

The Texas Commission on Environmental Quality (commission) proposes amendments to §§330.2, 330.3, 330.14, 330.51, 330.53, 330.56, 330.64, 330.230, 330.231, 330.235, 330.238, 330.242, 330.303 - 330.305, 330.415, and 330.416.

BACKGROUND AND SUMMARY OF THE FACTUAL BASIS FOR THE PROPOSED RULES

Senate Bill (SB) 405, 77th Legislature, established the Texas Board of Professional Geoscientists and the regulation of professional geoscientists. The Texas Geoscience Practice Act (the Act) requires that a person may not take responsible charge of a geoscientific report or a geoscientific portion of a report required by state agency rule unless the person is licensed through the Texas Board of Professional Geoscientists. The primary purpose of the proposed amendments is to establish regulations for the public practice of geoscience in conformance with the Act by requiring a person who prepares and submits geoscientific information to the commission to be a licensed professional geoscientist.

According to the bill analysis prepared at the time of passage, the ultimate purpose of the Act was public safety through the public registration of the practice of geoscience. In addition to the aforementioned amendments, the proposal includes reference corrections, removal of obsolete language, and other changes needed to comply with *Texas Register* requirements.

SECTION BY SECTION DISCUSSION

Throughout these sections, the commission has revised the words "shall" and "must," when needed, to reflect guidance provided in the Legislative Council's Drafting Manual. Administrative changes are also proposed in accordance with *Texas Register* requirements and to be consistent with other commission rules.

Proposed §330.2, Definitions, amends the introductory paragraph by deleting the word “shall” and the phrase “unless the context clearly indicates otherwise.” The definition of licensed professional geoscientist is proposed to be added as new paragraph (67). The definition of qualified groundwater scientist in existing paragraph (110) is proposed to be renumbered as paragraph (107) and revised to replace “scientist or engineer” with “licensed geoscientist or licensed engineer.” The definition of special waste in existing paragraph (141) is proposed to be renumbered as paragraph (137) and revised to update citations. The definitions of commission, EPA, executive director, person, RCRA, and SWDA are proposed to be deleted because they are defined in 30 TAC §3.2, concerning Definitions and TWC and TACB are proposed to be deleted because they are no longer used. The definitions of shall and should are proposed to be deleted because the Legislative Council’s Drafting Manual discusses the use of shall and certain other words for the purpose of drafting regulatory requirements or prohibitions or authorizing certain powers. The subsequent paragraphs are proposed to be renumbered accordingly.

The commission proposes several revisions to §330.3, Applicability, including the addition of acronyms (e.g., “MSW” in subsections (a) and (h) and “MSWLFs” in subsection (b)), and correction of references in subsections (c) and (e) - (g). In subsection (f), a change is proposed to indicate that a professional engineer must be licensed to practice in Texas, rather than being registered to practice.

Proposed §330.14, Arid Exemption Process, amends paragraphs (8) and (9) by eliminating the phrase “where appropriate” because the sealing of work done for the public by licensed professional geoscientists or engineers will always be appropriate. The term “groundwater scientist” is substituted

for “groundwater professional” in paragraph (9). Proposed §330.14 also includes several administrative formatting corrections (e.g., correcting the name of the agency from “Texas Water Commission” to “Texas Commission on Environmental Quality”).

Proposed §330.51(d), Permit Application for Municipal Solid Waste Facilities, makes the legal citation to the Act and to the Engineering Practice Act. In subsection (d)(1), the commission proposes to state the responsibilities of the responsible engineer more concisely and to correct the section number and title of the citation in the Texas Administrative Code governing the use of engineers’ seals. The commission proposes new subsection (d)(2) requiring the responsible licensed professional geoscientist to seal, sign, and date applicable items as required by the Act and in accordance with any rules subsequently adopted by the Texas Board of Professional Geoscientists concerning geoscientists’ seals. Existing subsection (d)(2) is proposed to be renumbered as subsection (d)(3).

The commission proposes to amend §330.53(b)(11)(A) to simplify the double preposition. In addition, the commission proposes several administrative revisions, including correction of the statutory citation to the Texas Health and Safety Code (THSC), addition of acronyms, addition of introductory clauses for grammatical clarity, and correction of rule references to 30 TAC Chapter 301, concerning Levee Improvement Districts, District Plans of Reclamation, and Levees and Other Improvements.

The commission proposes revisions to §330.56, Attachments to the Site Development Plan, which involve correcting typographical errors and acronyms, rearranging wording and rewording to provide a more accurate description (e.g., replacing “after-level” with “after-equilibrium” in subsection

(d)(5)(C)(i)), and correcting rule references (e.g., changing the reference from §330.200 to §330.241 in subsection (e)(6) - (8) and other rule reference corrections in subsection (k)).

Proposed §330.64, Additional Standard Permit Conditions for Municipal Solid Waste Facilities, requires that all revised drawings prepared by a licensed professional engineer or a licensed professional geoscientist shall be signed and sealed in accordance with the Act. The commission proposes a streamlining measure by deleting existing §330.64(a), because the permit or permit amendment is based on earlier submissions, and the post-permit issuance or post-permit amendment issuance versions of the site development plan are considered to be unnecessary. The remaining subsections are proposed to be relettered to account for this deletion. Other proposed revisions to §330.64 are the addition of acronyms and the term “executive director” to replace outdated references and streamlining the rule language in §330.64(b) to refer to the application requirements of §330.51(e) instead of repeating those requirements in relettered subsection (b). The commission also proposes adding requirements for geoscientific plans and reports to relettered subsection (b), with similar signing and sealing requirements for geoscientists as are currently required for engineers.

Proposed §330.230, Applicability, corrects rule references and deletes obsolete language. In subsection (a), the commission proposes to add the statement, “Owners and operators of MSWLF units shall comply with the groundwater monitoring requirements of this subchapter.” This statement retains the requirement to comply with groundwater monitoring requirements which had been specified in subsections (c) and (d) that are proposed to be deleted.

Proposed §330.231(e), Groundwater Monitoring Systems, substitutes “must” for “shall” as discussed previously in this preamble and deletes unneeded language in references.

Proposed §330.235, Assessment Monitoring Program, makes acronym additions and nonsubstantive corrections to rule language and references.

Proposed §330.238, Implementation of the Corrective Action Program, corrects rule references and makes nonsubstantive changes to rule language.

Proposed §330.242(a), Monitor-Well Construction Specifications, removes an unnecessary hyphen between “solid” and “waste.” Other nonsubstantive changes to rule language are proposed. In subsections (a)(1)(A) and (D), the term “licensed professional geoscientist” is substituted for “qualified geologist.” The commission proposes a rule reference correction in subsection (g) relating to plugging and abandonment of monitoring wells.

Proposed §330.303(b), Fault Areas, replaces the demonstrative adjective “such” with specific references to studies or conditions of differential subsidence or faulting; replaces “geologist” with “licensed professional geoscientist”; and adds “licensed” before “professional engineer.” Other proposed revisions to §330.303(b) are minor editorial revisions.

Proposed §330.304, Seismic Impact Zones, and proposed §330.305, Unstable Areas, substitute “must” for “shall” as discussed previously in this preamble.

Proposed §330.415(c), Additional Requirements for Municipal Solid Waste Mining Facilities, replaces the phrase “a Registered Professional Engineer” with “the licensed professional engineer”; replaces an indefinite article with the definite article; and requires that all revised geological drawings be signed and sealed by the licensed professional geoscientist responsible for their preparation and included in the loose-leaf binder.

Proposed §330.416(f), Registration Application Preparation, corrects the use of the demonstrative pronoun by substituting “that” for “which” to introduce the restrictive clause describing the soil boring plan; and changes a future tense to present tense. The phrases “soil boring plan” and “site development plan” are lowercased throughout the section. In proposed subsections (a) and (m)(1), the term “registered” is replaced by “licensed” before “professional engineer.” Proposed subsection (m) recognizes the agency accepted use of “groundwater” as a single word; inserts four necessary commas; lowercases the phrase “unified soil classification”; replaces the demonstrative pronoun introducing a restrictive clause by a conjunction; replaces a comma with a semicolon; and substitutes the word “licensed” for “registered” before “professional engineer.”

FISCAL NOTE

Doretta Conrad, Analyst in the Budget and Planning Division, has determined that, for the first five-year period the proposed rules are in effect, there will be no significant fiscal implications for the agency or any other unit of state government as a result of administration or enforcement of the proposed rules. The proposed rules add a requirement for certain individuals to be licensed by the Texas Board of Professional Geoscientists as required by SB 405.

Ms. Conrad also determined that, for each of the first five years the proposed rules are in effect, the public benefit anticipated from the enforcement of and compliance with the proposed rules will be potentially improved environmental performance by persons regulated by the agency. The proposed rules might impact other state agencies or local governments with staff geologists who need to become licensed under these rules. The fees associated with obtaining the professional geoscientist license are \$200 to cover the application and first-year license and \$150 per year after the first year. No significant fiscal implications are anticipated for any individual or business due to implementation of the proposed rules. Additionally, no significant fiscal implications are anticipated for any small or micro-business due to implementation of the proposed rules. The commission has determined that a local employment impact statement is not required because the proposed rules do not adversely affect a local economy in a material way for the first five years that the proposed rules are in effect.

DRAFT REGULATORY IMPACT ANALYSIS DETERMINATION

The commission reviewed the proposed rulemaking in light of the regulatory analysis requirements of Texas Government Code, §2001.0225, and determined that the rulemaking is not subject to §2001.0225 because it does not meet the criteria for a “major environmental rule” as defined in that statute.

A “major environmental rule” means a rule, the specific intent of which, is to protect the environment or reduce risks to human health from environmental exposure and that may adversely affect in a material way the economy, a sector of the economy, productivity, competition, jobs, the environment, or the public health and safety of the state or a sector of the state.

The specific intent of the proposed rules is to establish regulations allowing for the public practice of geoscience in agency procedures in conformance with the Act. The Act requires that a person may not take responsible charge of a geoscientific report or a geoscientific portion of a report required by a state agency rule unless the person is licensed through the Texas Board of Professional Geoscientists. The proposed rules are not specifically intended to protect the environment or reduce risks to human health. The proposed rules are intended to establish procedures to require that specific reports and necessary data submitted to the commission be produced, signed, sealed, and dated by licensed professional geoscientists who have obtained their licenses through the Texas Board of Professional Geoscientists, and to make other corrections to the rules. Therefore, it is not anticipated that the proposed rules will adversely affect in a material way the economy, a sector of the economy, productivity, competition, jobs, the environment, or the public health and safety of the state or a sector of the state. The commission concludes that these proposed rules do not meet the definition of major environmental rule.

Furthermore, even if the proposed rulemaking did meet the definition of a major environmental rule, the amendments are not subject to Texas Government Code, §2001.0225, because they do not accomplish any of the four results specified in §2001.0225(a). Section 2001.0225(a) applies to a rule adopted by an agency, the result of which is to: 1) exceed a standard set by federal law, unless the rule is specifically required by state law; 2) exceed an express requirement of state law, unless the rule is specifically required by federal law; 3) exceed a requirement of a delegation agreement or contract between the state and an agency or representative of the federal government to implement a state and federal program; or 4) adopt a rule solely under the general powers of the agency instead of under a specific state law.

In this case, the proposed amendments to Chapter 330 do not meet any of these requirements. First, there are no applicable federal standards that these rules would address. Second, the proposed rules do not exceed an express requirement of state law. Third, there is no delegation agreement that would be exceeded by these proposed rules. Fourth, the commission proposes these rules to allow for the public practice of geoscience in agency procedures in conformance with the Act. Therefore, the commission does not propose the adoption of the rules solely under the commission's general powers.

The commission invites public comment on the draft regulatory impact analysis determination.

TAKINGS IMPACT ASSESSMENT

The commission evaluated these proposed rules and performed a preliminary assessment of whether these proposed rules constitute a takings under Texas Government Code, Chapter 2007. The specific intent of the proposed rules is to establish regulations allowing for the public practice of geoscience in agency procedures in conformance with the Act and to make other corrections to the rules. The proposed rules would substantially advance this stated purpose by requiring that geoscientific reports submitted to the commission be produced, signed, sealed, and dated by licensed professional geoscientists who have obtained their licenses through the Texas Board of Professional Geoscientists.

