWMB within 10 days of such failure.
Note: Authority cited: Section 40502 and 43040, Public Resources Code. Reference: Sections 43040, 43103 and 43500-43610, Public Resources Code.

22233. CIWMB - Record Keeping and Reporting. (T14:§18244,18297)

(a) An operator shall maintain evidence of all financial assurance mechanisms until the operator is released from the requirements as specified in §22235. This evidence shall be maintained at each disposal facility, whenever possible, or at an alternate, designated location approved by the CIWMB and which is accessible to the operator, and available for CIWMB staff review.

(b) An operator shall maintain the following types of evidence, and an original or copy of each mechanism used to demonstrate financial responsibility under this Chapter and documentation of the estimated total permitted capacity of the solid waste landfill.

(1) **Trust Fund.** An operator using a trust fund shall maintain documentation of the remaining capacity filled during the past year for each disposal facility covered by the fund for each year of the buildup period and a copy of the trust agreement and statements verifying the current balance of the fund.

(2) **Enterprise Fund.** An operator using an enterprise fund shall maintain documentation of the remaining capacity filled during the past year for each disposal facility covered by the fund for each year of the buildup period and a copy of the following:

(A) All official resolutions, forms, letters, or other pertinent documents generated to establish the fund;

(B) The annual financial statements of the fund; and

(C) With respect to the financial assurance mechanism into which enterprise fund revenue is deposited:

1. Identify the disposal facilities and the current closure and/or postclosure costs estimate(s) and/or third party operating liability coverage requirement and/or corrective action cost estimate(s) covered by the mechanism;

2. Include a letter from an authorized officer of the institution maintaining the mechanism identifying the amount of coverage provided by the mechanism as of the date of its establishment and each anniversary date of establishment; and

3. Include a copy of the evidence documenting that the mechanism meets the requirements of §22241.

(3) **Government Securities.** An operator using government securities shall maintain a copy of the following:

(A) All official resolutions, forms, letters, or other pertinent documents generated to issue the securities;

(B) The terms of issuance of the securities; and

(C) With respect to the mechanism into which the funds generated by the issuance are deposited, the information listed in §22233(b)(2)(C)1, 2 and 3.

(4) Pledge of Revenue Agreement. An operator using a pledge of revenue shall do both of the following:

(A) Maintain a copy of the following:

1. All official resolutions, forms, letters, and other pertinent documentation generated to authorize the pledge of revenue;

2. The agreement between the CIWMB and the operator or provider of financial assurance as specified in §22245; and

3. Documentation that the pledged revenue will be available in a timely manner to pay postclosure maintenance costs.

(B) Submit to the CIWMB, at least annually in conjunction with the adjustment of cost estimates pursuant to §22236, a demonstration that the pledge is still in effect.

(5) **Financial Means Test.** An operator using a financial means test shall maintain a copy of the information specified in §22246.

(6) **Guarantee.** An operator using a guarantee shall maintain documentation of the guarantor's qualifications for providing a guarantee under §22246 and §22247.

(7) **Closure and/or Postclosure Maintenance and/or Reasonably Foreseeable Corrective Action Costs Insurance.** An operator using closure and/or postclosure maintenance and/or reasonably foreseeable corrective action costs insurance shall maintain a copy of the insurance certificate submitted to the CIWMB, the insurance policy and any endorsements thereon.

(8) **Operating Liability Insurance.** An operator using third party operating liability insurance shall maintain the original or a copy of the insurance policy in addition to the original or a copy of the liability insurance endorsement or the certificate of liability insurance.

(9) **Self-Insurance and Risk Management.** An operator using self-insurance and risk management shall maintain:

(A) The name and qualifications of the currently employed risk manager;

(B) Pertinent documents verifying the ongoing activity of the operator's safety and loss prevention program; and

(C) Pertinent documents showing procedures for timely investigation and resolution of any claims for third party damages caused by accidental occurrences and other self-insured losses.

(10) **Insurance and Environmental Fund.** An operator using the insurance and environmental fund shall maintain the original or a copy of the comprehensive general liability insurance coverage certification and a copy of the environmental liability fund agreement and statements verifying the current balance of the environmental liability fund. If self-insurance and risk management is utilized for the insurance coverage, documentation shall be maintained as identified in .(9).

(11) Local Government Financial Test. An operator using a local government financial test shall maintain a copy of the information specified in §22249.

(12) Local Government Guarantee. An operator using a guarantee shall maintain documentation of the guarantor's qualifications for providing a guarantee under §22249 and §22249.5.

(c) An operator shall submit the documentation of current evidence of financial responsibility listed in .(b) to the CIWMB whenever a financial assurance mechanism is established or amended or canceled or not renewed for any reason:

(1) In the case of a trust fund such documentation shall include the original mechanism and a copy of the current statement verifying the balance of the account;

(2) In the case of government securities such documentation shall include the information as specified in .(b)(3);

(3) In the case of a letter of credit, surety bond, closure and/or postclosure maintenance and/or reasonably foreseeable corrective action costs insurance, financial means test, or guarantee, such documentation shall include the original mechanism and all amendments;

(4) In the case of insurance or self-insurance and risk management for third party operating liability coverage, such documentation shall include the original insurance endorsement, certificate of insurance, certificate of self-insurance and risk management, and any endorsements thereon;

(5) In the case of the insurance and environmental liability fund, the insurance or self-insurance and risk management documentation shall include the original certification of comprehensive general liability insurance, or certification of self-insurance and risk management. The documentation for the environmental liability fund shall include the original environmental liability fund agreement and a copy of the current statement verifying the balance of the account, as specified in §22253.

(d) An operator shall annually submit written notice to the CIWMB of the number of claims paid and the total dollar amount paid as a result of any accidental occurrences at the disposal facility. This information shall be compiled for the previous calendar year and submitted to the CIWMB by March 1st of each year.

NOTE: Authority cited: Sections 40502, 43040, and 43601.5, Public Resources Code. References: Sections 43040, 43103, and 43500 through 43610.1, Public Resources Code, Part 258.74(f) and (h), Title 40 Code of Federal Regulations.

22234. CIWMB - Disbursements from Financial Mechanisms. (T14:§17258.74)

(a) The operator, or other person authorized to conduct closure, postclosure maintenance, or corrective action activities may request disbursements from the CIWMB for these expenditures. Requests for disbursement will be granted by the CIWMB only if:

(1) Sufficient funds are remaining in the financial mechanism(s) to cover the remaining costs of closure, postclosure maintenance, or corrective action; and

(2) Justification and documentation of the cost is presented to the CIWMB for review and approval in conjunction with approved final closure and postclosure maintenance plans, or an approved corrective action plan.

(b) The CIWMB shall authorize disbursements from an established closure or postclosure maintenance financial assurance mechanism to the RWQCB for the costs of closure or postclosure maintenance if the RWQCB finds that the operator has failed to perform closure or postclosure maintenance as required by the closure plan or postclosure maintenance plan as approved by the RWQCB and the CIWMB, or as required by an Order issued by the RWQCB, including Waste Discharge Requirements (**WDRs**), Cease and Desist Orders (**CDOs**), and/or Cleanup and Abatement Orders (**CAOs**).

(c) The CIWMB shall authorize disbursements from an established corrective action financial assurance mechanism to the RWQCB for the costs of corrective action if the RWQCB finds that the operator has failed to perform corrective action as required by the corrective action workplan as approved by the RWQCB and the CIWMB, or as required by an Order issued by the RWQCB, including WDRs, CDOs, and/or CAOs.
Note: Authority Cited: Section 40502, Public Resources Code. Reference: Sections 43103, 43500 - 43610, Public Resources Code; Title 40, Code of Federal Regulations, Section 258.74(a)(7).

22235. CIWMB - Release of Financial Assurance Requirements. (T14:§18245,18298)

(a) After receiving and approving certification of closure from the operator as specified by §21880, the CIWMB shall notify the operator and the provider of financial assurance in writing, that he or she is no longer required to demonstrate financial responsibility for closure and third party operating liability claims, pursuant to this Chapter, at the particular disposal facility pursuant to this Article.

(b) When operational control of a disposal facility is transferred, the existing operator shall remain subject to the requirements of this Chapter until the new operator provides acceptable financial assurances to the CIWMB.

(c) When the CIWMB determines that an operator has completed postclosure maintenance in accordance with the applicable postclosure plan, the CIWMB shall notify the operator in writing that it is no longer required to maintain financial assurance for postclosure maintenance of the particular solid waste landfill pursuant to this Chapter.

(d) When the CIWMB releases an operator that is using a trust fund or a similar financial assurance mechanism in conjunction with an enterprise fund or government securities from the requirements of this Chapter, the CIWMB shall authorize the termination of the trust fund or the similar mechanism.
Note: Authority cited: Section 40502 and 43040, Public Resources Code. Reference: Sections 43040, 43103 and 43500-43610, Public Resources Code.

22236. CIWMB - Annual Inflation Factor. (T14:§18272)

The operator shall submit, by June 1 of each year, a report calculating the increase in the cost estimates for closure and/or postclosure maintenance and/or corrective action due to the inflation factor for the previous calendar year. The inflation factor is derived from the annual Implicit Price Deflator for Gross National Product as published annually by the U.S. Department of Commerce in its Survey of Current Business, which is incorporated by reference. The inflation factor is the result of dividing the latest annual published deflator by the deflator for the previous year. The operator shall increase the monetary amount of the financial mechanism required under this Chapter based upon this inflation factor. The mechanism may not be decreased other than as a result of the closure and/or postclosure maintenance and/or corrective action plan amendment process.

Note: Authority Cited: Section 40502, Public Resources Code. Reference: Sections 43103 and 43501, Public Resources Code.

22237. CIWMB - Depository Trust Fund. (T14:§18296)

(a) The CIWMB may require an operator using a letter of credit, a surety bond, or, as applicable, a financial assurance mechanism used in conjunction with an enterprise fund or with government securities, to establish a depository trust fund meeting the requirements of (c) if:

(1) The operator fails to demonstrate alternate financial assurance within 60 days after receiving notice of cancellation of the mechanism; or

(2) The operator fails to perform closure or postclosure maintenance or corrective action in accordance with the applicable approved closure or postclosure maintenance plan and permit requirements or corrective action requirements of Article 1, Subchapter 3, Chapter 3 (§20380 et seq.), when required to do so by the CIWMB or RWQCB and, in the case of a performance bond, the surety company fails to perform such activities on behalf of the operator.

(b) The CIWMB may require an institution issuing a letter of credit, a surety company, or, as applicable, a provider of a financial assurance mechanism used in conjunction with an enterprise fund or government securities to:

(1) Establish a depository trust fund meeting the requirements of (c) if the operator fails to establish a depository trust fund as required by (a); and

(2) Place into the depository trust fund an amount of funds, stipulated by the CIWMB, up to the limit of funds provided by the financial assurance mechanism.

(c) The depository trust fund shall meet the requirements of §22240.

(d) The CIWMB may draw on the depository trust fund as specified by the trust agreement.

(e) If, at any time, due to interest earned or over deposit, the value of the depository trust fund is greater than the required amount of coverage minus the amount of coverage demonstrated by other mechanisms, the provider of financial assurance that established the depository trust fund may request in writing that the CIWMB authorize the release of the excess funds. No later than 60 days after receiving such a request, the CIWMB will review the request and, if any excess funds are verified, will instruct the trustee to release the funds.
Note: Authority Cited: Section 40502, Public Resources Code. Reference: Sections 43103, 43500-43610, Public Resources Code.

Article 2. CIWMB - Financial Assurance Mechanisms

22240. CIWMB - Trust Fund. (T14:§17258.74,18234,18284)

(a) The trust fund shall have a trustee that is authorized to act as a trustee and whose trust operations are regulated and examined by a federal or state agency.

(b) The trust agreement shall be worded as specified by and established by using Form CIWMB 100 (4/96) which is incorporated by reference, with appropriate amendments to identify that the mechanism is utilized for closure and/or postclosure maintenance and/or third party operating liability and/or corrective action.

(c) If, at any time, the value of the trust fund is greater than the required amount of coverage minus the amount of coverage demonstrated by another mechanism, the operator may request in writing that the CIWMB authorize the release of the excess funds. The CIWMB shall review the request within 90 days of receipt of the request. If any excess funds are verified, the CIWMB shall instruct the trustee to release the funds.
Note: Authority cited: Section 40502 and 43040, Public Resources Code. Reference: Section 43040, 43103 and 43500-43610, Public Resources Code.

22241. CIWMB - Enterprise Fund. (T14:§18285)

(a) The enterprise fund shall dedicate its revenue exclusively or with exclusive first priority to financing closure and/or postclosure maintenance and/or corrective action.

(b) Revenue generated by an enterprise fund shall be deposited into a financial assurance mechanism that the operator demonstrates, to the satisfaction of the CIWMB, meets the following requirements:

(1) The mechanism will provide equivalent protection to a trust fund in ensuring that the assured amount of funds shall be available in a timely manner for closure and/or postclosure maintenance and/or corrective action;

(2) The revenue deposited into the mechanism will be used exclusively to finance closure and/or postclosure maintenance and/or corrective action, as applicable, and will remain inviolate against all other claims, including any claims by the operator, the operator's governing body, and the creditors of the operator and its governing body;

(3) The mechanism authorizes the CIWMB to direct the provider of financial assurance to pay closure or postclosure maintenance or corrective action costs if the CIWMB determines that the operator has failed or is failing to perform closure or postclosure maintenance or corrective action activities, as applicable, as covered by the mechanism;

(4) The financial operations of the provider of the financial assurance are regulated by a federal or state agency, or the provider is otherwise certain to maintain and disburse the assured funds properly;

(5) If the provider of financial assurance has authority to invest revenue deposited into the mechanism, the provider shall exercise investment discretion similar to a trustee; and

(6) The mechanism meets other requirements that the CIWMB determines are needed to ensure that the assured amount of funds shall be available in a timely manner for closure and/or postclosure maintenance and/or corrective action.

Note: Authority Cited: Section 40502, Public Resources Code. Reference: Sections 43103, 43500-43610, Public Resources Code.

22242. CIWMB - Government Securities. (T14:§18235,18286)

(a) The terms of issuance of government securities shall specify that proceeds from the sale of the securities shall be deposited into a financial assurance mechanism that meets the requirements of (b).

(b) The securities shall have been issued and the proceeds already deposited into the financial assurance mechanism that provides equivalent protection to a trust fund by meeting the following requirements:

(1) Proceeds from the sale of securities shall be used exclusively and only as applicable, to:

(A) Pay costs of closure activities identified in the most recently approved closure plan; and/or

(B) Pay costs of postclosure maintenance identified in the most recently approved postclosure maintenance plan; and/or

(C) Pay claims by third parties for bodily injury and property damage caused by accidental occurrences; and/or

(D) Pay costs of corrective action activities in the most recently approved corrective action plan; and

(E) All funds shall remain inviolate against all other claims, including any claims by the operator, the operator's governing body, and the creditors of the operator and its governing body;

(2) The financial operations of the provider of the financial assurance shall be regulated by a federal or state agency, or the provider shall be otherwise certain to maintain and disburse the assured funds properly;

(3) If the provider of financial assurance has authority to invest revenue deposited into the mechanism, the provider shall exercise investment discretion similar to a trustee; and

(4) The mechanism meets other reasonable requirements that the CIWMB determines are necessary to ensure that the assured funds shall be available in a timely manner.
Note: Authority cited: Section 40502 and 43040, Public Resources Code. Reference: Section 43040, 43103 and 43500-43610, Public Resources Code.

22243. CIWMB - Letter of Credit. (T14:§17258.74, 18287)

(a) The institution issuing a letter of credit shall have the authority to issue letters of credit and its letter-of-credit operations shall be regulated and examined by a federal or state agency.

(b) The letter of credit shall be worded and completed, with appropriate amendments to identify that the mechanism is utilized for closure and/or postclosure maintenance and/or corrective action costs, as specified by form CIWMB 101 (4/96) which is incorporated by reference. The original mechanism must be submitted to the CIWMB.

(c) The letter of credit shall be accompanied by a letter from the operator identifying the number, issuing institution, and date of issuance of the letter of credit and the name, address, solid waste information system number, and amount of funds assured by the letter of credit for closure and/or postclosure maintenance and/or corrective action for each solid waste landfill. If the letter of credit is for more than one coverage requirement and/or for more than one solid waste landfill, appropriate sublimits must also be clearly identified within the letter of credit.

(d) The letter of credit shall be irrevocable and shall be issued for a period of at least one year, except as noted in (d)(2).

(1) The letter of credit shall provide that the expiration date will be automatically extended for a period of at least one year, unless the issuing institution provides notice of termination as specified in §22231.

(2) If an operator fails to demonstrate alternate coverage within 60 days after receiving a notice of termination, the CIWMB may allow an issuing institution an extension to the term of a letter of credit for a period of time shorter than one year.

(e) The issuing institution shall become liable under the terms of the letter of credit if the CIWMB determines that the operator has failed or is failing to perform closure or postclosure maintenance or corrective action activities as guaranteed by the mechanism.

(f) The operator may cancel the letter of credit only if alternate financial assurance is substituted as specified in §22227 or if the operator is released from the requirements of this section in accordance with §22235.
Note: Authority cited: Section 40502, Public Resources Code. Reference: Sections 43103, 43500-43610, Public Resources Code.

22244. CIWMB - Surety Bond. (T14:§17258.74, 18288)

(a) The status of the surety company issuing a surety bond shall be among those listed as holding certificates of authority as acceptable sureties on Federal bonds and as acceptable reinsuring companies in Circular 570 of the U.S. Department of the Treasury which is published on July 1 of each year in the Federal Register.

(b) The penal sum of the bond must be in an amount at least equal to the closure and/or postclosure and/or the corrective action cost estimate, except as provided in §22228.

(c) The surety bond shall be worded and completed as specified by one of the following forms, which shall be supplied by the CIWMB. The original mechanism must be submitted to the CIWMB:

(1) Form CIWMB 102(a) (4/96) which is incorporated by reference, for a surety bond guaranteeing performance of closure; or

(2) Form CIWMB 102(b) (4/96) which is incorporated by reference, for a surety bond guaranteeing performance of postclosure maintenance; or

(3) Form CIWMB 102(c) (4/96) which is incorporated by reference, for a surety bond guaranteeing performance of reasonably foreseeable and/or known corrective action activities; or

(4) Form CIWMB 103(a) (4/96) which is incorporated by reference, for a surety bond guaranteeing payment of closure costs; or

(5) Form CIWMB 103(b) (4/96) which is incorporated by reference, for a surety bond guaranteeing payment of postclosure maintenance costs; or

(6) Form CIWMB 103(c) (4/96) which is incorporated by reference, for a surety bond guaranteeing payment of reasonably foreseeable and/or known corrective action costs.

(d) The surety company shall become liable under the terms of the bond if the CIWMB determines that the operator has failed or is failing to perform closure or postclosure maintenance or corrective action as guaranteed by the bond.

(e) Payments made under the terms of the bond will be deposited by the surety directly into the depository trust fund, as identified in §22237.

(f) The operator may cancel the bond only if alternate financial assurance is substituted as specified in §22227 or if the operator is no longer required to demonstrate financial responsibility in accordance with §22235.
Note: Authority cited: Section 40502, Public Resources Code. Reference: Sections 43103, 43500-43610, Public Resources Code.

22245. CIWMB - Pledge of Revenue. (T14:§18290)

(a) A pledge of revenue shall consist of a resolution by the governing body of the operator or provider of financial assurance authorizing an agreement between the operator or provider of financial assurance and the CIWMB to establish the pledge. The resolution and the agreement shall remain effective continuously throughout the period in which the pledge of revenue is used to satisfy the requirements of Subchapter 2 of this Chapter.

(b) The agreement establishing the pledge of revenue shall contain the following items:

(1) The types and sources of pledged revenue;

(2) The amount of revenue pledged from each source;

(3) The period of time that each source of revenue is pledged to be available; and

(4) The solid waste landfill(s) and the current postclosure and/or corrective action cost estimate(s) that are covered by the pledge.

(5) The authorization for the CIWMB to direct payment for postclosure maintenance and/or corrective action if the CIWMB determines that the operator has failed or is failing to perform postclosure maintenance or corrective action activities covered by the mechanism.

(c) An operator or provider of financial assurance shall pledge the following types of revenue that the operator or provider of financial assurance controls and that will be available in a timely manner to pay for postclosure maintenance or corrective action:

(1) User fees, rents, or other guaranteed revenue from existing or planned solid waste facilities;

(2) Tax increases within statutory limitations; and/or

(3) Other guaranteed revenues that are acceptable to the CIWMB.