Promulgation and enforcement of these proposed rules would be neither a statutory nor a constitutional taking of private real property because the rules do not affect real property. These rules require that specific portions of applications or necessary data submitted to the commission be produced, signed, sealed, and dated by a qualified professional individual who has demonstrated his or her qualifications

by obtaining a license to engage in the public practice of geoscience from the Texas Board of Professional Geoscientists. In addition, the proposed amendments make minor corrections to the rules.

CONSISTENCY WITH THE COASTAL MANAGEMENT PROGRAM

The commission has reviewed the proposed rulemaking and found that the proposal is a rulemaking identified in Coastal Coordination Act Implementation Rules, 31 TAC §505.11(b)(2), relating to Actions and Rules Subject to the Texas Coastal Management Program (CMP), or will affect an action and/or authorization identified in Coastal Coordination Act Implementation Rules, 31 TAC §505.11(a)(6), and will therefore require that applicable goals and policies of the CMP be considered during the rulemaking process. The commission has prepared a consistency determination for the proposed rules under 31 TAC §505.22 and found that the proposed rulemaking is consistent with the applicable CMP goals and policies. The following is a summary of that determination. The CMP goal applicable to the proposed rulemaking is the goal to protect, preserve, restore, and enhance the diversity, quality, quantity, functions, and values of coastal natural resource areas. CMP policies applicable to the proposed rules include the construction and operation of solid waste treatment, storage, and disposal facilities, and the discharge of municipal and industrial wastewater to coastal waters. Promulgation and enforcement of these rules will not violate (exceed) any standards identified in the applicable CMP goals and policies because the proposed rule changes do not modify or alter standards set forth in existing rules, and do not govern or authorize any actions subject to the CMP. The proposed rulemaking would require a person who prepares and submits geoscientific information to the agency to be a licensed professional geoscientist. The commission invites public comment on the consistency determination of the proposed rules.

SUBMITTAL OF COMMENTS

Comments may be submitted to Lola Brown, Office of Environmental Policy, Analysis, and Assessment, MC 205, P.O. Box 13087, Austin, Texas 78711-3087 or faxed to (512) 239-4808.

Comments must be received by 5:00 p.m., June 30, 2003, and should reference Rule Log Number 2001-051E-330-WS. For further information, please contact Michael Bame, Policy and Regulations Division, at (512) 239-5658.

SUBCHAPTER A: GENERAL INFORMATION

§§330.2, 330.3, 330.14

STATUTORY AUTHORITY

The amendments are proposed under Texas Water Code (TWC), §5.103, which provides the commission with the authority to adopt rules necessary to carry out its power and duties under this code and other laws of this state; TWC, §5.105, which authorizes the commission to establish and approve all general policy of the commission by rule; THSC, §361.024, which authorizes the commission to establish standards of operation for the management and control of solid waste; and Texas Civil Statutes, Article 3271b, the Act, which authorizes the public practice of geoscience in the State of Texas.

The proposed amendments implement TWC, §5.103 and §5.105; THSC, §361.024; and Texas Civil Statutes, Article 3271b, the Act.

§330.2. Definitions.

Unless otherwise noted, all terms contained in this section are defined by their plain meaning. This section contains definitions for terms that appear throughout this chapter. Additional definitions may appear in the specific section to which they apply. As used in this chapter, words in the masculine gender also include the feminine and neuter genders, words in the feminine gender also include the masculine and neuter genders; words in the singular include the plural and words in the plural include

the singular. The following words and terms, when used in this chapter, [shall] have the following meanings[, unless the context clearly indicates otherwise].

(1) - (6) (No change.)

(7) **Areas susceptible to mass movements** - Areas of influence (i.e., areas characterized as having an active or substantial possibility of mass movement) where the movement of earth material at, beneath, or adjacent to the municipal solid waste landfill [MSWLF] unit, because of natural or man-induced events, results in the downslope transport of soil and rock material by means of gravitational influence. Areas of mass movement include, but are not limited to, landslides, avalanches, debris slides and flows, soil fluctuation, block sliding, and rock fall.

(8) **Asbestos-containing materials** - Include the following:

(A) Category I nonfriable asbestos-containing material (ACM) means asbestos-containing packings, gaskets, resilient floor covering, and asphalt roofing products containing more than 1.0% asbestos as determined using the method specified in Appendix A, Subpart F, 40 Code of Federal Regulations (CFR) [CFR], Part 763, §1, Polarized Light Microscopy (40 CFR Part 763, §1).

(B) Category II nonfriable ACM means any material, excluding Category I nonfriable ACM, containing more than 1.0% asbestos as determined using the methods specified in 40

CFR Part 763, §1, [Appendix A, Subpart F, 40 CFR, Part 763, §1, Polarized Light Microscopy,] that, when dry, cannot be crumbled, pulverized, or reduced to powder by hand pressure.

(C) - (D) (No change.)

(9) - (22) (No change.)

[(23) **Commission** - The Texas Water Commission and its successors.]

(23) [(24)] **Compacted waste** - Waste that has been reduced in volume by a collection vehicle or other means including, but not limited to, dewatering, composting, incineration, and similar processes, with the exception of waste that has been reduced in volume by a small, in-house compactor device owned and/or operated by the generator of the waste.

(24) [(25)] **Composite liner** - A liner system consisting of two components: the upper component must consist of a minimum 30-mil flexible membrane liner (FML) or minimum 60-mil high-density polyethylene [(HDPE)] and the lower component must consist of at least a two-foot layer of compacted soil with a hydraulic conductivity of no more than 1×10^{-7} cm/sec. The FML component must be installed in direct and uniform contact with the compacted soil component.

(25) [(26)] **Compost** - The stabilized product of the decomposition process that is used or sold for use as a soil amendment, artificial top soil, growing medium amendment, or other similar uses.

(26) [(27)] **Composting** - The controlled biological decomposition of organic materials through microbial activity.

(27) [(28)] **Conditionally exempt small-quantity generator** - A person who generates no more than 220 pounds of hazardous waste in a calendar month.

(28) [(29)] **Construction-demolition waste** - Waste resulting from construction or demolition projects; includes all materials that are directly or indirectly the by-products of construction work or that result from demolition of buildings and other structures, including, but not limited to, paper, cartons, gypsum board, wood, excelsior, rubber, and plastics.

(29) [(30)] **Contaminate** - The man-made or man-induced alteration of the chemical, physical, biological, or radiological integrity of ground or surface water.

(30) [(31)] **Controlled burning** - The combustion of solid waste with control of combustion air to maintain adequate temperature for efficient combustion; containment of the combustion reaction in an enclosed device to provide sufficient residence time and mixing for complete combustion; and control of the emission of the combustion products, i.e., incineration in an incinerator.

(31) [(32)] **Discard** - To abandon a material and not use, reuse [re-use], reclaim, or recycle it. A material is abandoned by being disposed of; burned or incinerated (except where the material is being burned as a fuel for the purpose of recovering usable energy); or physically, chemically, or biologically treated (other than burned or incinerated) in lieu of or prior to being disposed.

(32) [(33)] **Discharge** - Includes deposit, conduct, drain, emit, throw, run, allow to seep, or otherwise release, or to allow, permit, or suffer any of these acts or omissions.

(33) [(34)] **Discharge of dredged material** - Any addition of dredged material into the waters of the United States. The term includes, without limitation, the addition of dredged material to a specified disposal site located in waters of the United States and the runoff or overflow from a contained land or water disposal area.

(34) [(35)] **Discharge of fill material** - The addition of fill material into waters of the United States. The term generally includes placement of fill necessary to the construction of any structure in waters of the United States: the building of any structure or improvement requiring rock, sand, dirt, or other inert material for its construction; the building of dams, dikes, levees, and riprap.

(35) [(36)] **Discharge of pollutant** - Any addition of any pollutant to navigable waters from any point source or any addition of any pollutant to the waters of the contiguous zone or the ocean from any point source.

(36) [(37)] **Displacement** - The measured or estimated distance between two formerly adjacent points situated on opposite walls of a fault (synonymous with net slip).

(37) [(38)] **Disposal** - The discharge, deposit, injection, dumping, spilling, leaking, or placing of any solid waste or hazardous waste (whether containerized or uncontainerized) into or on any land or water so that such solid waste or hazardous waste or any constituent thereof may enter the environment or be emitted into the air or discharged into any waters, including groundwater.

(38) [(39)] **Dredged material** - Material that is excavated or dredged from waters of the United States.

(39) [(40)] **Drinking-water intake** - The point at which water is withdrawn from any water well, spring, or surface water body for use as drinking water for humans, including standby public water supplies.

(40) [(41)] **Elements of nature** - Rainfall, snow, sleet, hail, wind, sunlight, or other natural phenomenon.

(41) [(42)] **Endangered or threatened species** - Any species listed as such under [pursuant to the] Federal Endangered Species Act, §4, 16 United States Code [(USC)], §1536, as amended or under [pursuant to] the Texas Endangered Species Act.

[(43) **EPA** - United States Environmental Protection Agency.]

(42) [(44)] **Essentially insoluble** - Any material that, if representatively sampled and placed in static or dynamic contact with deionized water at ambient temperature for seven days, will not leach any quantity of any constituent of the material into the water in excess of the maximum contaminant levels in 40 Code of Federal Regulations (CFR) Part 141 [CFR 141], Subparts B and G, and 40 CFR Part 143 for total dissolved solids.

[(45) **Executive director** - The executive director of the Texas Water Commission and successors, or a person authorized to act on her behalf.]

(43) [(46)] **Existing municipal solid waste landfill [MSWLF] unit** - Any municipal solid waste landfill unit that received solid waste as of October 9, 1993. Waste placement in existing units must be consistent with past operating practices or modified practices to ensure good management.

(44) [(47)] **Experimental project** - Any new proposed method of managing municipal solid waste, including resource and energy recovery projects, that appears to have sufficient merit to warrant commission approval.

(45) [(48)] **Facility** - All contiguous land and structures, other appurtenances, and improvements on the land used for the storage, processing, or disposal of solid waste.

(46) [(49)] **Fault** - A fracture or a zone of fractures in any material along which strata, rocks, or soils on one side have been displaced with respect to those on the other side.

(47) [(50)] **Fill material** - Any material used for the primary purpose of filling an excavation.

(48) [(51)] **Floodplain** - The lowland and relatively flat areas adjoining inland and coastal waters, including flood-prone areas of offshore islands, that are inundated by the 100-year flood.

(49) [(52)] **Garbage** - Solid waste consisting of putrescible animal and vegetable waste materials resulting from the handling, preparation, cooking, and consumption of food, including waste materials from markets, storage facilities, handling, and sale of produce and other food products.

(50) [(53)] **Gas condensate** - The liquid generated as a result of any gas recovery process at a municipal solid waste facility.

(51) [(54)] **Generator** - Any person, by site or location, whose act or process produces a solid waste or first causes it to become regulated.

(52) [(55)] **Groundwater** - Water below the land surface in a zone of saturation.

(53) [(56)] **Hazardous waste** - Any solid waste identified or listed as a hazardous waste by the administrator of the EPA under [United States Environmental Protection Agency (EPA) pursuant to] the federal Solid Waste Disposal Act, as amended by RCRA [the Resource Conservation and Recovery Act of 1976], 42 United States Code, §§6901 [USC, §6901] *et seq.*, as amended.

(54) [(57)] **Holocene** - The most recent epoch of the Quaternary Period, extending from the end of the Pleistocene Epoch to the present.

(55) [(58)] **Household waste** - Any solid waste (including garbage, trash, and sanitary waste in septic tanks) derived from households (including single and multiple residences, hotels, and motels, bunkhouses, ranger stations, crew quarters, campgrounds, picnic grounds, and day-use recreation areas); does not include yard waste or brush that is completely free of any household wastes.

(56) [(59)] **Industrial hazardous waste** - Hazardous waste determined to be of industrial origin.

(57) [(60)] **Industrial solid waste** - Solid waste resulting from or incidental to any process of industry or manufacturing, or mining or agricultural operations, classified as follows.

(A) Class I industrial solid waste or Class I waste is any industrial solid waste designated as Class I by the executive director as any industrial solid waste or mixture of industrial solid wastes that because of its concentration or physical or chemical characteristics is toxic, corrosive,

flammable, a strong sensitizer or irritant, a generator of sudden pressure by decomposition, heat, or other means, and may pose a substantial present or potential danger to human health or the environment when improperly processed, stored, transported, or otherwise managed, including hazardous industrial waste, as defined in §335.1 of this title (relating to Definitions) and §335.505 of this title (relating to Class 1 [I] Waste Determination).