(d) If an operator or provider of financial assurance ceases at any time to retain control of its ability to allocate any pledged revenue to pay postclosure maintenance or corrective action costs, the operator or provider of financial assurance shall notify the CIWMB and shall obtain alternate coverage within 60 days after control lapses.
Note: Authority Cited: Section 40502, Public Resources Code. Reference: Sections 43103, 43500-43610, Public Resources Code.

.22246. CIWMB - Financial Means Test. (T14:§18238, 18289)

(a) To pass the financial means test, an operator or a guarantor shall be a private entity and shall meet the criteria of .(d), .(e), .(f) or .(g) based on independently audited year-end financial statements for the latest completed fiscal year.

(b) The phrase "amount of liability coverage to be demonstrated by the test" as used in .(d) and .(e) refers to the amount of liability coverage required by §22216.

(c) The phrase "current cost estimates covered by the test" as used in .(f) and .(g) refers to the current postclosure cost estimate required by .(h)(1) to be shown in paragraphs 1 and 2 of the letter from the chief financial officer.

(d) To cover operating liability the operator or guarantor shall have:

(1) Net working capital and tangible net worth each at least six times the amount of liability coverage to be demonstrated by the test; and

(2) Tangible net worth of at least $10 million; and

(3) Assets located in the United States amounting to at least 90 percent of its total assets or at least six times the amount of liability coverage to be demonstrated by the test.

(e) To cover operating liability the operator or guarantor shall have:

(1) A current rating for its most recent bond issuance of AAA, AA, A, or BBB issued by Standard and Poor's or Aaa, Aa, A, or Baa as issued by Moody's; and

(2) Tangible net worth of at least six times the amount of liability coverage to be demonstrated by the test; and

(3) Tangible net worth of at least $10 million; and

(4) Assets located in the United States amounting to at least 90 percent of its total assets or at least six times the amount of liability coverage to be demonstrated by the test.

(f) To cover postclosure maintenance the operator or guarantor shall have:

(1) Two of the following three ratios: a ratio of total liabilities to net worth that is less than 2.0; a ratio of the sum of net income plus depreciation, depletion, and amortization to total liabilities that is greater than 0.1; and a ratio of current assets to current liabilities that is greater than 1.5; and

(2) Net working capital and tangible net worth each at least six times the sum of the current cost estimate covered by the test; and

(3) Tangible net worth of at least $10 million; and

(4) Assets located in the United States amounting to at least 90 percent of its total assets or at least six times the sum of the current cost estimate covered by the test.

(g) To cover postclosure maintenance the operator or guarantor shall have:

(1) A current rating for its most recent bond issuance of AAA, AA, A, or BBB issued by Standard and Poor or Aaa, Aa, A, or Baa as issued by Moody's; and

(2) Tangible net worth at least six times the sum of the current cost estimate covered by the test, and

(3) Tangible net worth of at least $10 million and

(4) Assets located in the United States amounting to at least 90 percent of its total assets or at least six times the sum of the current cost estimate covered by the test.

(h) Within 90 days after the close of each financial reporting year, the operator or the guarantor shall submit the following items to the CIWMB and, in the case of a guarantor, to the operator;

(1) A letter on the operator's or guarantor's official letterhead stationary that is worded and completed as specified in form CIWMB 104 (4/96) which contains an original signature of the operator's or guarantor's chief financial officer.

(A) An operator or guarantor shall use form CIWMB 104 (4/96) to demonstrate or guarantee financial responsibility for liability coverage only or postclosure costs only or both liability and postclosure maintenance. If the operator or guarantor is using a similar financial means test to demonstrate liability coverage and/or postclosure maintenance for facilities in other states, the operator shall list those out-of- state facilities, as well as the California facilities on this test.

(2) A copy of an independent certified public accountant's report on examination of the operator's or guarantor's financial statements for the latest completed fiscal year, with a copy of the operator's or guarantor's financial statements for the latest completed fiscal year.

(3) A letter from an independent certified public accountant stating that:

(A) He or she has compared the data in the letter in . (h)(1), from the chief financial officer specified as having been derived from the financial statements for the latest completed fiscal year of the operator or the guarantor, with the amounts in the financial statements; and

(B) Based on the comparison, no matters came to his or her attention that caused him or her to believe that the specified data should be adjusted.

(4) If the operator or the guarantor is required to make such a filing, a copy of the operator's or guarantor's most recent form 10-K filed with the U.S. Securities and Exchange Commission.

(i) The CIWMB may require updated financial statements at any time from the operator or guarantor. If the CIWMB finds that the operator or guarantor no longer meets the financial means test requirements of . . (d),(e),(f), or (g) based on such reports or other information, including but not limited to, credit reports and reports from other state agencies, the operator shall obtain alternate coverage within 60 days after receiving the notification of such a finding.

(j) If, at the time of its annual filing, an operator using the financial means test fails to meet the requirements of the financial means test under . . (d),(e),(f), or (g), the operator shall obtain alternate coverage within 60 days after the determination of such failure.

(k) If the operator fails to obtain alternate coverage within the times specified in . . (i) or (j), the operator shall notify the CIWMB by certified mail within 10 days of such failure.

Note: Authority cited: Section 40502 and 43040, Public Resources Code. Reference: Sections 43040 and 43103, Public Resources Code.

. 22247. CIWMB - Guarantee. (T14:§18239, 18291)

(a) The guarantor shall be:

(1) A parent corporation of the operator;

(2) A firm whose parent corporation is also the parent corporation of the operator; or

(3) A firm engaged in a substantial business relationship with the operator and issuing the guarantee as an act incident to that business relationship.

(b) The guarantor shall meet the requirements of the financial means test under §22246 of this Article based on the guarantor's audited year-end financial statements.

(c) The guarantee shall be worded and completed as specified by form CIWMB 105 (4/96), which is incorporated by reference.

(d) The terms of the guarantee shall specify that if:

(1) The operator fails or is failing to perform postclosure maintenance in accordance with the applicable approved postclosure maintenance plan when required to do so, the guarantor shall either:

(A) Perform postclosure maintenance in accordance with the applicable approved postclosure maintenance plan; or

(B) Establish and fund a trust fund, as specified in §22240, in the name of the operator in the amount of the applicable current postclosure maintenance cost estimate covered by the guarantee.

(2) The operator fails to satisfy a judgment or an award for bodily injury and property damage to third parties caused by accidental occurrences, or fails to pay an amount agreed in settlement of a claim arising from or alleged to arise from such injury and damage, the guarantor shall satisfy such judgment, award, or settlement agreement up to the limits of the guarantee.

(e) If the guarantor fails to meet the requirements of the financial means test under §22246 or wishes to terminate the guarantee, the guarantor shall send notice of such failure or termination by certified mail to the operator, and the CIWMB within 90 days after the end of that financial reporting year. The guarantee shall terminate no less than 60 days after the date that the operator, and the CIWMB have received the notice of such failure or termination, as evidenced by the return receipts. The guarantor shall establish alternate coverage as specified in §22228 on behalf of the operator within 60 days after such notice, unless the operator has done so.

(f) The CIWMB may require updated financial statements at any time from a guarantor. If the CIWMB finds, on the basis of such reports or information from other sources, including but not limited to, credit reports and reports from other state agencies, that the guarantor no longer meets the financial means test requirements of§22246 or any requirements of §22247, the CIWMB shall notify the guarantor and operator of such finding by certified mail. The guarantor shall establish alternate coverage as specified in §22228 on behalf of the operator within 60 days after such notice, unless the operator has done so.

Note: Authority cited: Section 40502 and 43040, Public Resources Code. Reference: Sections 43040, 43103 and 43500-43610, Public Resources Code.

22248. CIWMB - Closure and/or Postclosure Maintenance and/or Reasonably Foreseeable Corrective Action Insurance. (new)

(a) The issuer of the insurance policy shall be an insurer that, at a minimum, is licensed by the California Department of Insurance to transact the business of insurance in the State of California as an admitted carrier.

(b) If coverage is not available as specified in (a), the operator may seek coverage from an insurer which, at a minimum, shall be eligible to provide insurance as an excess or surplus lines insurer in California.

(c) If coverage is obtained as described in (b), the insurance shall be transacted by and through a surplus lines broker currently licensed under the regulations of the California Department of Insurance [California Insurance Code (CIC), Division 1, Part 2, Chapter 6] and upon the terms and conditions prescribed by the California Department of Insurance.

(d) The CIWMB or its designee may object to the use of any insurer at anytime, whether before or after placement of coverage based on information obtained from, but not limited to, the Surplus Line Association of California, Best's Insurance Reports, and/or the Non-Admitted Insurers Quarterly List.

(e) The closure or postclosure maintenance insurance or reasonably foreseeable corrective action policy shall guarantee that funds will be available to close the solid waste landfill whenever final closure occurs or to provide postclosure maintenance for the solid waste landfill whenever the postclosure maintenance period begins or provide for corrective action for the solid waste landfill if corrective action is deemed necessary, whichever is applicable. The policy shall also guarantee that once the closure or postclosure maintenance or corrective action program begins, the insurer will be responsible for the paying out of funds to the operator or person authorized to conduct closure or postclosure maintenance or corrective action, up to an amount equal to the face amount of the policy.

(f) The insurance policy shall be issued for a face amount at least equal to the most recently approved closure and/or postclosure maintenance and/or reasonably foreseeable corrective action cost estimate(s) whichever is applicable, unless the policy is being used in combination with another acceptable mechanism. The term "face

amount" means the total amount the insurer is obligated to pay under the policy. Actual payments by the insurer will not change the face amount, although the insurer's future liability may be lowered by the amount of the payments.

(g) An operator, or any other person authorized to conduct closure or postclosure maintenance or corrective action, may receive reimbursements for closure or postclosure maintenance or corrective action expenditures, whichever is applicable. Requests for reimbursement will be granted by the insurer only if the remaining value of the policy is sufficient to cover the remaining costs of closure or postclosure maintenance or corrective action and if the expenditures have been reviewed and approved in writing by the CIWMB or its designee.

(h) Each policy shall contain a provision allowing assignment of the policy to a successor operator. Such assignment may be conditional upon consent of the insurer, provided that such consent is not unreasonably refused.