(B) Class II industrial solid waste is any individual solid waste or combination of industrial solid wastes that cannot be described as Class I or Class III, as defined in §335.506 of this title (relating to Class 2 [II] Waste Determination).

(C) Class III industrial solid waste is any inert and essentially insoluble industrial solid waste, including materials such as rock, brick, glass, dirt, and certain plastics and rubber, etc., that are not readily decomposable as defined in §335.507 of this title (relating to Class 3 [III] Waste Determination).

(58) [(61)] **Inert material** - A naturally occurring nonputrescible material that is essentially insoluble such as soil, dirt, clay, sand, gravel, and rock.

(59) [(62)] **In situ** - In natural or original position.

(60) [(63)] **Karst terrain** - An area where karst topography, with its characteristic surface and/or subterranean features, is developed principally as the result of dissolution of limestone,

dolomite, or other soluble rock. Characteristic physiographic features present in karst terrains include, but are not limited to, sinkholes, sinking streams, caves, large springs, and blind valleys.

(61) [(64)] **Lateral expansion** - A horizontal expansion of the waste boundaries of an existing municipal solid waste landfill [MSWLF] unit.

(62) [(65)] **Land application of solid waste** - The disposal or use of solid waste (including, but not limited to, sludge or septic tank pumpings or mixture of shredded waste and sludge) in which the solid waste is applied within three feet of the surface of the land.

(63) [(66)] **Leachate** - A liquid that has passed through or emerged from solid waste and contains soluble, suspended, or miscible materials removed from such waste.

(64) [(67)] **Lead** - The metal element, atomic number 82, atomic weight 207.2, with the chemical symbol Pb.

(65) [(68)] **Lead acid battery** - A secondary or storage battery that uses lead as the electrode and dilute sulfuric acid as the electrolyte and is used to generate electrical current.

(66) [(69)] **License** -

(A) A document issued by an approved county authorizing and governing the operation and maintenance of a municipal solid waste facility used to process, treat, store, or dispose of

municipal solid waste, other than hazardous waste, in an area not in the territorial limits or extraterritorial jurisdiction of a municipality.

(B) An occupational license as defined in Chapter 30 of this title (relating to Occupational Licenses and Registrations).

(67) Licensed professional geoscientist - A geoscientist who maintains a current license through the Texas Board of Professional Geoscientists in accordance with its requirements for professional practice.

(68) [(70)] Liquid waste - Any waste material that is determined to contain “free liquids” as defined by EPA Method 9095 (Paint Filter Test), as described in “Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods” (EPA Publication Number SW-846).

(69) [(71)] Litter - Rubbish and putrescible waste.

(70) [(72)] Lower explosive limit - 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.

(71) [(73)] Man-made inert material - Those non-putrescible, essentially insoluble materials fabricated by man that are not included under the definition of rubbish.

(72) [(74)] **Medical waste** - Waste generated by health-care-related facilities and associated with health-care activities, not including garbage or rubbish generated from offices, kitchens, or other non-health-care activities. The term includes special waste from health care-related facilities which is comprised of animal waste, bulk blood and blood products, microbiological waste, pathological waste, and sharps as those terms are defined in 25 TAC §1.132 (relating to Definitions [(Definition, Treatment, and Disposition of Special Waste from Health-Care Related Facilities)]. The term does not include medical waste produced on farmland and ranchland as defined in Agriculture Code, §252.001(6) (Definitions - Farmland or ranchland), nor does the term include artificial, nonhuman materials removed from a patient and requested by the patient, including, but not limited to, orthopedic devices and breast implants.

(73) [(75)] **Monofill** - A landfill or landfill trench into which only one type of waste is placed.

(74) [(76)] **MSWLF** - Municipal solid waste landfill facility.

(75) [(77)] **Municipal hazardous waste** - Any municipal solid waste or mixture of municipal solid wastes that has been identified or listed as a hazardous waste by the administrator of the EPA [, United States Environmental Protection Agency].

(76) [(78)] **Municipal solid waste [(MSW)]** - Solid waste resulting from, or incidental to, municipal, community, commercial, institutional, and recreational activities, including garbage,

rubbish, ashes, street cleanings, dead animals, abandoned automobiles, and all other solid waste other than industrial solid waste.

(77) [(79)] **Municipal solid waste facility [(MSW facility)]** - All contiguous land, structures, other appurtenances, and improvements on the land used for processing, storing, or disposing of solid waste. A facility may be publicly or privately owned and may consist of several processing, storage, or disposal operational units, e.g., one or more landfills, surface impoundments, or combinations of them.

(78) [(80)] **Municipal solid waste landfill unit [(MSWLF unit)]** - A discrete area of land or an excavation that receives household waste and that is not a land application unit, surface impoundment, injection well, or waste pile, as those terms are defined under 40 Code of Federal Regulations §257.2 [§257.2 of 40 CFR, Part 257]. A municipal solid waste landfill (MSWLF) [An MSWLF] unit also may receive other types of RCRA Subtitle D wastes, such as commercial solid waste, nonhazardous sludge, conditionally exempt small-quantity generator waste, and industrial solid waste. Such a landfill may be publicly or privately owned. An MSWLF unit may be a new MSWLF unit, an existing MSWLF unit, or a lateral expansion.

(79) [(81)] **Municipal solid waste site [(MSW site)]** - A plot of ground designated or used for the processing, storage, or disposal of solid waste.

(80) [(82)] **Navigable waters** - The waters of the United States, including the territorial seas.

(81) [(83)] **New municipal solid waste landfill [MSWLF] unit** - Any municipal solid waste landfill unit that has not received waste prior to October 9, 1993.

(82) [(84)] **Nonpoint source** - Any origin from which pollutants emanate in an unconfined and unchanneled manner, including, but not limited to, surface runoff and leachate seeps.

(83) [(85)] **Non-RACM** - Non-regulated asbestos-containing material as defined in 40 Code of Federal Regulations Part 61 [CFR 61]. This is asbestos material in a form such that potential health risks resulting from exposure to it are minimal.

(84) [(86)] **Nuisance** - Municipal solid waste that is stored, processed, or disposed of in a manner that causes the pollution of the surrounding land, the contamination of groundwater or surface water, the breeding of insects or rodents, or the creation of odors adverse to human health, safety, or welfare.

(85) [(87)] **Open burning** - The combustion of solid waste without:

(A) control of combustion air to maintain adequate temperature for efficient combustion;

(B) containment of the combustion reaction in an enclosed device to provide sufficient residence time and mixing for complete combustion; and

(C) control of the emission of the combustion products.

(86) [(88)] **Operate** - To conduct, work, run, manage, or control.

(87) [(89)] **Operating record** - All plans, submittals, and correspondence for a municipal solid waste landfill [an MSWLF] facility required under this chapter; required to be maintained at the facility or at a nearby site acceptable to the executive director.

(88) [(90)] **Operation** - A municipal solid waste site or facility is considered to be in operation from the date that solid waste is first received or deposited at the municipal solid waste site or facility until the date that the site or facility is properly closed in accordance with this chapter.

(89) [(91)] **Operator** - The person(s) responsible for operating the facility or part of a facility.

(90) [(92)] **Opposed case** - A case when one or more parties appear, or make their appearance, in opposition to an application and are designated as opponent parties by the hearing examiner either at or before the public hearing on the application.

(91) [(93)] **Other regulated medical waste** - Medical waste that is not included within special waste from health care-related facilities but that is subject to special handling requirements within the generating facility by other state or federal agencies, excluding medical waste subject to 25 TAC Chapter 289 (concerning Radiation Control).

(92) [(94)] **Owner** - The person who owns a facility or part of a facility.

(93) [(95)] **PCB** - Polychlorinated biphenyl molecule.

(94) [(96)] **Polychlorinated biphenyl [PCB] waste(s)** - Those polychlorinated biphenyls (PCBs) [PCBs] and PCB items that are subject to the disposal requirements of 40 Code of Federal Regulations (CFR) Part 761 [CFR 761]. Substances that are regulated by 40 CFR Part 761 include, but are not limited to: PCB articles, PCB article containers, PCB containers, PCB-contaminated electrical equipment, PCB equipment, PCB transformers, recycled PCBs, capacitors, microwave ovens, electronic equipment, and light ballasts and fixtures.

(95) [(97)] **Permit** - A written permit issued by the commission that, by its conditions, may authorize the owner or operator to construct, install, modify, or operate a specified municipal solid waste storage, processing, or disposal facility in accordance with specific limitations.

[(98)] **Person** - An individual, corporation, organization, government or governmental subdivision or agency, business trust, partnership, association, or any other legal entity.]

(96) [(99)] **Point of compliance** - A vertical surface located no more than 500 feet from the hydraulically downgradient limit of the waste management unit boundary, extending down through the uppermost aquifer underlying the regulated units, and located on land owned by the owner of the permitted facility.

(97) [(100)] **Point source** - Any discernible, confined, and discrete conveyance, including, but not limited to, any pipe, ditch, channel, tunnel, conduit, well, or discrete fissure from which pollutants are or may be discharged.

(98) [(101)] **Pollutant** - Contaminated dredged spoil, solid waste, contaminated incinerator residue, sewage, sewage sludge, munitions, chemical wastes, or biological materials discharged into water.

(99) [(102)] **Pollution** - The man-made or man-induced alteration of the chemical, physical, biological, or radiological integrity of an aquatic ecosystem.

(100) [(103)] **Poor foundation conditions** - Areas where features exist which indicate that a natural or man-induced event may result in inadequate foundation support for the structural components of a municipal solid waste landfill [an MSWLF] unit.

(101) [(104)] **Population equivalent** - The hypothetical population that would generate an amount of solid waste equivalent to that actually being managed based on a generation rate of five

pounds per capita per day and applied to situations involving solid waste not necessarily generated by individuals. It is assumed, for the purpose of these sections, that the average volume per ton of waste entering a municipal solid waste disposal facility is three cubic yards. For the purposes of these sections, the following population equivalents shall apply:

(A) 8,000 persons - 20 tons per day or 60 cubic yards per day;

(B) 5,000 persons - 12 1/2 tons or 37 1/2 cubic yards per day;

(C) 1,500 persons - 3 3/4 tons or 11 1/4 cubic yards per day;

(D) 1,000 persons - 225 pounds of wastewater treatment plant sludge per day
(dry-weight basis).

(102) [(105)] **Post-consumer waste** - A material or product that has served its intended use and has been discarded after passing through the hands of a final user. For the purposes of this subchapter, the term does not include industrial or hazardous waste.

(103) [(106)] **Premises** - A tract of land with the buildings thereon, or a building or part of a building with its grounds or other appurtenances.

(104) [(107)] **Processing** - Activities including, but not limited to, the extraction of materials, transfer, volume reduction, conversion to energy, or other separation and preparation of solid waste for reuse or disposal, including the treatment or neutralization of hazardous waste, designed to change the physical, chemical, or biological character or composition of any hazardous waste to neutralize such waste, or to recover energy or material from the waste, or to render such waste nonhazardous or less hazardous; safer to transport, store, dispose of, or make it amenable for recovery, amenable for storage, or reduced in volume. Unless the executive director determines that regulation of such activity under these rules is necessary to protect human health or the environment, the definition of “processing” does not include activities relating to those materials exempted by the administrator of the EPA under [Environmental Protection Agency pursuant to] the federal Solid Waste Disposal Act, as amended by RCRA [the Resource Conservation and Recovery Act], 42 United States Code, §§6901 [USC, §6901] *et seq.*, as amended.

(105) [(108)] **Public highway** - The entire width between property lines of any road, street, way, thoroughfare, bridge, public beach, or park in this state, not privately owned or controlled, if any part of the road, street, way, thoroughfare, bridge, public beach, or park is opened to the public for vehicular traffic, is used as a public recreational area, or is under the state’s legislative jurisdiction through its police power.

(106) [(109)] **Putrescible waste** - Organic wastes, such as garbage, wastewater treatment plant sludge, and grease trap waste, that is capable of being decomposed by microorganisms

with sufficient rapidity as to cause odors or gases or is capable of providing food for or attracting birds, animals, and disease vectors.

(107) [(110)] **Qualified groundwater scientist** - A licensed geoscientist [scientist] or licensed engineer who has received a baccalaureate or post-graduate degree in the natural sciences or engineering and has sufficient training in groundwater hydrology and related fields as may be demonstrated by state registration, professional certifications, or completion of accredited university programs that enable the individual to make sound professional judgments regarding groundwater monitoring, contaminant fate and transport, and corrective action.