(i) The insurance policy must provide that the insurer may not cancel, terminate or fail to renew the policy except for failure to pay the premium. The automatic renewal of the policy must, at a minimum, provide the insured with the option of renewal at the face amount of the expiring policy. If there is a failure to pay the premium, the insurer may cancel the policy by sending notice of cancellation by certified mail to the owner and operator, and the 120 days in advance of cancellation. If the insurer cancels the policy, the owner or operator must obtain alternate financial assurance as specified in §22228.

(j) For insurance policies providing coverage for postclosure maintenance, commencing on the date that liability to make payments pursuant to the policy accrues, the insurer shall thereafter annually increase the face amount of the policy. Such increases must be equivalent to the face amount of the policy, less any payments made, multiplied by an amount equivalent to 85 percent of the most recent investment rate or of the equivalent coupon-issue yield announced by the U.S. Treasury for 26-week Treasury securities.

(k) The operator may cancel the insurance policy only if alternate financial assurance is substituted as specified in §22227, or if the operator is no longer required to demonstrate financial responsibility in accordance with the requirements of Subchapter 2 of this Chapter.

(l) Each closure and/or postclosure maintenance and/or reasonably foreseeable corrective action insurance policy shall be evidenced by a certificate of insurance established by using form CIWMB 106 (4/96), which is incorporated by reference. Each certificate of insurance shall contain the insurer's warranty that the policy conforms in all respects with the requirements of this Subdivision, as applicable, and as such regulations were constituted on the date the policy is certified to on an annual basis. In addition, the insurer shall agree that any provision of the policy inconsistent with these regulations is amended to eliminate such inconsistency by submittal of the certification for closure and/or postclosure maintenance and/or reasonably foreseeable corrective action insurance.

Note: Authority cited: Sections 40502, Public Resources Code. Reference: Sections 43103, 43500-43610, Public Resources Code.

22249. CIWMB - Local Government Financial Test.

(a) To pass the local government financial test, and to demonstrate financial responsibility for postclosure maintenance and/or corrective action costs, an operator or a guarantor shall be a local government agency and shall meet the criteria of sections (e),(f),(i) and (j) based on financial statements prepared in conformity with Generally Accepted Accounting Principles for governments and have its financial statements audited by an independent certified public accountant.

(b) A local government is not eligible to assure its obligations under section 22249 if it:

(1) Is currently in default on any outstanding general obligation bonds, or

(2) Has any outstanding general obligation bonds rated lower than Baa as issued by Moody's or BBB as issued by Standard and Poor's, or

(3) Has operated at a deficit equal to five percent or more of total annual revenue in each of the past two fiscal years, or

(4) Receives an adverse opinion, disclaimer of opinion, or other qualified opinion from the independent certified public accountant auditing its financial statement as required by section (a).

(c) The phrase "current postclosure maintenance cost estimates covered by the test" refers to the current postclosure maintenance cost estimate required by section (j)(1) to be shown in paragraphs 1 and 2 of the letter from the chief financial officer.

(d) The phrase "current corrective action cost estimates covered by the test" refers to the current corrective action cost estimate required by section (j)(1) to be shown in paragraphs 1 and 2 of the letter from the chief financial officer.

(e) The total amount of postclosure maintenance costs and corrective action costs which can be assured under this local government financial test is determined as follows:

(1) If the local government operator or guarantor does not assure other environmental obligations through a financial test, it may assure postclosure maintenance costs and/or corrective action costs that equal up to 43 percent of the local government's total annual revenue.

(2) If the local government operator or guarantor assures other environmental obligations through a financial test, including but not limited to those associated with underground injection control wells, petroleum underground storage tank facilities, PCB storage facilities, and hazardous waste treatment, storage, and disposal facilities, it must add those costs to the postclosure maintenance costs and/or corrective action costs it seeks to assure. The total that may be assured must not exceed 43 percent of the local government's or guarantor's total annual revenue.

(3) The operator or guarantor must obtain an alternate financial assurance instrument for those costs that exceed the limits set in (1) and (2).

(f) The operator or guarantor shall meet the criteria of either section (g) or (h) based on the operator's or guarantor's most recent audited annual financial statements prepared in conformity with Generally Accepted Accounting Principles for governments.

(g) The operator or guarantor shall satisfy each of the following financial ratios based on the operator's or guarantor's most recent audited annual financial statements prepared in conformity with Generally Accepted Accounting Principles for governments:

(1) Liquidity ratio: a ratio of cash plus marketable securities to total expenditures greater than or equal to 0.05; and

(2) Debt service ratio: a ratio of annual debt service to total expenditures less than or equal to 0.20; or

(h) An operator or guarantor with outstanding, rated, general obligation bonds that are not secured by insurance, a letter of credit, or other collateral or guarantee must have such bonds with current investment grade rating as follows:

(1) Aaa, Aa, A or Baa, as issued by Moody's on all such general obligation bonds; or

(2) AAA, AA, A, or BBB, as issued by Standard and Poor's on all such general obligation bonds.

(i) The operator or guarantor shall provide public notice of the local government's assured obligations by placing a reference to the postclosure maintenance costs and/or corrective action costs assured through the financial test into its next comprehensive annual financial report (CAFR). If timing does not permit the reference to be incorporated into the most recently issued CAFR or budget prior to the first year the financial test is used to assure local government solid waste facility obligations, the reference may instead be placed in the operating record until issuance of the next available CAFR. The operator shall certify that the reference to the postclosure maintenance costs and/or corrective action costs assured through the financial test is provided. The operator's certification shall be submitted with the chief financial officer letter as specified in section (j)(2).

(1) For postclosure maintenance costs, conformance with Government Accounting Standards Board (GASB) Statement 18 assures compliance with this public notice requirement.

(2) The following, including the GASB requirements, shall be disclosed:

(k) The CIWMB may require updated financial statements at any time from the operator or guarantor. If the CIWMB finds that the operator or guarantor no longer meets the local government financial test requirements of sections (g) or (h), the operator shall obtain alternate coverage within 60 days after receiving the notification of such a finding.

(l) If, when preparing its annual update, an operator using the local government financial test fails to meet the requirements of the financial test under sections (g) or (h), the operator shall obtain alternate coverage within 210 days after the close of the financial reporting year.

(m) If the operator fails to obtain alternate coverage within the times specified in sections (k) or (l), the operator shall notify the CIWMB by certified mail within 10 business days of such failure.

(n) A local government financial test may be combined with another payment mechanism to assure the amount of required coverage specified in sections 22211 and 22221 of Subchapter 2.

NOTE: Authority cited: Sections 40502 and 43601.5, Public Resources Code. References: Sections 43500 through 43610.1, Public Resources Code, Part 268.74(f) and (h), Title 40 Code of Federal Regulations.

22249.5. CIWMB - Local Government Guarantee.

(a) The guarantor shall be a local government which meets the requirements of the Local Government Financial Test under section 22249 of this Article based on the guarantor's audited year-end financial statements.

(b) The guarantee shall be worded and completed as specified by form CIWMB 113(7/98), which is incorporated by reference.

(c) When the guarantee specifies coverage for postclosure maintenance costs, the terms shall also specify:

(1) If the operator fails to perform postclosure maintenance in accordance with the applicable approved postclosure maintenance plan when required to do so, the guarantor shall either:

(A) Perform, or pay a third party to perform, postclosure maintenance in accordance with the applicable approved postclosure maintenance plan; or

(B) Establish and fund a trust fund as specified in section 22240 of this Article, in the name of the operator in the amount of the applicable current postclosure maintenance cost estimate covered by the guarantee; and/or

(d) When the guarantee specifies coverage for corrective action costs, the terms shall also specify:

(1) If the operator fails to perform corrective action in accordance with the applicable approved corrective action plan when required to do so, the guarantor shall either:

(A) Perform, or pay a third party to perform, corrective action in accordance with the applicable approved corrective action plan; or

(B) Establish and fund a trust fund as specified in section 22240 of this Article, in the name of the operator in the amount of the applicable current corrective action cost estimate covered by the guarantee; and/or

(e) The guarantee will remain in force unless the guarantor fails to meet the requirements of sections 22249 and/or 22249.5 of this Article, or wishes to terminate the guarantee. Cancellation may not occur, however, during the 120 days beginning on the date of receipt of the notice of cancellation by both the operator and the CIWMB, as evidenced by return receipts.

(1) The guarantor shall send a notice of cancellation by certified mail to the operator, and the CIWMB, within 180 days after the end of that financial reporting year. The guarantee shall terminate no less than 120 days after the date that the operator and the CIWMB received the notice of cancellation, as evidenced by the return receipts.

(2) If the guarantee is cancelled, the operator shall establish alternate assurance as specified in section 22228 of Article 1 of this Subchapter within 60 days after such notice.

(3) If the operator fails to provide alternate financial assurance:

(A) The operator shall send notice of such failure by certified mail to the guarantor, and the CIWMB, within the same 60 day period; and

(B) The guarantor must provide alternate assurance as specified in section 22228 of Article 1 of this Subchapter within 60 days after the date of the operator's notice.

(f) The CIWMB may require updated financial statements at any time from a guarantor. If the CIWMB finds that the guarantor no longer meets the local government financial test or guarantee requirements of sections 22249 and/or 22249.5 of this Article, the CIWMB shall notify the guarantor and operator of such finding by certified mail. If the CIWMB notifies the guarantor and the operator that the guarantee is no longer acceptable, the operator and guarantor shall comply with section 22249.5 (e) (2) and (3) of this Article.

(g) Only a guarantee for payment, rather than performance of work, may be combined with another payment mechanism to assure the amount of required coverage specified in sections 22206, 22211, 22216, and/or 22221 of Subchapter 2.

NOTE: Authority cited: Sections 40502 and 43601.5, Public Resources Code. References: Sections 43500 through 43610.1, Public Resources Code, Part 258.74(f) and (h), Title 40 Code of Federal Regulations.

22250. CIWMB - Federal Certification. (T14:§18292)

(a) A federal entity which is responsible for closure or postclosure maintenance of one or more solid waste landfills located in California may, in lieu of using the other financial mechanisms provided in this Article, provide a Federal Certification for each solid waste landfill, in accordance with this section.

(b) Each Federal Certification shall include the following:

(1) A commitment by the federal entity to make a timely request for the funds needed to complete the closure and postclosure maintenance activities described in the most recently approved final closure and postclosure maintenance plans in accordance with Executive Order 12088 dated October 13, 1978 and OMB Circular A-106 dated December 31, 1974, which are incorporated by reference, or any pertinent amendments to those requirements;

(2) Copies of the initial closure and postclosure maintenance cost estimates and any amendments thereto, prepared pursuant to §21820 and §21840, respectively; and

(3) A commitment by the federal entity not to restructure the closure and postclosure funding in a manner that would interfere with timely completion of closure or postclosure maintenance activities.

(c) Should Congress fail to appropriate the necessary funding for closure and postclosure maintenance of a disposal facility, the federal entity shall advise the CIWMB within 90 days of such failure, and shall provide to the CIWMB, documentation of all measures it will undertake to ensure that closure and postclosure activities are completed in accordance with the most recently approved closure and postclosure maintenance plans.

(d) Nothing in this section shall be deemed to require any federal entity, or employees, agents, or representative thereof, to violate the federal Anti-Deficiency Act, 31 U.S.C. §1341.

(e) Each federal entity owning or operating a solid waste landfill in California on or after January 1, 1989, and choosing to provide assurance by using the Federal Certification, shall file the necessary documents with the CIWMB not later than 120 days after the effective date of these amendments or, for new disposal facilities, at the time of application for a solid waste facility permit.

(f) A federal entity may choose to act as a provider of financial assurance for closure or postclosure maintenance on behalf of private or other entities operating solid waste landfills, if either:

(1) The solid waste landfill is located on federal land; or

(2) The operator operates or manages the solid waste landfill pursuant to a contract with the federal entity or an applicable subcontract.

Note: Authority Cited: Section 40502, Public Resources Code. Reference: Sections 43103, 43500 through 43610, Public Resources Code.

22251. CIWMB - Liability Insurance. (T14:§18236)

(a) The issuer of the insurance policy shall be an insurer that, at a minimum, is licensed by the California Department of Insurance to transact the business of insurance in the State of California as an admitted carrier.

(b) If coverage is not available as specified in (a), the operator may seek coverage by an insurer which, at a minimum, shall be eligible to provide insurance as an excess or surplus lines insurer in California.

(c) If coverage is obtained as described in (b), the insurance shall be transacted by and through a surplus line broker currently licensed under the regulations of the California Department of Insurance and upon the terms and conditions prescribed in the California Insurance Code (CIC), Division 1, Part 2, Chapter 6.

(d) The CIWMB or its designee may object to the use of any insurer at anytime, whether before or after placement of coverage based on information obtained from, but not limited to, the Surplus Line Association of California, Best's Insurance Reports, and/or the Non-Admitted Insurers Quarterly List.

(e) Each insurance policy shall be either:

(1) Evidenced by a certificate of liability insurance established by using form CIWMB 107 (4/96), which is incorporated by reference; or

(2) Amended and evidenced by a liability insurance endorsement established by using form CIWMB 108 (4/96), which is incorporated by reference.

Note: Authority cited: Section 40502 and 43040, Public Resources Code. Reference: Sections 43040 and 43103, Public Resources Code.

22252. CIWMB - Self-Insurance and Risk Management. (T14:§18237)

(a) To use the self-insurance and risk management mechanism an operator shall:

(1) Be a public entity;

(2) Be self-insured;

(3) Employ a risk manager;

(4) Have an active safety and loss prevention program that seeks to minimize the frequency and magnitude of third party damages caused by accidental occurrences and other self-insured losses;

(5) Have procedures for and a recent history of timely investigation and resolution of any claims for third party damages caused by accidental occurrences and other self-insured losses; and

(6) Satisfy any other reasonable conditions that the CIWMB determines are needed to ensure that the assured amount of funds shall be available in a timely manner.

(b) This coverage shall be demonstrated by using form CIWMB 109 (4/96), which is incorporated by reference.

Note: Authority cited: Section 40502 and 43040, Public Resources Code. Reference: Sections 43040 and 43103, Public Resources Code.

22253. CIWMB - Insurance and Environmental Fund. (T14:§18240)

(a) To be eligible to use this mechanism to demonstrate financial responsibility for compensating third parties for bodily injury and property damage, the operator shall fulfill the requirements of sections (a) through (e) of this section no later than July 2, 1992.

(b) The operator shall submit a signed certification to the CIWMB on form CIWMB 110 (4/96), which is incorporated by reference; and

(c) The operator shall submit certification of coverage to demonstrate the establishment and maintenance of comprehensive general liability insurance coverage with limits in at least the amounts specified in Article 3 of Subchapter 2 of this Chapter. This insurance must conform to the requirements of §22251(a - d) and/or §22252(a); and

(d) The operator shall demonstrate the establishment of an environmental liability fund, which shall be fully funded, as described before July 2, 1997. This means that the operator shall make the initial payment as described in .(d)(3) by July 2, 1992 and subsequent payments as described in section .(d)(4) on July 1st of the following years: 1993, 1994, 1995, 1996, and 1997.

(1) The environmental liability fund shall have a trustee that is authorized to act as a trustee and whose trust operations are regulated and examined by a federal or state agency.

(2) The environmental liability fund shall be established by using form CIWMB 111 (4/96), which is incorporated by reference.

(3) The funding of the environmental liability fund shall be initiated with a payment of $200,000 or a payment that is at least equal to the applicable aggregate liability coverage amount specified in Article 3 of Subchapter 2 of this Chapter, divided by 5, which is the maximum number of years in the pay-in period.

(4) On each anniversary date of July 1, the minimum payment shall be determined by this formula:

$$\textbf{Minimum Payment} = \frac{AC - CV}{Y + 1}$$

where AC is the aggregate coverage required, CV is the current value of the trust fund and Y is the number of years remaining in the pay-in period.

(5) The operator may accelerate payments into the environmental liability fund. However, the value of the environmental liability fund shall be maintained at no less than the value that the environmental fund would have, if payments were made as specified in .(d)(3) and .(d)(4).

(6) If the value of the environmental liability fund becomes greater than the total amount of the applicable aggregate liability coverage, the operator may request in writing that the CIWMB authorize the release of the excess funds. The CIWMB shall review the request within 90 days of receipt of the request. If any excess funds are verified, the CIWMB shall instruct the trustee to release the funds.

(e) The operator may substitute any alternate financial assurance mechanism(s), as identified in §22227, for the Insurance and Environmental Fund mechanism.

Note: Authority cited: Section 40502 and 43040, Public Resources Code. Reference: Sections 43040 and 43103, Public Resources Code.

.22254. CIWMB - State Approved Mechanism. (T14:§17258.74)

(a) An operator may satisfy the requirements of this Chapter by obtaining any other mechanism that meets the following criteria, and that is approved by the CIWMB.

(1) The financial assurance mechanisms must ensure that the amount of funds assured is sufficient to cover the costs assured when needed;

(2) The financial assurance mechanisms must ensure that funds will be available in a timely fashion when needed;

(3) The financial assurance mechanism(s) must be obtained by the operator before the first waste is received at a new facility and before any other financial mechanism is cancelled at existing facilities. The financial

mechanism must be maintained until the operator is released from the financial assurance requirements under this Chapter.

(4) The financial assurance mechanisms must be legally valid, binding and enforceable under State and Federal law.

Note: Authority cited: Sections 40502 and 40508, Public Resources Code. Reference: Sections 40508 and 43103, Public Resources Code; Section 258.74, Title 40, Code of Federal Regulations.

SUBCHAPTER 4. FINANCIAL ASSURANCES ENFORCEMENT PROCEDURES

ARTICLE 1. SOLID WASTE FACILITIES

22270. Scope and Applicability.

All operators of disposal facilities shall be subject to the requirements of this article, except state and federal operators.

NOTE: Authority cited: Sections 40502, 43040 and 43601.5, Public Resources Code. References: Sections 43040, 43500 through 43610.1, Public Resources Code, and Title 40 Code of Federal Regulations, Section 258.70.

22271. Definitions.

(a) "**Degree of non-compliance**" means the status of compliance of a an operator with the financial assurance requirements. An operator is either: (1) partially out of compliance with the requirements ("**Minor**"); or (2) completely out of compliance with the requirements ("**Major**").

(b) "**Potential for harm**" means the degree to which operator's actions adversely affect the public health, safety and the environment. This potential is based on the anticipated closure date for a facility. If the anticipated closure date is:

(1) 2 years or less the potential for harm is "Major."

(2) more than 2 years and up to 10 years, the potential for harm is "Moderate."

(3) over 10 years the potential for harm is "Minor."

NOTE: Authority cited: Sections 40502, 43040 and 43601.5, Public Resources Code. References: Sections 43040, 43500 through 43610.1, Public Resources Code.

22272. Notice of Violation.

(a) The CIWMB shall send a written Notice of Violation to an operator violating the requirements of Articles 1, 2 and 3 of Subchapter 2 of this Chapter (commencing with section 22205).

(b) The CIWMB shall send a copy of the Notice of Violation to the respective enforcement agency.

(c) The Notice of Violation shall:

(1) describe the violation which CIWMB staff believe is occurring; and

(2) describe the consequences of continued failure to comply or respond.

(d) An operator shall submit a response to a Notice of Violation within 10 working days from receipt of the Notice of Violation.

(e) The CIWMB may consider all contacts with an operator as "good faith" efforts to comply with the regulations, and the CIWMB may extend the timeframe for an operator to respond and/or comply, as the CIWMB deems necessary.

NOTE: Authority cited: Sections 40502, 43040 and 43601.5, Public Resources Code. References: Sections 43040, 43500 through 43610.1, Public Resources Code.

22273. Issuance of Notice and Order and Stipulated Notice and Order.

(a) If an operator fails to respond to the Notice of Violation within the specified timeframe, the CIWMB shall draft and send a Notice and Order, as defined in Title 14, California Code of Regulations section 18304, to the operator, and notify the local enforcement agency of the enforcement action.

(b) An operator shall respond to the CIWMB with evidence of compliance, or request an alternate schedule for compliance, within 10 working days from receipt of the Notice and Order.

(c) If an operator responds to the Notice and Order by offering partial compliance immediately, and full compliance over a period of time, which is acceptable to the CIWMB, the CIWMB may enter into a Stipulated Notice and Order with the operator.

(d) If an operator fails to conform with the compliance schedule within the specified timeframe as provided in the Notice and Order or Stipulated Notice and Order, further enforcement action may be taken by the CIWMB, as specified in the Notice and Order or Stipulated Notice and Order.