(108) [(111)] **RACM** - Regulated asbestos-containing material as defined in 40 Code of Federal Regulations Part 61 [CFR 61], as amended, includes: friable asbestos material, Category I nonfriable asbestos-containing material (ACM) [ACM] that has become friable; Category I nonfriable ACM that will be₂ or has been₂ subjected to sanding, grinding, cutting, or abrading; or Category II nonfriable ACM that has a high probability of becoming₂ or has become₂ crumbled, pulverized, or reduced to powder by the forces expected to act on the material in the course of demolition or renovation operations.

(109) [(112)] **Radioactive waste** - Waste that requires specific licensing under Texas Health and Safety Code, [25 TAC] Chapter 401, [concerning Radioactive Materials and Other Sources of Radiation, Health and Safety Code] and the rules adopted by the commission under that law.

[(113) **RCRA** - Resource Conservation and Recovery Act.]

(110) [(114)] **Recyclable material** - A material that has been recovered or diverted from the nonhazardous waste stream for purposes of reuse, recycling, or reclamation, a substantial portion of which is consistently used in the manufacture of products that may otherwise be produced using raw or virgin materials. Recyclable material is not solid waste. However, recyclable material may become solid waste at such time, if any, as it is abandoned or disposed of rather than recycled, whereupon it will be solid waste with respect only to the party actually abandoning or disposing of the material.

(111) [(115)] **Recycling** - A process by which materials that have served their intended use or are scrapped, discarded, used, surplus, or obsolete are collected, separated, or processed and returned to use in the form of raw materials in the production of new products. Except for mixed municipal solid waste composting, that is, composting of the typical mixed solid waste stream generated by residential, commercial, and/or institutional sources, recycling includes the composting process if the compost material is put to beneficial use.

(112) [(116)] **Refuse** - Same as rubbish.

(113) [(117)] **Registration** - The act of filing information for specific solid waste management activities that do not require a permit, as determined by this chapter.

(114) [(118)] **Regulated hazardous waste** - A solid waste that is a hazardous waste as defined in 40 Code of Federal Regulations (CFR) §261.3 [CFR, Part §261.3], and that is not excluded from regulation as a hazardous waste under 40 CFR §261.4(b) [CFR, Part §261.4(b)], or that was not generated by a conditionally exempt small-quantity generator.

(115) [(119)] **Relevant point of compliance** - See point of compliance.

(116) [(120)] **Resource recovery** - The recovery of material or energy from solid waste.

(117) [(121)] **Resource recovery site** - A solid waste processing site at which solid waste is processed for the purpose of extracting, converting to energy, or otherwise separating and preparing solid waste for reuse.

(118) [(122)] **Rubbish** - Nonputrescible solid waste (excluding ashes), consisting of both combustible and noncombustible waste materials. Combustible rubbish includes paper, rags, cartons, wood, excelsior, furniture, rubber, plastics, yard trimmings, leaves, or similar materials; noncombustible rubbish includes glass, crockery, tin cans, aluminum cans, metal furniture, and similar materials that will not burn at ordinary incinerator temperatures (1,600 degrees Fahrenheit to 1,800 degrees Fahrenheit).

(119) [(123)] **Run-off** - Any rainwater, leachate, or other liquid that drains over land from any part of a facility.

(120) [(124)] **Run-on** - Any rainwater, leachate, or other liquid that drains over land onto any part of a facility.

(121) [(125)] **Salvaging** - The controlled removal of waste materials for utilization, recycling, or sale.

(122) [(126)] **Saturated zone** - That part of the earth's crust in which all voids are filled with water.

(123) [(127)] **Scavenging** - The uncontrolled and unauthorized removal of materials at any point in the solid waste management system.

(124) [(128)] **Scrap tire** - Any tire that can no longer be used for its original intended purpose.

(125) [(129)] **Seasonal high water table** - The highest measured or calculated water level in an aquifer during investigations for a permit application and/or any groundwater characterization studies at a site.

(126) [(130)] **Septage** - The liquid and solid material pumped from a septic tank, cesspool, or similar sewage treatment system.

[(131)] **Shall** - The stated action is mandatory.]

[(132)] **Should** - The stated action is recommended as a guide in completing the overall requirement.]

(127) [(133)] **Site** - Same as facility.

(128) [(134)] **Site development plan** - A document, prepared by the design engineer, that provides a detailed design with supporting calculations and data for the development and operation of a solid waste site.

(129) [(135)] **Site operating plan** - A document, prepared by the design engineer in collaboration with the site operator, that provides guidance to site management and operating personnel in sufficient detail to enable them to conduct day-to-day operations throughout the life of the site in a manner consistent with the engineer's design and the commission's regulations.

(130) [(136)] **Site operator** - The holder of, or the applicant for, a permit (or license) for a municipal solid waste site.

(131) [(137)] **Sludge** - Any solid, semi-solid, or liquid waste generated from a municipal, commercial, or industrial wastewater treatment plant, water-supply treatment plant, or air pollution control facility, exclusive of the treated effluent from a wastewater treatment plant.

(132) [(138)] **Small municipal solid waste landfill [MSWLF]** - A municipal solid waste landfill at which less than 20 tons of municipal solid waste are disposed of daily based on an annual average.

(133) [(139)] **Solid waste** - Garbage, rubbish, refuse, sludge from a wastewater treatment plant, water supply treatment plant, or air pollution control facility, and other discarded material, including solid, liquid, semi-solid, or contained gaseous material resulting from industrial, municipal, commercial, mining, and agricultural operations and from community and institutional activities. The term does not include:

(A) solid or dissolved material in domestic sewage, or solid or dissolved material in irrigation return flows, or industrial discharges subject to regulation by permit issued under Texas Water Code [the Water Code], Chapter 26;

(B) soil, dirt, rock, sand, and other natural or man-made inert solid materials used to fill land if the object of the fill is to make the land suitable for the construction of surface improvements; or

(C) waste materials that result from activities associated with the exploration, development, or production of oil or gas or geothermal resources and other substance or material regulated by the Railroad Commission of Texas under [the] Natural Resources Code, §91.101, unless the waste, substance, or material results from activities associated with gasoline plants, natural gas liquids processing plants, pressure maintenance plants, or repressurizing plants and is hazardous waste as defined by the administrator of the EPA [United States Environmental Protection Agency] under the federal Solid Waste Disposal Act, as amended by RCRA [Resource Conservation and Recovery Act], as amended (42 United States Code, §§6901 [USC, §6901] *et seq.*).

(134) [(140)] **Source-separated recyclable material** - Recyclable material from residential, commercial, municipal, institutional, recreational, industrial, and other community activities, that at the point of generation has been separated, collected, and transported separately from municipal solid waste, or transported in the same vehicle as municipal solid waste, but in separate containers or compartments. Source-separation does not require the recovery or separation of non-recyclable components that are integral to a recyclable product, including:

(A) the non-recyclable components of white goods, whole computers, whole automobiles, or other manufactured items for which dismantling and separation of recyclable from non-recyclable components by the generator are impractical, such as insulation or electronic components in white goods;

(B) source-separated recyclable material rendered unmarketable by damage during collection, unloading, and sorting, such as broken recyclable glass; and

(C) tramp materials, such as:

(i) glass from recyclable metal windows;

(ii) nails and roofing felt attached to recyclable shingles;

(iii) nails and sheetrock attached to recyclable lumber generated through the demolition of buildings; and

(iv) pallets and packaging materials.

(135) [(141)] **Special waste** - Any solid waste or combination of solid wastes that because of its quantity, concentration, physical or chemical characteristics, or biological properties requires special handling and disposal to protect the human health or the environment. If improperly handled, transported, stored, processed, or disposed of or otherwise managed, it may pose a present or potential danger to the human health or the environment. Special wastes are:

(A) hazardous waste from conditionally exempt small-quantity generators that may be exempt from full controls under §§335.401 - 335.403 and 335.405 - 335.412 [§§335.401 -

335.412] of this title (relating to Household Materials Which Could Be Classified as Hazardous Wastes [Waste]);

(B) Class I industrial nonhazardous waste not routinely collected with municipal solid waste;

(C) special waste from health-care-related facilities (refers to certain items of medical waste);

(D) municipal wastewater treatment plant sludges, other types of domestic sewage treatment plant sludges, and water-supply treatment plant sludges;

(E) septic tank pumpings;

(F) grease and grit trap wastes;

(G) wastes from commercial or industrial wastewater treatment plants; air pollution control facilities; and tanks, drums, or containers, used for shipping or storing any material that has been listed as a hazardous constituent in 40 Code of Federal Regulations (CFR) [CFR], Part 261, Appendix VIII but has not been listed as a commercial chemical product in 40 CFR §261.33(e) or (f);

(H) slaughterhouse wastes;

(I) dead animals;

(J) drugs, contaminated foods, or contaminated beverages, other than those contained in normal household waste;

(K) pesticide (insecticide, herbicide, fungicide, or rodenticide) containers;

(L) discarded materials containing asbestos;

(M) incinerator ash;

(N) soil contaminated by petroleum products, crude oils, or chemicals;

(O) used oil;

(P) light ballasts and/or small capacitors containing polychlorinated biphenyl [(PCB)] compounds;

(Q) waste from oil, gas, and geothermal activities subject to regulation by the Railroad Commission of Texas when those wastes are to be processed, treated, or disposed of at a solid waste management facility permitted under this chapter;

(R) waste generated outside the boundaries of Texas that contains:

(i) any industrial waste;

(ii) any waste associated with oil, gas, and geothermal exploration, production, or development activities; or

(iii) any item listed as a special waste in this paragraph;

(S) any waste stream other than household or commercial garbage, refuse, or rubbish;

(T) lead acid storage batteries; and

(U) used-oil filters from internal combustion engines.

(136) [(142)] **Special waste from health care-related facilities** - Includes animal waste, bulk human blood, blood products, body fluids, microbiological waste, pathological waste, and sharps as defined in 25 TAC §1.132 (concerning Definitions).

(137) [(143)] **Stabilized sludges** - Those sludges processed to significantly reduce pathogens, by processes specified in 40 Code of Federal Regulations [CFR], Part 257, Appendix II.

(138) [(144)] **Storage** - The holding of solid waste for a temporary period, at the end of which the solid waste is processed, disposed of, or stored elsewhere. Facilities established as a neighborhood collection point for only nonputrescible source-separated recyclable material, as a collection point for consolidation of parking lot or street sweepings or wastes collected and received in sealed plastic bags from such activities as periodic city-wide [citywide] cleanup campaigns and cleanup of rights-of-way or roadside parks, or for accumulation of used or scrap tires prior to transportation to a processing or disposal site are considered examples of storage facilities. Storage includes operation of pre-collection and post-collection as follows:

(A) pre-collection-that storage by the generator, normally on his premises, prior to initial collection;

(B) post-collection-that storage by a transporter or processor, at a processing site, while the waste is awaiting processing or transfer to another storage, disposal, or recovery facility.

(139) [(145)] **Storage battery** - A secondary battery, so called because the conversion from chemical to electrical energy is reversible and the battery is thus rechargeable. Secondary or storage batteries contain an electrode made of sponge lead and lead dioxide, nickel-iron, nickel-cadmium, silver-zinc, or silver-cadmium. The electrolyte used is sulfuric acid. Other types of storage batteries contain lithium, sodium-liquid sulfur, or chlorine-zinc using titanium electrodes.

(140) [(146)] **Store** - To keep, hold, accumulate, or aggregate.

(141) [(147)] **Structural components** - Liners, leachate collections systems, final covers, run-on/run-off systems, and any other component used in the construction and operation of the municipal solid waste landfill [MSWLF] that is necessary for protection of human health and the environment.

(142) [(148)] **Surface impoundment** - A facility or part of a facility that is a natural topographic depression, human-made excavation, or diked area formed primarily of earthen materials (although it may be lined with human-made materials) that is designed to hold an accumulation of liquids; examples include holding, storage, settling, and aeration pits, ponds, or lagoons.

(143) [(149)] **Surface water** - Surface water as included in water in the state.

[(150)] **SWDA** - Texas Solid Waste Disposal Act.]

[(151) **TACB** - Texas Air Control Board and its successors.]

(144) [(152)] **Texas Civil Statutes** - Vernon's Texas Revised Civil Statutes Annotated.

(145) [(153)] **Transfer station** - A fixed facility used for transferring solid waste from collection vehicles to long-haul vehicles (one transportation unit to another transportation unit). It is not a storage facility such as one where individual residents can dispose of their wastes in bulk storage containers that are serviced by collection vehicles.

(146) [(154)] **Transportation unit** - A truck, trailer, open-top box, enclosed container, rail car, piggy-back trailer, ship, barge, or other transportation vehicle used to contain solid waste being transported from one geographical area to another.

(147) [(155)] **Transporter** - A person who collects and transports solid waste; does not include a person transporting his or her household waste.

(148) [(156)] **Trash** - Same as Rubbish.

(149) [(157)] **Treatment** - Same as Processing.

(150) [(158)] **Triple rinse** - To rinse a container three times using a volume of solvent capable of removing the contents equal to 10% of the volume of the container or liner for each rinse.

[(159) **TWC** - Texas Water Commission.]

(151) [(160)] **Uncompacted waste** - Any waste that is not a liquid or a sludge, has not been mechanically compacted by a collection vehicle, has not been driven over by heavy equipment prior to collection, or has not been compacted prior to collection by any type of mechanical device other than small, in-house compactor devices owned and/or operated by the generator of the waste.

(152) [(161)] **Unified soil classification system** - The standardized system devised by the United States Army Corps of Engineers for classifying soil types.

(153) [(162)] **Unconfined water** - Water that is not controlled or impeded in its direction or velocity.

(154) [(163)] **Unit** - Municipal solid waste landfill unit.

(155) [(164)] **Unstable area** - A location that is susceptible to natural or human-induced events or forces capable of impairing the integrity of some or all of the landfill structural components responsible for preventing releases from a landfill. Unstable areas can include poor foundation conditions, areas susceptible to mass movements, and karst terrains.

(156) [(165)] **Uppermost aquifer** - The geologic formation nearest the natural ground surface that is an aquifer; includes lower aquifers that are hydraulically interconnected with this aquifer within the facility's property boundary.

(157) [(166)] **Vector** - An agent, such as an insect, snake, rodent, bird, or animal capable of mechanically or biologically transferring a pathogen from one organism to another.

(158) [(167)] **Washout** - The carrying away of solid waste by waters.

(159) [(168)] **Waste management unit boundary** - A vertical surface located at the hydraulically downgradient limit of the unit. This vertical surface extends down into the uppermost aquifer.

(160) [(169)] **Waste-separation/intermediate-processing center** - A facility, sometimes referred to as a materials recovery facility, to which recyclable materials arrive as source-separated materials, or where recyclable materials are separated from the municipal waste stream and processed for transport off-site for reuse, recycling, or other beneficial use.

(161) [(170)] **Waste-separation/recycling facility** - A facility, sometimes referred to as a material recovery facility, in which recyclable materials are removed from the waste stream for transport off-site for reuse, recycling, or other beneficial use.

(162) [(171)] **Water in the state** - Groundwater, percolating or otherwise, lakes, bays, ponds, impounding reservoirs, springs, rivers, streams, creeks, estuaries, marshes, inlets, canals, the Gulf of Mexico inside the territorial limits of the state, and all other bodies of surface water, natural or artificial, inland or coastal, fresh or salt, navigable or non-navigable, and including the beds and banks of all watercourses and bodies of surface water, that are wholly or partially inside or bordering the state or inside the jurisdiction of the state.

(163) [(172)] **Water table** - The upper surface of the zone of saturation at which water pressure is equal to atmospheric pressure, except where that surface is formed by a confining unit.

(164) [(173)] **Waters of the United States** - All waters that are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters that are subject to the ebb and flow of the tide, with their tributaries and adjacent wetlands, interstate waters and their tributaries, including interstate wetlands; all other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, and wetlands, the use, degradation, or destruction of which would affect or could affect interstate or foreign commerce including any such waters that are or could be used by interstate or foreign travelers for recreational or other purposes; from which fish or shellfish are or could be taken and sold in interstate or foreign commerce; that are used or could be used for industrial purposes by industries in interstate commerce; and all impoundments of waters otherwise considered as navigable waters; including tributaries of and wetlands adjacent to waters identified herein.

(165) [(174)] **Wetlands** - As defined in Chapter 307 of this title (relating to Texas Surface Water Quality Standards) and areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include playa lakes, swamps, marshes, bogs, and similar areas.

(166) [(175)] **Yard waste** - Leaves, grass clippings, yard and garden debris, and brush, including clean woody vegetative material not greater than six inches in diameter, that results from landscaping maintenance and land-clearing operations. The term does not include stumps, roots, or shrubs with intact root balls.

§330.3. Applicability.

(a) The provisions of this chapter apply to any person as defined in §330.2 of this title (relating to Definitions) involved in any aspect of the management and control of municipal solid waste (MSW) including, but not limited to, storage, collection, handling, transportation, processing, and disposal. Furthermore, these regulations apply to any person who by contract, agreement, or otherwise, arrange to process, store, or dispose of, or arranged with a transporter for transport to process, store, or dispose of, solid waste owned or possessed by the person, or by any other person or entity.

(b) For municipal solid waste landfills (MSWLFs) that stopped receiving waste before October 9, 1991, and MSW sites [Sites], only the provisions of §330.251 of this title (relating to Closure

Requirements for MSWLF Units That Stop Receiving Waste Prior to October 9, 1991, and MSW Sites) apply. If not previously submitted, owners or operators shall submit a closure report that documents that MSWLF [municipal solid waste landfill facility (MSWLF)] units or MSW site(s), or portions thereof, have received final cover.

(c) MSWLF units that receive waste after October 9, 1991, but stop receiving waste before October 9, 1993, are exempt from the requirements of this chapter except for the final cover requirements specified in §330.252 of this title (relating to Closure Requirements for MSWLF Units That Receive Waste on or after October 9, 1991, but Stop Receiving Waste Prior to October 9, 1993). The final cover must be installed and certified in accordance with the requirements contained in §§330.250 - 330.253 of this title (relating to Closure and Post-Closure). Owners or operators of MSWLF units described in this subsection that fail to complete cover installation and certification within the time limits specified in §§330.250 - 330.256 of this title [(relating to Closure and Post-Closure)] will be subject to all the requirements of these regulations.

(d) (No change.)

(e) Owners or operators of new, existing, and lateral expansions of small MSWLF units that dispose of less than 20 tons of MSW [municipal solid waste] daily in the small MSWLF unit based on an annual average are exempt from §§330.200 - 330.206 of this title (relating to Groundwater Protection Design and Operation) and §§330.230, 330.231, and 330.233 - 330.242 of this title (relating to Groundwater Monitoring and Corrective Action) [§§330.230 - 330.242 of this title (relating to

Ground- Water Protection Design and Operation and Groundwater Monitoring and Corrective Action respectively)], so long as there is no evidence of existing groundwater contamination from the small MSWLF unit, the small MSWLF unit serves a community that has no practicable waste management alternative, and the small MSWLF unit is located in an area that receives less than or equal to 25 inches of annual average precipitation. Requests for exemptions under subsection (f) of this section may be approved administratively by the executive director, upon demonstration of compliance with these criteria. An exemption request may be denied by the executive director if he determines that granting the exemption could result in a substantial threat of groundwater contamination, based upon information made available to him from the applicant or agency files. Owners or operators may appeal such denials to the commission for decision.

(f) Owners or operators of new, existing, and lateral expansions of small MSWLF units that meet the criteria in subsection (e) of this section must submit a certification of eligibility to the executive director and place a copy of the certification in the operating record. The certification shall [must] be signed by a principal executive officer, a ranking elected official, or an independent professional engineer licensed [registered] to practice in the State of Texas, except that the groundwater certification must [shall] be submitted in accordance with §330.14 of this title (relating to Arid Exemption Process) and signed by a qualified groundwater scientist, as defined in this chapter. The certification must [shall] contain the following information:

(1) a certification that the MSWLF unit meets all requirements contained in subsection (e) of this section for exemptions from §§330.200 - 330.206, 330.230, 330.231, and 330.233 - 330.242

of this title [and §§330.230 - 330.242 of this title (relating to Groundwater Protection Design and Operation and Groundwater Monitoring and Corrective Action respectively)];

(2) a report[,] prepared by a qualified groundwater scientist in accordance with §330.14 of this title [(relating to Arid Exemption Process)] documenting that there is no evidence of groundwater contamination;

(3) - (5) (No change.)

(g) If the owner or operator of a new, existing, or lateral expansion of a small MSWLF unit who has previously asserted eligibility in subsections (e) and (f) of this section has knowledge or becomes aware of groundwater contamination from the small MSWLF unit within a one-mile radius of the small MSWLF unit, or the unit no longer meets the definition of a small MSWLF, or the waste reduction program is ineffective (based upon an evaluation of trends established after a minimum period of a year), or a practicable alternative becomes available, the owner or operator shall notify in writing the executive director of such condition(s) and thereafter comply with §§330.200 - 330.206, 330.230, 330.231, and 330.233 - 330.242 of this title [and §§330.230 - 330.242 of this title (relating to Groundwater Protection Design and Operation and Groundwater Monitoring and Corrective Action, respectively)] on a schedule specified by the executive director. The executive director may consider the economic investment made by the owner or operator in establishing the schedule for compliance. The minimum time allowed for compliance necessitated by loss of small MSWLF status or availability of a practicable alternative shall be 18 months.

(h) Owners or operators of MSW [municipal solid waste] facilities are required to comply with the financial assurance requirements specified in Chapter 37, Subchapter R of this title (relating to Financial Assurance for Municipal Solid Waste Facilities) and Chapter 330, Subchapter K of this title (relating to Closure, Post-Closure, and Corrective Action).

(i) (No change.)

§330.14. Arid Exemption Process.

The following process must [shall] be used for meeting the provisions for groundwater certification of the arid exemption, as described in §330.3(f) of this title (relating to Applicability).

(1) (No change.)

(2) Visit the site and locate by physical inspection water wells and springs in the site area. Determine the locations and plot them on the topographic map.

(A) (No change.)

(B) Determine from appropriate records (for example, water-well drillers, pump installers, city records, underground water conservation district, Texas Water Development Board, Texas Commission on Environmental Quality [Texas Water Commission], United States

Geological Survey, etc.) which of the wells are completed in the shallowest aquifer. If no wells are completed in the shallowest aquifer or if the shallowest aquifer is more than 150 feet below the land surface at the site, refer to paragraph (7) of this section. Otherwise, refer to paragraph (3) of this section.

(3) - (7) (No change.)

(8) The report shall be signed and[, where appropriate,] sealed by the qualified groundwater scientist who reviewed the data and reached the conclusions.

(9) If there is no evidence of groundwater contamination by the landfill, the qualified groundwater scientist [professional] who reviewed the data and reached the conclusions shall sign and[, where appropriate,] seal a statement in the following format: I (we) have reviewed the groundwater data described in a report submitted with this certification and have found no evidence that the _____ Municipal Solid Waste Landfill (MSWLF) unit located at _____ has contaminated groundwater in the uppermost aquifer.

(10) (No change.)

SUBCHAPTER E: PERMIT PROCEDURES

§§330.51, 330.53, 330.56, 330.64

STATUTORY AUTHORITY

The amendments are proposed under TWC, §5.103, which provides the commission with the authority to adopt rules necessary to carry out its power and duties under this code and other laws of this state; TWC, §5.105, which authorizes the commission to establish and approve all general policy of the commission by rule; THSC, §361.024, which authorizes the commission to establish standards of operation for the management and control of solid waste; and Texas Civil Statutes, Article 3271b, the Act, which authorizes the public practice of geoscience in the State of Texas.

The proposed amendments implement TWC, §5.103 and §5.105; THSC, §361.024; and Texas Civil Statutes, Article 3271b, the Act.

§330.51. Permit Application for Municipal Solid Waste Facilities.

(a) (No change.)

(b) Required information. The information required by this subchapter defines the basic elements for an application.

(1) - (3) (No change.)

(4) For construction in a floodplain, the following must [shall] be submitted, where applicable:

(A) approval from the governmental entity with jurisdiction under [the] Texas Water Code, §16.236, as implemented by Chapter 301 of this title (relating to Levee Improvement Districts, District Plans of Reclamation, and Levees and Other Improvements);

(B) - (D) (No change.)

(5) The applicant shall submit demonstration of compliance with National Pollution Discharge Elimination System (NPDES) under CWA [the Clean Water Act], §402, as amended.