NOTE: Authority cited: Sections 40502, 43040 and 43601.5, Public Resources Code. References: Sections 43040, 43500 through 43610.1, Public Resources Code.

22274. Compliance Options.

(a) The CIWMB may consider compliance options other than imposing penalties. The CIWMB may consider options that include, but are not limited to:

(1) Placing restrictions on current financial assurance mechanism(s) being used by the operator such as, requiring more frequent reporting requirements.

(2) Prohibiting use of current financial assurance mechanism(s) being used by the operator, and requiring the operator to establish an alternate mechanism as prescribed in section 22228 of this Title.

NOTE: Authority cited: Section 40502, 43040 and 43601.5, Public Resources Code. References: Sections 43040, 43500 through 43610.1, Public Resources Code.

22275. Penalty Calculations.

(a) If the CIWMB chooses to impose a penalty, the daily penalty shall equal an amount determined by the gravity-based matrix, in Table 1., using the degree of non-compliance and the potential for harm as the deciding factors, added to the economic benefit an operator receives from noncompliance with the regulations.

DEGREE OF NON-COMPLIANCE

	MAJOR	MINOR
	$10,000	$7,999
MAJOR	TO	TO
	$8,000	$5,000
	$4,999	$1,999
MODERATE	TO	TO
	$2,000	$800
	$799	$499
MINOR	TO	TO
	$500	$0

Table 1.

(1) The economic benefit portion of a penalty, for lack of liability coverage, shall be based on a minimum annual premium for liability insurance, as identified by a CIWMB survey of the insurance industry. The premium is multiplied by the number of years an operator is out of compliance (rounded up to the next whole year if a partial year of noncompliance exists).

(2) The economic benefit portion of a penalty, for lack of coverage for closure and/or postclosure maintenance costs shall be based on the current cost of a letter of credit or bond, as identified by a CIWMB survey of the banking industry or insurance industry, respectively. The cost for a letter of credit or bond is multiplied by a pro-rata factor for the length of time of non-compliance.

(b) Determinations of penalty amounts may be modified by the CIWMB for one or more of the following reasons:

(1) Evidence that adequate coverage has been subsequently provided, such as bank statements, letter from county treasurer verifying balance of fund, certificate demonstrating adequate coverage, etc.

(2) Evidence of a payment schedule, if applicable, detailing the operator's good faith efforts has been subsequently provided, such as past deposits to the financial assurance mechanism, etc.

(3) An operator's good faith efforts to comply or lack of good faith.

(4) An operator's degree of willingness to comply.

(5) An operator's history of compliance.

(6) Other unique factors such as size of operation, threat to public health and safety and the environment.

(c) Penalties shall be pursued by the CIWMB administratively or through superior court based on the following criteria.

(1) If the total initial civil penalty assessment is $15,000 or less, the CIWMB may pursue penalties administratively pursuant to Public Resources Code, section 45011.

(2) If the total initial civil penalty assessment exceeds $15,000, the CIWMB may pursue penalties through superior court, pursuant to Public Resources Code, section 45023.

NOTE: Authority cited: Sections 40502, 43040 and 43601.5, Public Resources Code. References: Sections 43040, 43500 through 43610.1, Public Resources Code.

22276. Processing and Collection of Civil Penalty.

Processing and collection of civil penalties shall be made by the CIWMB as provided in Public Resources Code, Division 30, Part 5, Article 3.(commencing with section 45010).

NOTE: Authority cited: Sections 40502, 43040 and 43601.5, Public Resources Code. References: Sections 43040, 43500 through 43610.1, Public Resources Code.

22277. Appeals Process.

Any aggrieved person may appeal a Notice and Order by the CIWMB, according to Public Resources Code, sections 45017 and 45030.

NOTE: Authority cited: Sections 40502, 43040 and 43601.5, Public Resources Code. References: Sections 43040, 43500 through 43610.1, Public Resources Code.

22278. Continued or Recurring Violations.

(a) If an operator pays an initial penalty but fails to correct the violation pursuant to Notice and Order, or has recurring violations within a three year period from the date of the preceding Notice of Violation:

(1) the CIWMB may re-initiate the enforcement process;

(2) the CIWMB may pursue action to revoke a permit, according to Public Resources Code section 44306, and/or pursue closure of the facility;

(3) the CIWMB may pursue both 1 and 2 above.

NOTE: Authority cited: Section 40502, 43040 and 43601.5 Public Resources Code. References: Sections 43040, 43500 through 43610.1, Public Resources Code.

Chapter 7. Special Treatment, Storage, and Disposal Units
Subchapter 1. Mining Waste Management
Article 1. SWRCB - Mining Waste Management Regulations (C15: Article 7)

*[Note: Regulations in this article were promulgated by the State Water Resources Control Board (**SWRCB**), are administered by the appropriate Regional Water Quality Control Board (**RWQCB**) through the issuance of waste discharge requirements (**WDRs**), and are applicable to the owner or operator of a waste management unit for the treatment, storage, or disposal of mining waste (**Mining Unit**).]*

22470. SWRCB - Applicability. (C15: §2570)

(a) **General** — This article applies to all discharges of mining wastes. No SWRCB-promulgated parts of this subdivision except those in this article, Article 1 of Chapter 1 (i.e., §20080 et seq.), and such provisions of the other articles of this subdivision as specifically are referenced in this article shall apply to discharges of "mining wastes" as that term is defined in §22480. Mining Units (including surface impoundments, waste piles, and tailings ponds) which receive WDRs after November 27, 1984, shall comply with the siting and construction standards in this article. Existing active and inactive Mining Units shall comply with the siting and construction requirements of this article as required by the RWQCB. Dischargers shall submit a report of waste discharge in compliance with Article 4, Subchapter 3, Chapter 4 of this subdivision (§21710 et seq.), and shall have WDRs which implement the appropriate provisions of this article unless requirements are waived by the RWQCB. Requirements for new and existing Mining Units are summarized on Table 1.1 of this article. The RWQCB can impose more stringent requirements to accommodate regional and site specific conditions.

(b) **Dry Unit Liner/LCRS Exemption** — A RWQCB can exempt a mining waste pile from the liners and leachate collection and removal systems required in this article if the discharger clearly demonstrates to the RWQCB that leachate will not form in or escape from that Mining Unit. The RWQCB can require extensive monitoring procedures in lieu of certain containment features. Contingency plans shall be developed and shall be implemented if monitoring indicates that the disposal procedures are inadequate.

(c) **Exemptions Based On No/Little/Poor G.W.** — The RWQCB can exempt a Group A or B (see §22480 of this article) Mining Unit from certain provisions of this article if a comprehensive hydrogeologic investigation demonstrates that:

(1) there are only very minor amounts of groundwater underlying the area; or

(2) the discharge is in compliance with the applicable water quality control plan; and

(3) either natural conditions or containment structures will prevent lateral hydraulic interconnection with natural geologic materials containing ground water suitable for agricultural, domestic, or municipal beneficial uses. There is no detectable vertical hydraulic interconnection between the natural geologic materials underlying the Unit and natural geologic materials containing such ground water.

If the above demonstration is acceptable to the RWQCB, the discharger can be exempted from requirements for liners and leachate collection and removal systems (see §22490 of this article). However, the discharger shall comply with the requirements of this article relative to siting, precipitation and drainage controls, and surface water quality monitoring. Closure and post closure maintenance periods shall be designed to protect surface water quality. Ground water monitoring, and unsaturated zone monitoring as feasible, shall be conducted during the active life, closure, and post closure maintenance period to verify that the Unit is not affecting ground water suitable for agricultural, domestic, or municipal beneficial uses.

NOTE: Authority cited: Section 1058, Water Code. Reference: Sections 13172, 13226, 13260, and 13263, Water Code; Section 43103, Public Resources Code.

22480. SWRCB - Groups of Mining Waste. (C15: §2571)

(a) **Definition** — Mining waste is waste from the mining and processing of ores and mineral commodities. Mining waste includes:

(1) overburden;

(2) natural geologic material which have been removed or relocated but have not been processed (waste rock); and

(3) the solid residues, sludges, and liquids from the processing of ores and mineral commodities.

(b) **Waste Group** — lassificationCMining wastes shall be classified as Group A, Group B, or Group C mining wastes based on an assessment of the potential risk of water quality degradation posed by each waste. In setting requirements for each mining waste discharge under this article, the RWQCB shall assign the waste to Group A, Group B, or Group C according to the following criteria:

(1) **Group A** — mining wastes of Group A are wastes that must be managed as hazardous waste pursuant to Chapter 11 of Division 4.5, of Title 22 of this code, provided the RWQCB finds that such mining wastes pose a significant threat to water quality;

(2) **Group B** — mining waste of Group B are either:

(A) mining wastes that consist of or contain hazardous wastes, that qualify for a variance under Chapter 11 of Division 4.5, of Title 22 of this code, provided that the RWQCB finds that such mining wastes pose a low risk to water quality; or

(B) mining wastes that consist of or contain nonhazardous soluble pollutants of concentrations which exceed water quality objectives for, or could cause, degradation of waters of the state; or

(3) **Group C** — mining wastes from Group C are wastes from which any discharge would be in compliance with the applicable water quality control plan, including water quality objectives other than turbidity.

(c) **Classification Considerations** — In reaching decisions regarding classification of a mining waste as a Group B or Group C waste, the RWQCB can consider the following factors:

(1) whether the waste contains hazardous constituents only at low concentrations;

(2) whether the waste has no or low acid generating potential; and

(3) whether, because of its intrinsic properties, the waste is readily containable by less stringent measures.

(d) **Treatment** — Mining waste shall be treated or neutralized whenever feasible to minimize the threat to water quality and minimize the need to install waste containment structures.

NOTE: Authority cited: Section 1058, Water Code. Reference: Sections 13172, Water Code; Section 43103, Public Resources Code.

22490. SWRCB - Mining Unit Siting and Construction Standards. (C15: §2572)

(a) **Proximity to Faults** — New Mining Units:

(1) for Group A and B wastes, shall not be located on Holocene faults. Units for Group C wastes may be located on Holocene faults if displacement will not allow escape of wastes or cause irreparable damage to containment structures;

(2) shall be outside of areas of rapid geologic change. Exemptions may be allowed by the RWQCB if containment structures are designed and constructed to preclude failure.

(b) **Flooding** — All Mining Units shall be protected from flooding as shown on Table 1.2 of this article.