(6) The applicant shall submit documentation of coordination with the following agencies, where applicable:

(A) Texas Commission on Environmental Quality [Texas Water Commission] for compliance with CWA [the Clean Water Act], §208;

(B) - (C) (No change.)

(7) - (10) (No change.)

(c) (No change.)

(d) Preparation. Preparation of the application must [shall] conform with Texas Civil Statutes, Texas Engineering Practice Act, Article 3271a and Texas Geoscience Practice Act, Article 3271b [Engineering Practice Act].

(1) The responsible engineer shall seal, sign, and date [affix her seal, sign her name, place the date of execution and state intended purpose on] each sheet of engineering plans, drawings, and [on] the title or contents page of the application as required by [the] Texas Engineering Practice Act, §15c, and in accordance with 22 TAC §131.166 (relating to Engineers' Seals) [§131.138 (relating to Engineer's Seal)].

(2) The responsible geoscientist shall seal, sign, and date applicable items as required by Texas Geoscience Practice Act, §6.13(b).

(3) [(2)] Applications that have not been sealed shall be considered incomplete for the intended purpose and shall be returned to the applicant.

(e) - (f) (No change.)

§330.53. Technical Requirements of Part II of the Application.

(a) General.

(1) Part II of the application must [shall] describe the existing conditions and character of the site and surrounding area. Parts I and II of the application must [shall] provide information relating to land-use compatibility under the provisions of Texas Health and Safety Code [the Health and Safety Code], §361.069.

(2) (No change.)

(b) Requirements of Part II.

(1) - (7) (No change.)

(8) Land use. A primary concern is that the use of any land for an MSW [a municipal solid waste] site not adversely impact human health or the environment. The impact of the site upon a city, community, group of property owners, or individuals must [shall] be considered in terms of compatibility of land use, zoning in the vicinity, community growth patterns, and other factors associated with the public interest. To assist the executive director in evaluating the impact of the site on the surrounding area, the applicant shall provide the following:

(A) - (E) (No change.)

(9) (No change.)

(10) General geology and soils statement. The reports prepared under this paragraph must meet the following requirements:

(A) discuss [Discuss] in general terms the geology and soils of the proposed site; [.]

(B) identify [Identify] and provide data on fault areas located within the proposed site in accordance with §330.303 of this title (relating to Fault Areas); [.]

(C) identify [Identify] and provide data on seismic impact zones in accordance with §330.304 of this title (relating to Seismic Impact Zones); and [.]

(D) identify [Identify] and provide data on unstable areas in accordance with §330.305 of this title (relating to Unstable Areas).

(11) Ground and surface water [surface-water] statement. The report prepared under this paragraph must provide:

(A) [Provide] data about [as to] the site-specific groundwater conditions at and near the site; and [.]

(B) [Provide] data on surface water at and near the site.

(12) Floodplains and wetlands statement. The floodplains and wetlands statement must:

(A) provide [Provide] data on floodplains in accordance with Chapter 301, Subchapter C [§§301.31 - 301.46] of this title (relating to Approval of Levees and Other Improvements); and [.]

(B) discuss [Discuss] wetlands in accordance with §330.302 of this title (relating to Wetlands). For the purpose of this rule, demonstration can be made by providing evidence that the facility has a Corps of Engineers permit for the use of any wetlands area.

(13) (No change.)

§330.56. Attachments to the Site Development Plan.

(a) (No change.)

(b) Attachment 2 - fill cross-section.

(1) The fill cross-sections must [shall] consist of plan profiles across the site clearly showing the top of the levee, top of the proposed fill (top of the final cover), maximum elevation of proposed fill, [top of the final cover,] top of the wastes, existing ground, bottom of the excavations, side slopes of trenches and fill areas, gas vents or wells, and groundwater monitoring wells, plus the initial and static levels of any water encountered.

(2) - (4) (No change.)

(c) (No change.)

(d) Attachment 4 - geology report. This portion of the application applies to owners or operators of municipal solid waste (MSW) facilities that store, process, or dispose of MSW [municipal waste] in landfills. If the municipal solid waste landfill (MSWLF) facility [(MSWLF)] contains two or more MSWLF units, the information requested pertaining to regional geology and regional aquifers need only be provided once. The geology report shall be prepared and signed by a qualified groundwater scientist except that the reports required under paragraph (5) of this subsection shall be signed and sealed, where appropriate, as required by the Texas Engineering Practice Act. Previously prepared documents may be submitted but must [shall] be supplemented as necessary to provide the requested information. Sources and references for information must [shall] be provided. The geology report must [shall] contain the information in paragraphs (1) - (6) of this subsection.

(1) - (4) (No change.)

(5) The owner or operator shall provide the results of investigations of subsurface conditions at a particular waste management unit in the following reports.

(A) Subsurface investigation report. This report must [shall] describe all borings drilled on-site to test soils and characterize groundwater and must [shall] include a site map drawn to scale showing the surveyed locations and elevations of the borings. Boring logs must [shall] include a detailed description of materials encountered including any discontinuities such as fractures, fissures, slickensides, lenses, or seams. Geophysical logs of the boreholes may be useful in evaluating the stratigraphy. Each boring must [shall] be presented in the form of a log that contains, at a minimum, the boring number; surface elevation and location coordinates; and a columnar section with text showing the elevation of all contacts between soil and rock layers, description of each layer using the unified soil classification, color, degree of compaction, and moisture content. A key explaining the symbols used on the boring logs and the classification terminology for soil type, consistency, and structure must [shall] be provided.

(i) - (vii) (No change.)

(viii) Cross-sections must be prepared from the borings depicting the generalized strata at the facility. For small waste management units two perpendicular cross-sections will normally suffice.

(ix) A narrative [text] that describes the investigator's interpretations of the subsurface stratigraphy based upon the field investigation shall be provided.

(B) (No change.)

(C) A groundwater investigation report. This report must [shall] include the following:

(i) the depth at which groundwater was encountered and records of after-equilibrium [after-level] measurements in all borings. The cross-sections prepared in response to subparagraph (A)(viii) of this paragraph must [shall] be annotated to note the level at which groundwater was first encountered and the level of groundwater after equilibrium is reached or just prior to plugging, whichever is later. This water-level information must [shall] also be presented on all borings required by this paragraph and presented in a table format in the report;

(ii) - (iii) (No change.)

(iv) an analysis of the most likely pathway(s) for pollutant migration in the event that the primary barrier liner system is penetrated. This must [shall] include any groundwater modeling data and results as described in §330.231(e)(2) of this title [(relating to Groundwater Monitoring Systems)] and must [shall] consider changes in groundwater flow that are expected to result from construction of the facility.

(6) The owner or operator shall provide a description of the existing or proposed monitoring system that meets the requirements of §330.231 of this title [(relating to Groundwater Monitoring Systems)]. The owner or operator shall also provide engineering drawings of a typical monitoring well and a table of data for all proposed wells that includes the following information for each well: total depth of the well; depth to groundwater; surveyed elevation of the ground surface at the well; surveyed elevation of the top of each well casing (or that point consistently used to determine depth to groundwater); depth to the top and base of the screen; and depth to the top and base of the filter pack.

(e) Attachment 5 - groundwater characterization report. A groundwater characterization study and report is required from owners and operators of proposed MSWLF units or proposed lateral expansions except for Soils and Liner Evaluation Reports [SLERs] and Flexible Membrane Liner Evaluation Reports [FMLERs] covering previously permitted and approved designs. The report must [shall] contain the following information:

(1) - (2) (No change.)

(3) on a topographic map as required under §330.52(b)(4)(C) of this title (relating to Technical Requirements of Part I of the Application), a delineation of the waste management area, the property boundary, the proposed "point of compliance" as defined under §330.200(d) of this title (relating to Design Criteria), the proposed location of groundwater monitoring wells as required under

§330.231 of this title [(relating to Groundwater Monitoring Systems)], and, to the extent possible, the information required in paragraph (2) of this subsection;

(4) a description of any plume of contamination that has entered the groundwater from the MSWLF facility at the time that the application was submitted that:

(A) delineates the extent of the plume on the topographic map required under §330.52(b)(4)(C) of this title [(relating to Technical Requirements of Part I of the Application)]; and

(B) (No change.)

(5) detailed plans and an engineering report describing the proposed groundwater monitoring program to be implemented to meet the requirements of §330.231 of this title [(relating to Groundwater Monitoring Systems)];

(6) if the hazardous constituents listed in Table I of §330.241 of this title (relating to Constituents for Detection Monitoring) [§330.200 of this title (relating to Design Criteria)] have not been detected in the groundwater at the time of permit application, the owner or operator shall submit sufficient information, supporting data, and analyses to establish a detection monitoring program that meets the requirements of §330.234 of this title (relating to Detection Monitoring Program). This submission must [shall] address the following items specified under §330.234 of this title [(relating to Detection Monitoring Program)]:

(A) (No change.)

(B) background values for each monitoring parameter or constituent listed in §330.241 of this title [(relating to Constituents for Detection Monitoring)], or procedures to calculate such values; and

(C) (No change.)

(7) if the presence of hazardous constituents listed in Table I of §330.241 of this title [§330.200 of this title (relating to Design Criteria)] has been detected in the groundwater at the time of the permit application, the owner or operator shall submit sufficient information, supporting data, and analyses to establish an assessment monitoring program that meets the requirements of §330.235 of this title [(relating to Assessment Monitoring Program)]. To demonstrate compliance with §330.235 of this title, the owner or operator shall address the following items:

(A) (No change.)

(B) a characterization of the contaminated groundwater, including concentration of assessment constituents as defined in §330.235 of this title [(relating to Assessment Monitoring Program)];

(C) a list of assessment constituents as defined in §330.235 of this title [(relating to Assessment Monitoring Program)] for which assessment monitoring will be undertaken in accordance with §330.233 of this title (relating to Groundwater Sampling and Analysis Requirements) and §330.235 of this title;

(D) detailed plans and an engineering report describing the proposed groundwater monitoring system, in accordance with the requirements of §330.233 of this title [(relating to Groundwater Sampling and Analysis Requirements)]; and

(E) (No change.)

(8) if hazardous constituents have been measured in the groundwater that exceed the concentration limits established in Table 1 of §330.241 of this title [§330.200 of this title (relating to Design Criteria)], the owner or operator shall submit sufficient information, supporting data, and analyses to establish a corrective action program that meets the requirements of §330.236 of this title (relating to Assessment of Corrective Measures) and §330.237 of this title (relating to Selection of Remedy). To demonstrate compliance with §330.236 of this title [(relating to Assessment of Corrective Measures)], the owner or operator shall address, at a minimum, the following items:

(A) a characterization of the contaminated groundwater [ground water], including concentrations of assessment constituents as defined in §330.235 of this title [(relating to Assessment Monitoring Program)];

(B) - (E) (No change.)

(f) Attachment 6 - groundwater [Groundwater] and surface water protection plan and drainage plan. These plans must [shall] reflect locations, details, and typical sections of levees, dikes, drainage channels, culverts, holding ponds, trench liners, storm sewers, leachate collection systems, or any other facilities relating to the protection of groundwater and surface water. Adequacy of provisions for safe passage of any internal or externally adjacent floodwaters should be reflected here.

(1) - (3) (No change.)

(4) As part of the attachment, the following information and analyses must [shall] be submitted for review, as applicable.

(A) Drainage and run-off control analyses:

(i) - (iv) (No change.)

(v) structural designs of the collection, drainage, and/or storage facilities, and results of all field tests to ensure compatibility with soils; [and]

(vi) - (vii) (No change.)

(B) Flood control and analyses.

(i) - (ii) (No change.)

(iii) No solid waste disposal and treatment operations shall be permitted in areas that are located in a floodway as defined by FEMA.

(g) - (i) (No change.)

(j) Attachment 10 - soil and liner quality control plan [(SLQCP)]. The soil and liner quality control plan must [SLQCP shall] be prepared in accordance with §§330.200 - 330.206 of this title (relating to Groundwater Protection Design and Operation).

(k) Attachment 11 - groundwater sampling and analysis plan [(GWSAP)]. The groundwater sampling and analysis plan must [GWSAP shall] be prepared in accordance with §§330.230, 330.231, and 330.233 - 330.242 of this title (relating to Groundwater Monitoring and Corrective Action) or §330.239 of this title (relating to Groundwater Monitoring at Type IV Landfills) [(§§330.230 - 330.242 of this title (relating to Groundwater Monitoring and Corrective Action))].