(c) **Construction & Discharge Standards** — General construction standards are given on Table 1.3 of this article. Procedures for determining appropriate methods for discharges of Groups A and B mining wastes are outlined in Figures 1.1 and 1.2 of this article.

(d) **Registered Professionals** — Containment structures shall be designed by a registered civil engineer, and construction shall be supervised and certified by a registered civil engineer or a certified engineering geologist.

(e) **General Containment Structure Criteria** — Dischargers shall comply with general criteria for containment structures in §20320.

(f) **Liners.**

(1) **FMLs** — Synthetic liners (40 mil minimum thickness) can be used for waste piles where the discharger can demonstrate that the liner will function adequately during the active life of the waste pile and provided that the waste pile is closed in accordance with §21410.

(2) **Relative Permeability** — Permeabilities shall be relative to the fluids, including waste or leachate, to be contained.

(3) **Clay Liners** — Clay liners shall be of a minimum of two feet thick and shall be installed at relative compaction of at least 90 percent.

(4) **Replaceable Clay-Liners** — Single clay liners may be used for Group B surface impoundments if replaced as specified in §20330(e).

(5) **Contingency Plan** — If the RWQCB exempts a discharger from liner requirements for a waste pile, a contingency plan for alternative waste containment shall be developed. The plan shall be implemented if there is failure of the waste pile containment system.

(6) Dischargers shall comply with the liner criteria given in §20330(a & d).

(g) **Leachate Collection and Removal Systems (LCRSs) for Group A and B Wastes.**

(1) All LCRSs shall be of the blanket type.

(2) Dischargers shall comply with leachate collection and removal system (LCRS) requirements given in §20340(b - e).

(h) **Precipitation and Drainage Controls.**

(1) **Design Storm** — Diversion and drainage facilities shall be designed and constructed to accommodate the anticipated volume of precipitation and peak flows from surface runoff as follows:

(A) **Group A** — one 25 year, 24 hour storm;

(B) **Group B** — one 10 year, 24 hour storm; and

(C) **Group C** — one 10 year, 24 hour storm.

(2) **Excess Runoff** — Precipitation on Group A and B waste piles that is not diverted by containment structures shall be collected and managed through the LCRS. The RWQCB can make exemptions to this requirement if the collected fluid does not contain indicator parameters or waste constituents in excess of applicable water quality objectives.

(3) **Precipitation/Drainage Controls** — Dischargers shall comply with precipitation and drainage control requirements given in §20365(d & e).

(i) **Incorporated Impoundment Requirements** — Dischargers shall comply with special requirements for surface impoundments given in §20375. Nevertheless, for Mining Units, dischargers shall use the precipitation conditions in .(h)(1).

NOTE: Authority cited: Section 1058, Water Code. Reference: Sections 13172, 13226, and 13263, Water Code; Section 43103, Public Resources Code.

22500. SWRCB - Water Quality Monitoring for Mining Units. (C15: §2573)

(a) **General** — New and existing Group A and B Mining Units shall comply with the monitoring provisions contained in §20385 through §20430.

(b) **Monitoring Mandatory** — If a waste pile containing Group A or B mining wastes is granted exemption from construction requirements pursuant to §22470(b), monitoring of the waste moisture content shall be required.
NOTE: Authority cited: Section 1058, Water Code. Reference: Sections 13172, 13226, 13263, and 13267, Water Code; Section 43103, Public Resources Code.

22510. SWRCB - Closure and Post Closure Maintenance of Mining Units. (C15: §2574)

(a) **Closure Performance Standard** — New and existing Mining Units shall be closed so that they no longer pose a threat to water quality. No post closure land uses shall be permitted that might impair the integrity of containment structures.

(b) **Plan** — Mining Units shall be closed according to an approved closure and post closure maintenance plan which implements this section and provides for continued compliance with the applicable standards in this article for waste containment, precipitation and drainage controls, and monitoring throughout closure and the post closure maintenance period.

(c) **Reclamation** — The RWQCB shall issue WDRs which incorporate the relevant provisions of an approved mining and reclamation plan (see California Surface Mining and Reclamation Act, Public Resources Code, Section 2770, et seq.), prescribe additional conditions as necessary to prevent water quality degradation, and ensure that there will be no significant increase in the concentration of indicator parameters or waste constituents in ground or surface water, unless requirements are waived.

(d) **Oversight & Monuments** — Dischargers shall comply with the closure requirements given in §20950(b & d).

(e) **Inactive Units** — Containment structures at inactive Mining Units shall be subject to the same standards as apply to an active Mining Unit under this article.

(f) **Closure and Post-Closure Funding** — The discharger shall provide for adequate funding to pay for the costs of closure and post closure maintenance as required by this article. The discharger shall provide assurance of financial responsibility, acceptable to the RWQCB, pursuant to Chapter 6 of this title. The RWQCB shall periodically review financial assurances and shall modified them as necessary.

(g) **Alternate Financial Assurance** — If a lead agency acting under the authority of §2774(a) of the Public Resources Code requires assurances of financial responsibility, these assurances can be used to fulfill all comparable requirements under (f), provided that:

(1) the RWQCB approves the assurance; and

(2) the RWQCB is named as alternate payee.

(h) Ending Post-Closure — The post closure maintenance period shall end when the RWQCB determines that water quality aspects of reclamation are complete and waste no longer poses a threat to water quality.

(i) **Vegetation** — Vegetation for closed Mining Units shall not impair the integrity of containment features. Irrigation of vegetation shall be managed to assure that it does not cause nor increase the production of leachate.

(j) **Waste Pile Closure Standards** — New and existing Group A and B waste piles shall be closed in accordance with the provisions of §21090(a - c).

(k) **Surface Impoundment Closure Standards** — New and existing Group A and B surface impoundments shall be closed in accordance with the provisions of paragraphs (a) and (b)(1) of §21400. A surface impoundment can be closed in place if provided with a cover as in §21090(a) and if the liner (or, in the case of a double liner system, the outer liner) is clay.

(l) **Tailings Pond Closure Standards** — New and existing Group A and B tailings ponds shall be closed in accordance with the provisions of §21090(a - c)and §21400(a).

(m) **Erosion & Sedimentation Protection** — New and existing Group C Mining Units shall be closed in a manner that will minimize erosion and the threat of water quality degradation from sedimentation.

NOTE: Authority cited: Section 1058, Water Code. Reference: Sections 13172, 13226, and 13263, Water Code; Section 43103, Public Resources Code.

Table 1.1. Summary of Requirements for New and Existing Mining Units

Type of Requirement	New Units	Existing Units	Exemptions
Siting	(1) Not on Holocene faults; (2) Outsite of areas of rapid geologic change; (3) Peak streamflow protection as in Table 1.2	Peak streamflow protection as in Table 1.2, as required by RWQCBs	New Units may be sited in areas of rapid geologic change if containment structures designed and constructed to preclude failure.
Construction	(1) Liners or maximum natural permeability as in Table 1.2; (2) Leachate collection and removal system as in Table 1.3; (3) Precipitation and drainage controls.	Precipitation and drainage controls.	(1) No liners or leachate collection and removal systems required for Group C Units. (2) New waste piles may be exempted from liners and leachate collection and removal systems if it can be demonstrated that leachate will not form or escape — contingency plan required, and additional monitoring may be required.
Monitoring	(1) Ground water and surface water; (2) Unsaturated zone monitoring as feasible.		None
Closure and Post-Closure Maintenance	Closed and maintained in accordance with §22510.		None

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Table 1.2 Floodplain Siting Criteria

Waste Group	Waste Management Unit	Existing Units[1]	New Units
A	Waste PileSurface ImpoundmentTailings Pond	Protect from 100-year peak streamflow	Outside 100-year floodplain
B	Waste PileSurface ImpoundmentTailings Pond	Protect from 100-year peak streamflow	Protect from 100-year peak streamflow
C	Waste PileSurface ImpoundmentTailings Pond	Retrofit as needed to protect surface water quality	Preclude increased sediment in surface water[2]

1 As required by the RWQCB pursuant §22470(a).

2 Mining wastes shall not be placed in perennial, intermittent, or ephemeral stream channels unless provision is made to divert runoff around the waste in a non-erosive manner. Wastes shall not be placed where they can be eroded by streamflows or where they can cause accelerated streambank erosion. Waste generated during seasonal mining operations may be exempted from these requirements provided that increased sediment in surface water is precluded.

<*>

Table 1.3 Natural and Artificial Containment Features for Mining Units

WasteGroup	Waste Management Unit	Geologic Setting	Liner(s) Hydr. Cond. Values (Units: cm/sec)	Leachate Collection and Removal System
A	Waste Pile	per §2531(b)(1) of Title 23, OR single clay liner1 `1x10^{-7} cm/sec		required
	Surface Impoundment or Tailings Pond	not applicable	double liner, both `1x10^{-7} outer: clay; Inner: clay or synthetic	required[2]
B	Waste Pile	per §20250(b)(1) OR single clay liner	`1x10^{-6} [1]	required
	Surface Impoundment or Tailings Pond	not applicable	double liner, both `1x10^{-6} // outer: clay or natural permeability[3]; inner: clay or synthetic OR single replaceable clay liner[4]	required[2]
C	Waste Pile, Surface Impoundment, or Tailings Pond	not applicable	not applicable	not applicable

(1) Synthetic liner may be used for short-term containment [see §22490(f)(1)].

(2) Liner and leachate collection and removal system for tailings pond must be able to withstand the ultimate weight of wastes.

(3) Permeability of `1x10^{-6} cm/sec or natural geologic materials may replace outer liner of double liner system.

(4) Single clay liner (`1x10^{-6} cm/sec) for surface impoundment, to be removed before last 25 percent (minimum 1 foot thickness) of liner is penetrated by fluid, including waste and leachate.

Figure 1.2

DISPOSAL ALTERNATIVES FOR GROUP B WASTES

NOTE: all figures are shown at the end of this file.

(2) Existing facilities that were in operation on-or-before November 27, 1984, and that are protected against 100-year peak stream flows must continue to provide such protection. Facilities, or portions thereof, which begin operating after November 27, 1984, shall be protected against 100-year peak stream flows.

(3) The determination of peak stream flows shall be from data provided by a recognized federal, state, local, or other agency.

(d) **Retention Pond Design** — Retention ponds shall be lined with, or underlain by, soils which contain at least 10 percent clay and not more than 10 percent gravel or artificial materials of equivalent impermeability.

(e) **Discharge To Disposal/Use Fields** — The RWQCB shall allow the discharge of facility wastewater and of collected precipitation and drainage waters to use or disposal fields only if such discharge is in accordance with §22563. Absent an NPDES permit for discharge to surface waters, the only other allowable discharge is to wastewater treatment facilities approved by the RWQCB.

NOTE: Authority cited: Section 1058, Water Code. Reference: Sections 13172, Water Code; Section 43103, Public Resources Code.

22563. SWRCB - Use or Disposal Field Management. (Ch-15: §2563)

(a) **Reasonable Soil Amendment Rate** — Application of manure and wastewater to disposal fields or crop lands shall be at rates which are reasonable for the crop, soil, climate, special local situations, management system, and type of manure.

(b) **Run-Off & Percolation** — Discharges of facility wastewater to disposal fields shall not result in surface runoff from disposal fields and shall be managed to minimize percolation to ground water.

NOTE: Authority cited: Section 1058, Water Code. Reference: Section 13172, Water Code; Section 43103, Public Resources Code.

22564. SWRCB - Management of Manured Areas. (Ch-15: §2564)

Manured areas shall be managed to minimize infiltration of water into underlying soils.

NOTE: Authority cited: Section 1058, Water Code. Reference: Section 13172, Water Code; Section 43103, Public Resources Code.

22565. SWRCB - Monitoring. (Ch-15: §2565)

The RWQCB can require confined animal facility operations to undertake a monitoring program as a condition to the issuance or waiver of WDRs.

NOTE: Authority cited: Section 1058, Water Code. Reference: Sections 13172 and 13267, Water Code.

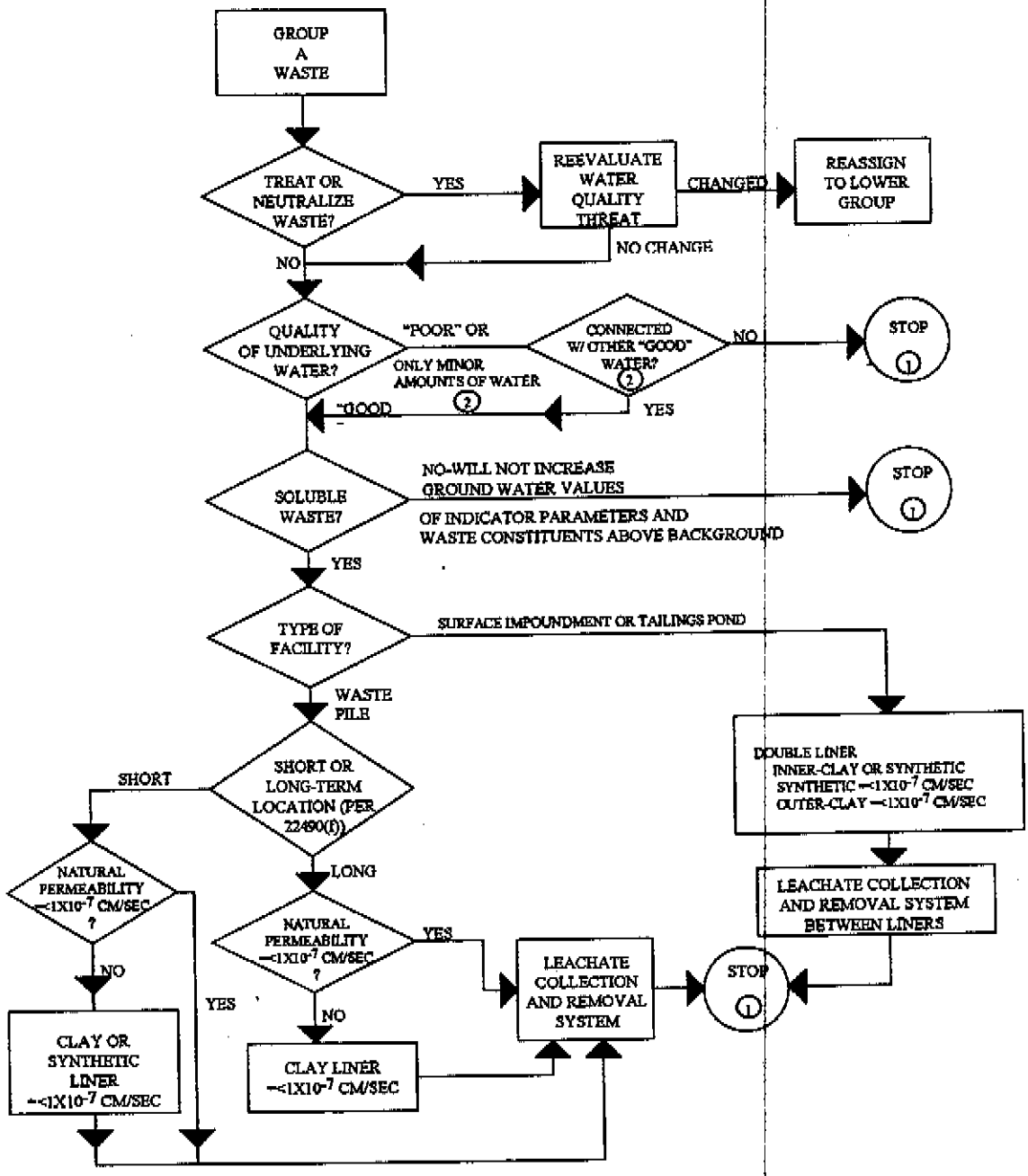
Subchapter 3. Composting Facilities [Reserved by CIWMB]

Subchapter 4. Waste Tire Facilities [Reserved by CIWMB]

Subchapter 5. Transfer and Processing Stations [Reserved by CIWMB]

Figure 1.1

DISPOSAL ALTERNATIVES FOR GROUP A WASTES

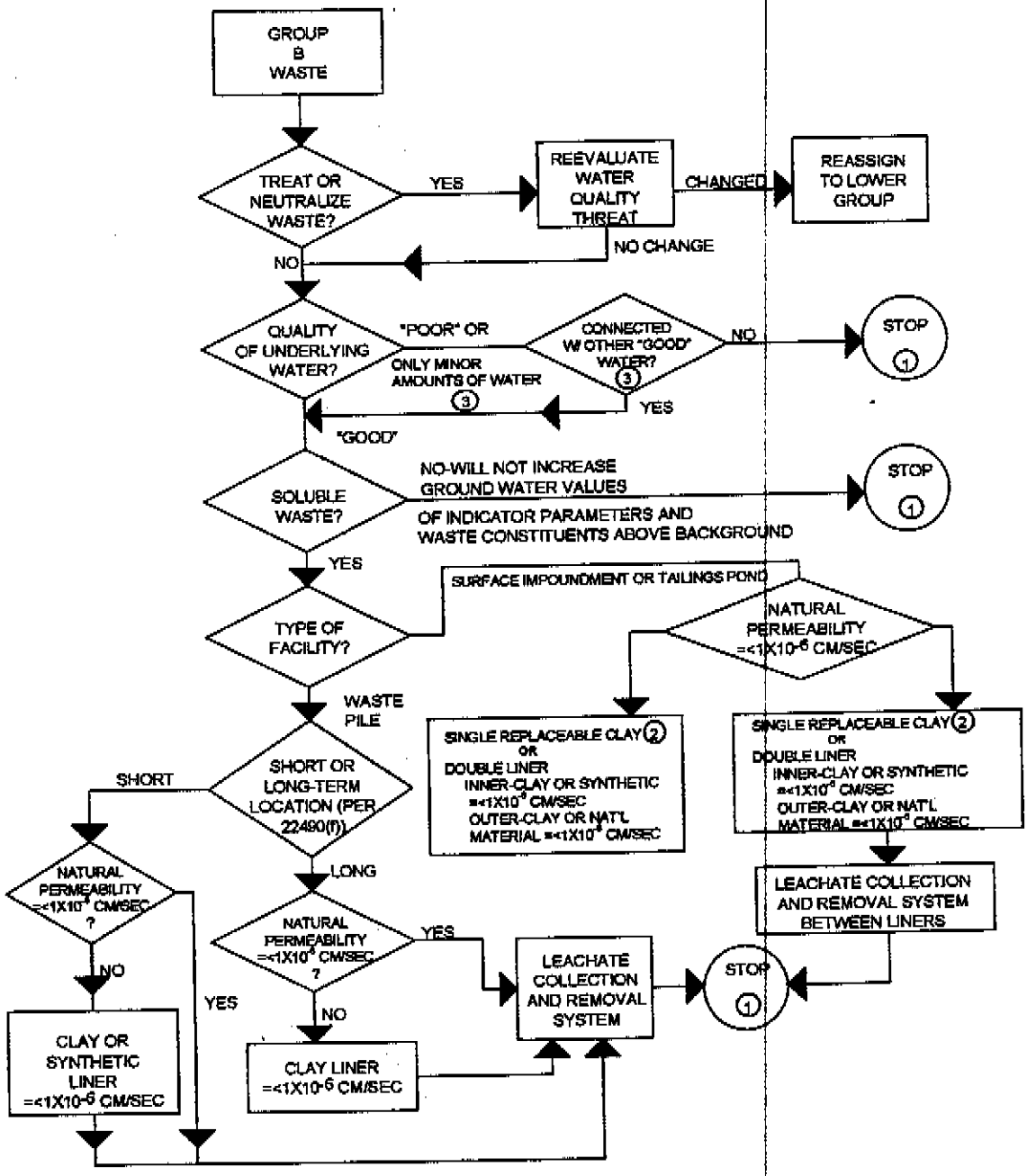


(1) CONTAINMENT FEATURES TO PROTECT SURFACE WATER ARE REQUIRED.

(2) SEE SUBSECTION 22470(C) OF THIS ARTICLE.

Figure 1.2

DISPOSAL ALTERNATIVES FOR GROUP B WASTES



(1) CONTAINMENT FEATURES TO PROTECT SURFACE WATER ARE REQUIRED.

(2) SURFACE IMPOUNDMENTS ONLY.

(3) SEE SUBSECTION 22470(C) OF THIS ARTICLE.

FIGURE 4.1

CLAY & SYNTHETIC LINER REQUIREMENTS FOR CLASS I LANDFILLS, WASTE PILES, & SURFACE IMPOUNDMENTS