(l) - (o) (No change.)

§330.64. Additional Standard Permit Conditions for Municipal Solid Waste Facilities.

(a) Within 30 days after the commission approval of a permit or permit amendment, the owner or operator shall submit three copies of the final approved site development plan. These copies shall be loose-leaf bound and shall include all drawings and sketches. The outside binder shall be marked "Approved Site Development Plan" and shall indicate the date of commission approval. The executive director may allow an extension of the deadline if work required cannot reasonably be completed within 30 days.]

(a) [(b)] If at any time during the life of the site the site owner or operator becomes aware of any condition in the approved site development plan that necessitates a change to accommodate new technology or improved methods or that makes it impractical to keep the site in compliance, the site owner or operator shall submit to the executive director a revised plan. Such proposed changes to the approved site development plan must [shall] be made in accordance with §305.62 of this title (relating to Amendment) and/or §305.70 of this title (relating to Municipal Solid Waste Permit and Registration Modifications [Modification]) and must be approved prior to their implementation.

(b) [(c)] All drawings or other sheets prepared for revisions to a site development plan or other previously approved documents, that may be required by this subchapter, must [shall] be submitted in triplicate following the format in §330.51(e) of this title (relating to Permit Application for Municipal Solid Waste Facilities). The revised pages must [shall] be marked for the current revision (i.e., "Revision Number 3"), dated, and punched for insertion into the loose-leaf binder. [Drawings

shall be 8 1/2 by 11 inches or 11 by 17 inches. However, standard-sized drawings (24 by 36 inches) folded to 8 1/2 by 11 inches may be submitted or required if reduction would render them illegible or difficult to interpret.] All revised engineering and geoscientific plans, drawings, and reports shall be signed and sealed by a licensed professional engineer or geoscientist as specified in §330.51(d) of this title. [registered professional engineer responsible for their preparation and shall be included in the loose-leaf binder. Bound plans and/or reports shall be signed and sealed by the engineer, preferably of the first page.]

(c) [(d)] [Preconstruction conference.] Prior to the beginning of initial excavation or construction for a municipal solid waste (MSW) facility or a lateral expansion, a preconstruction conference shall be held. All aspects of the permit, construction activities, and inspections shall be discussed. An initial preconstruction conference shall be held within 90 days after the issuance of a permit. Additional preconstruction conferences may be held prior to the opening of a new MSW [municipal solid waste] landfill unit. The executive director [TWC and successors representatives] and owner's representatives, including the engineer, the geotechnical consultant, the contractor, and the site manager, shall attend the preconstruction conference.

(d) [(e)] [Pre-opening inspection.] After all initial construction activity has been completed and prior to accepting any solid waste, the owner/operator shall contact the executive director [TWC and successors representatives] and request a pre-opening inspection. A pre-opening inspection shall be conducted by the executive director [TWC and successors representatives] within 14 days of notification

by the owner or operator that all construction activities have been completed, accompanied by representatives of the owner/operator and the engineer.

(e) [(f)] [Pre-operation authorization.] The MSW [municipal solid waste] facility shall not accept solid waste until the executive director has confirmed in writing that all applicable submissions required by the permit, the approved site development plan, and this chapter have been received and found to be acceptable, and that construction is in compliance with the permit and the approved site development plan. If the executive director has not provided a written or verbal response within 14 days of completion of the pre-opening inspection, the facility shall be considered approved for placement of waste.

SUBCHAPTER I: GROUNDWATER MONITORING AND CORRECTIVE ACTION

§§330.230, 330.231, 330.235, 330.238, 330.242

STATUTORY AUTHORITY

The amendments are proposed under TWC, §5.103, which provides the commission with the authority to adopt rules necessary to carry out its power and duties under this code and other laws of this state; TWC, §5.105, which authorizes the commission to establish and approve all general policy of the commission by rule; THSC, §361.024, which authorizes the commission to establish standards of operation for the management and control of solid waste; and Texas Civil Statutes, Article 3271b, the Act, which authorizes the public practice of geoscience in the State of Texas.

The proposed amendments implement TWC, §5.103 and §5.105; THSC, §361.024; and Texas Civil Statutes, Article 3271b, the Act.

§330.230. Applicability.

(a) The requirements in this subchapter apply to all municipal solid waste landfill [landfills] (MSWLF) units, except as provided in §330.3(e) of this title (relating to Applicability), in §330.239 of this title (relating to Groundwater Monitoring at Type IV Landfills), in §330.240 of this title (relating to Groundwater Monitoring at Other Types of Landfills and Facilities), and in subsection (b) of this section. Owners and operators of MSWLF units shall comply with the groundwater monitoring requirements of this subchapter.

(b) Groundwater monitoring requirements under ~~§§330.231 and 330.233 - 330.235~~ [§330.231 - 330.235] of this title (relating to Groundwater Monitoring and Corrective Action) may be suspended by the executive director for an MSWLF unit if the owner or operator can demonstrate that there is no potential for migration of hazardous constituents from that MSWLF unit to the uppermost aquifer as defined in §330.2 of this title (relating to Definitions) during the active life and the closure and post-closure care period of the unit. This demonstration shall be certified by a qualified groundwater scientist and approved by the executive director, and must [shall] be based upon:

(1) - (2) (No change.)

[(c) Owners and operators of MSWLF units shall comply with the groundwater monitoring requirements of this subchapter according to the following schedule unless an alternative schedule is specified under subsection (d) of this section. Not later than the applicable effective date, the owner or operator shall submit a certification that the system is in compliance with §330.231 of this title (relating to Groundwater Monitoring Systems). The certification shall be submitted not later than the applicable effective date, unless a later date is approved by the executive director in writing.]

[(1) Owners or operators of existing MSWLF units that have groundwater monitoring systems in place prior to the effective date of these regulations shall continue the monitoring programs in accordance with regulations in effect prior to October 9, 1993, and the applicable permit provisions until the earliest of the effective dates of paragraphs (2), (3), or (4) of this subsection, §330.230(d) of this title (relating to Applicability), or the effective date of the Groundwater Sampling and Analysis

Plan described in §330.233 of this title (relating to Groundwater Sampling and Analysis Requirements).]

[(2) Owners or operators of existing MSWLF units and lateral expansions less than one mile from a drinking-water intake as defined in §330.2 of this title (relating to Definitions) shall submit to the executive director a documented certification signed by a qualified groundwater scientist that the facility is in compliance with the groundwater monitoring requirements specified in §§330.231 - 330.235 of this title (relating to Groundwater Monitoring and Corrective Action) by October 9, 1994.]

[(3) Owners or operators of existing MSWLF units and lateral expansions more than one mile but less than two miles from a drinking-water intake shall submit to the executive director a documented certification signed by a qualified groundwater scientist that the facility is in compliance with the groundwater monitoring requirements specified in §§330.231 - 330.235 of this title (relating to Groundwater Monitoring and Corrective Action) by October 9, 1995.]

[(4) Owners or operators of existing MSWLF units and lateral expansions more than two miles from a drinking-water intake shall submit to the executive director a documented certification signed by a qualified groundwater scientist that the facility is in compliance with the groundwater monitoring requirements specified in §§330.231 - 330.235 of this title (relating to Groundwater Monitoring and Corrective Action) by October 9, 1996.]

(c) [(5)] Owners or operators of new MSWLF units must [shall] submit to the executive director a documented certification signed by a qualified groundwater scientist that the facility is in compliance with the groundwater monitoring requirements specified in §§330.231 and 330.233 - 330.235 of this title [(relating to Groundwater Monitoring and Corrective Action)] before waste can be placed in the unit.

[(d)] The executive director may specify an alternative schedule for the owners or operators of existing MSWLF units and lateral expansions to comply with groundwater monitoring requirements specified in §§330.231-330.235 of this title (relating to Groundwater Monitoring and Corrective Action). This schedule will ensure that 50 percent of all existing MSWLF units are in compliance by October 9, 1994, and that all existing MSWLF units are in compliance by October 9, 1996. The following factors must be considered in determining any potential risks to human health and the environment posed by a MSWLF unit proposed for an alternative compliance schedule:]

[(1)] proximity of human and environmental receptors;]

[(2)] design of the MSWLF unit;]

[(3)] age of the MSWLF unit;]

[(4)] size of the MSWLF unit;]

[(5) types and quantities of wastes disposed including sewage sludge; and]

[(6) resource value of the underlying aquifer including current and future uses, proximity and withdrawal rate of users, and groundwater quality and quantity.]

(d) [(e)] Once established at an MSWLF unit, groundwater monitoring must [shall] be conducted throughout the active life and post-closure care period of that MSWLF unit as specified in §330.254 of this title (relating to Post-Closure Care Maintenance Requirements).

§330.231. Groundwater Monitoring Systems.

(a) A groundwater monitoring system must [shall] be installed that consists of a sufficient number of monitoring wells, installed at appropriate locations and depths, to yield representative groundwater samples from the uppermost aquifer as defined in §330.2 of this title (relating to Definitions).

(1) (No change.)

(2) The downgradient monitoring system must [shall] include monitoring wells installed to allow determination of the quality of groundwater passing the relevant point of compliance as defined in §330.2 of this title [(relating to Definitions)]. The downgradient monitoring system must [shall] be installed to ensure the detection of groundwater contamination in the uppermost aquifer.

When physical obstacles preclude installation of the groundwater monitoring wells at existing units, the wells may be installed at the closest practicable distance hydraulically downgradient from the relevant point of compliance as defined in §330.2 of this title [(relating to Definitions)] that will ensure detection of groundwater contamination of the uppermost aquifer.

(b) - (d) (No change.)

(e) A groundwater monitoring system, including the number, spacing, and depths of monitoring wells or other sampling points, shall be designed and certified by a qualified groundwater scientist. Within 14 days of the certification, the owner or operator shall [must] submit the certification to the executive director and place a copy of the certification in the operating record. The plan for the monitoring system and all supporting data must [shall] be submitted to the executive director for review and approval prior to construction.

(1) - (3) (No change.)

§330.235. Assessment Monitoring Program.

(a) Assessment monitoring is required whenever a statistically significant change from background has been detected for one or more of the constituents listed in §330.241 of this title (relating to Constituents for Detection Monitoring), or in the alternative list established in accordance

with [pursuant to] §330.234(a)(2) of this title (relating to Detection Monitoring Program), and this constitutes triggering.

(b) Within 90 days of triggering an assessment monitoring program in accordance with §330.234(d) of this title [(relating Detection Monitoring Program)], and not less than annually thereafter, the owner or operator shall sample and analyze the groundwater monitoring system for all constituents identified in paragraph (1) of this subsection.

(1) The constituents to be analyzed in samples collected in accordance with [pursuant to] subsection (b) of this section shall be those listed in Appendix II to 40 Code of Federal Regulations (CFR) [Regulation] Part 258 and those in the alternative list established in accordance with [pursuant to] §330.234(a)(2) of this title [(relating to Detection Monitoring Program)]. All of these constituents are hereinafter referred as "assessment constituents." Appendix II to 40 CFR [Code of Federal Regulation] Part 258, effective October 9, 1993, is herein adopted by reference.

(2) (No change.)

(c) (No change.)

(d) Not later than 45 days after each sampling event, the owner or operator shall submit to the executive director the results from the initial and subsequent sampling events required in subsection (b) of this section and also place them in the operating record. The owner or operator shall also:

(1) within 90 days of submittal of the results from a sampling event and on at least a semiannual basis thereafter, resample all wells specified by §330.231(a) of this title (relating to Groundwater Monitoring Systems) and conduct analyses for all constituents in §330.241 of this title [(relating to Constituents for Detection Monitoring)] or in the alternative list established in accordance with [pursuant to] §330.234(a)(2) of this title [(relating to Detection Monitoring Program)] and for those constituents in Appendix II of 40 CFR Part 258 that are detected in response to subsection (b) of this section. The results must [shall] be submitted to the executive director not later than 45 days after the sampling event and shall also be placed in the operating record. At least one sample must [shall] be collected and analyzed from each background and downgradient well at each sampling event. The executive director may specify an alternative monitoring frequency during the active life and the closure and post-closure care period for the constituents referred to in this paragraph. The alternative frequency for constituents in §330.241 of this title [(relating to Constituents for Detection Monitoring)], or the alternative list established in accordance with [pursuant to] §330.234(a)(2) of this title [(relating to Detection Monitoring Program)], during the active life and the closure and post-closure care period shall be not less than annual. The alternative frequency shall be based on consideration of the factors described in subsection (c) of this section;

(2) establish background concentrations for any constituents detected in accordance with [pursuant to] subsection (b) of this section or paragraph (1) of this subsection;

(3) establish groundwater protection standards for all constituents in downgradient wells detected in accordance with [pursuant to] subsection (b) of this section or paragraph (1) of this

subsection. The groundwater protection standards shall be established in accordance with subsection (h) or (i) of this section.

(e) (No change.)

(f) If the concentrations of any assessment constituents are above background values, but all concentrations are below the groundwater protection standard established under subsection (h) or (i) of this section, using the statistical procedures in §330.233(g) of this title [(relating to Groundwater Sampling and Analysis Requirements)], the owner or operator shall continue assessment monitoring in accordance with this section.

(g) If one or more assessment constituents are detected at statistically significant levels above the groundwater protection standard established under subsection (h) or (i) of this section in any sampling event, the owner or operator shall notify the executive director and appropriate local government officials in writing and place a notice in the operating record within 60 days of the sampling event identifying the assessment constituents that have exceeded the groundwater protection standard.

(1) (No change.)

(2) The owner or operator may demonstrate that a source other than an MSWLF unit caused the contamination or that the statistically significant change resulted from error in sampling, analysis, statistical evaluation, or natural variation in groundwater quality. A report documenting this demonstration must [shall] be prepared and certified by a qualified groundwater scientist and submitted to the executive director for review and approval, and must [shall] be placed in the operating record. If a successful demonstration is made, the owner or operator shall continue monitoring in accordance with the assessment monitoring program required by [pursuant to] this section and may return to detection monitoring if the assessment constituents are at or below background as specified in subsection (e) of this section. Until a successful demonstration is made, the owner or operator shall comply with paragraph (1) of this subsection including initiating an assessment of corrective measures.

(h) The owner or operator shall establish a groundwater protection standard for each assessment constituent detected in the downgradient [down-gradient] monitoring wells. The groundwater protection standard must [shall] be:

(1) for constituents for which a maximum contaminant level (MCL) has been promulgated under 40 CFR Part 141, Safe Drinking Water Act (codified), §1412 [§1412 of the Safe Drinking Water Act (codified) under 40 Code of Federal Regulation Part 141], the MCL for that constituent;

(2) for constituents for which MCLs have not been promulgated, the background concentration for the constituent established from wells in accordance with §330.231(a)(1) of this title [(relating to Groundwater Monitoring Systems)]; or

(3) (No change.)

(i) The executive director may establish an alternative groundwater protection standard for assessment constituents for which MCLs have not been established. These groundwater protection standards shall be appropriate health-based levels that satisfy the following criteria:

(1) the level is derived in a manner consistent with EPA [Environmental Protection Agency] guidelines for assessing the health risks of environmental pollutants (51 FR [FedReg] 33992, 34006, 34014, 34028, September 24, 1986);

(2) the level is based on scientifically valid studies conducted in accordance with the Toxic Substances Control Act Good Laboratory Practice Standards (40 CFR [Code of Federal Regulation] Part 792) or equivalent;

(3) - (4) (No change.)

(j) (No change.)

§330.238. Implementation of the Corrective Action Program.

(a) Based on the schedule established under §330.237(d) of this title (relating to Selection of Remedy) for initiation and completion of remedial activities, the owner or operator shall:

(1) establish and implement a corrective action groundwater monitoring program that:

(A) - (B) (No change.)

(C) demonstrates compliance with groundwater protection standards under [pursuant to] subsection (e) of this section;

(2) implement the corrective action remedy selected under §330.237 of this title [(relating to Selection of Remedy)]; and

(3) take any interim measures necessary to ensure the protection of human health and the environment. Interim measures should, to the greatest extent practicable, be consistent with the objectives of and contribute to the performance of any remedy that may be required under [pursuant to] §330.237 of this title [(relating to Selection of Remedy)]. The following factors shall be considered by an owner or operator in determining if interim measures are necessary:

(A) - (G) (No change.)

(b) An owner or operator may determine, based on information developed after implementation of the remedy has begun or other information, that compliance with requirements of §330.237(b) of this title [(relating to Selection of Remedy)] are not being achieved through the remedy selected. In such cases, the owner or operator shall, with approval of the executive director, implement other methods or techniques that could practicably achieve compliance with the requirements unless the owner or operator makes the determination under subsection (c) of this section and if it is approved by the executive director. Failure to obtain approval from the executive director for the other methods and techniques does not relieve the owner or operator of the burden to implement an acceptable remedy.

(c) If the owner or operator determines that compliance with requirements under §330.237(b) of this title [(relating to Selection of Remedy)] cannot be practically achieved with any currently available methods, the owner or operator shall:

(1) present to the executive director certification by a qualified groundwater scientist that compliance with requirements under §330.237(b) of this title [(relating to Selection of Remedy)] cannot be practically achieved with any currently available methods;

(2) - (4) (No change.)

(d) All solid wastes that are managed in accordance with [pursuant to] a remedy required under §330.237 of this title [(relating to Selection of Remedy)], or an interim measure required under

subsection (a)(3) of this section, shall be managed in a manner that is protective of human health and the environment and that complies with applicable RCRA requirements.

(e) Remedies selected under [pursuant to] §330.237 of this title [(relating to Selection of Remedy)] shall be considered complete when:

(1) the owner or operator complies with the groundwater protection standards established under §330.235(h) or (i) of this title [(relating to Assessment Monitoring Program)] at all points within the plume of contamination that lies within or beyond the groundwater monitoring system established under §330.231(a) of this title (relating to Groundwater Monitoring Systems);

(2) compliance with the groundwater protection standards established under §330.235(h) or (i) of this title [(relating to Assessment Monitoring Program)] has been achieved by demonstrating that concentrations of assessment constituents have not exceeded the groundwater protection standards for a period of three consecutive years, using the statistical procedures and performance standards in §330.233(g) and (h) of this title (relating to Groundwater Sampling and Analysis Requirements). The executive director may specify an alternative length of time during which the owner or operator shall demonstrate that concentrations of assessment constituents have not exceeded the groundwater protection standards. The alternative length of time shall be based on:

(A) - (D) (No change.)

(3) (No change.)

(f) - (g) (No change.)

§330.242. Monitor-Well Construction Specifications.

(a) The following specifications must [shall] be used for the installation of groundwater monitoring wells at municipal solid waste [solid-waste] landfills. Equivalent alternatives to these specifications may be used if prior written approval is obtained in advance from the executive director.

(1) Drilling.

(A) Monitoring wells must [shall] be drilled by a Texas-licensed driller who is qualified to drill and install monitoring wells. The installation and development shall [must] be supervised by a licensed professional geoscientist [qualified geologist] or engineer who is familiar with the geology of the area.

(B) - (C) (No change.)

(D) During drilling of the monitoring well, a log of the boring shall be made by a licensed professional geoscientist [qualified geologist] or engineer who is familiar with the geology of the area.

(2) Casing, screen, filter pack, and seals.

(A) The well casing shall be: two to four inches in diameter; NSF-certified polyvinyl chloride (PVC) [PVC] Schedule 40 or 80 pipe, flush-thread, screw joint (no glue or solvents); polytetrafluorethylene (PTFE, such as Teflon) tape or O-rings in the joints; no collar couplings. The top of the casing shall be at least two feet above ground level. Where high levels of volatile organic compounds or corrosive compounds are anticipated, stainless steel or PTFE casing and screen may be used, subject to approval by the executive director. Four-inch diameter casing is recommended because it allows larger volume samples to be obtained and provides easier access for development, pumps, and repairs. The casing shall be cleaned and packaged at the place of manufacture; the packaging shall include a PVC wrapping on each section of casing to keep it from being contaminated prior to installation. The casing shall be free of ink, labels, or other markings. The casing (and screen) shall be centered in the hole to allow installation of a good filter pack and annular seal, using appropriately placed centralizers. The top of the casing shall be protected by a threaded or slip-on top cap or by a sealing cap or screw-plug seal inserted into the top of the casing. The cap shall be vented to prevent buildup of methane or other gases and shall be designed to prevent moisture from entering the well.

(B) (No change.)

(C) The filter pack, placed between the screen and the well bore, shall consist of pre-packaged, inert, clean silica sand or glass beads; it shall extend from one to four feet above the top of the screen. Open stockpile sources of sand or gravel are not permitted. The filter pack usually

has a 30% finer grain size that is about four to ten [10] times larger than the 30% finer grain size of the water-bearing zone; the filter pack should have a uniformity coefficient less than 2.5. The filter pack should be placed with a tremie pipe to ensure that the material completely surrounds the screen and casing without bridging. The tremie pipe shall be steam cleaned prior to the first well and before each subsequent well.

(D) The annular seal shall be placed on top of the filter pack and shall be at least two feet thick. It should be placed in the zone of saturation to maintain hydration. The seal should be composed of coarse-grain sodium bentonite, coarse-grit sodium bentonite, or bentonite grout. Special care should be taken to ensure that fine material or grout does not plug the underlying filter pack. Placement of a few inches of pre-packaged clean fine sand on top of the filter pack will help to prevent migration of the annular seal material into the filter pack. The seal should be placed on top of the filter pack with a steam-cleaned tremie pipe to ensure good distribution and should be tamped with a steam-cleaned rod to determine that the seal is thick enough. The bentonite shall be hydrated with clean water prior to any further activities on the well and left to stand until hydration is complete (eight to 12 hours, depending on the grain size of the bentonite). If a bentonite-grout (without cement) casing seal is used in the well bore, then it may replace the annular seal described in this paragraph [above].

(E) (No change.)

(3) - (5) (No change.)

(b) - (d) (No change.)

(e) Reporting. Monitoring well installation and construction details must [shall] be submitted on forms available from the commission and must [shall] be completed and submitted within 30 days of well completion. A copy of the detailed geologic log of the boring, any particle size or other sample data from the well, and a site map drawn to scale showing the location of all monitoring wells must [shall] be submitted to the executive director at the same time. The licensed driller should be familiar with the forms required by other agencies; a copy of those forms must [shall] also be submitted to the commission.

(f) (No change.)

(g) Plugging and abandonment. Any monitoring well that is no longer used shall be properly abandoned and plugged in accordance with 16 TAC §76.702 (relating to Responsibilities of the Licensee and Landowner – Well Drilling, Completion, Capping, and Plugging) and §76.1004 (relating to Technical Requirements – Standards for Capping and Plugging of Wells and Plugging Wells that Penetrate Undesirable Water or Constituent Zones) [§338.48 of this title (relating to Well Plugging and Capping)]. No abandonment shall take place without prior authorization in writing by the executive director.

SUBCHAPTER L: LOCATION RESTRICTIONS

§§330.303 - 330.305

STATUTORY AUTHORITY

The amendments are proposed under TWC, §5.103, which provides the commission with the authority to adopt rules necessary to carry out its power and duties under this code and other laws of this state; TWC, §5.105, which authorizes the commission to establish and approve all general policy of the commission by rule; THSC, §361.024, which authorizes the commission to establish standards of operation for the management and control of solid waste; and Texas Civil Statutes, Article 3271b, the Act, which authorizes the public practice of geoscience in the State of Texas.

The proposed amendments implement TWC, §5.103 and §5.105; THSC, §361.024; and Texas Civil Statutes, Article 3271b, the Act.

§330.303. Fault Areas.

(a) New municipal solid waste landfill (MSWLF) units and lateral expansions shall not be located within 200 feet of a fault that has had displacement in Holocene time unless the owner or operator demonstrates to the executive director that an alternative setback distance of less than 200 feet will prevent damage to the structural integrity of the MSWLF unit and will be protective of human health and the environment. The owner or operator shall submit the demonstration with a permit application, a permit amendment application, or a permit transfer request.

(b) Applications submitted for the operation of sites located within areas that may be subject to differential subsidence or active geological faulting must [shall] include detailed fault studies. When an active fault is known to exist within 1/2 [one-half] mile of the site, the site must [shall] be investigated for unknown faults. Areas experiencing withdrawal of crude oil, natural gas, sulfur, etc., or significant amounts of groundwater must [shall] be investigated in detail for the possibility of differential subsidence or faulting that could adversely affect the integrity of landfill liners. Studies of differential subsidence or faulting [Such studies] shall be conducted under the direct supervision of a licensed professional engineer experienced in geotechnical engineering or a licensed professional geoscientist [geologist] qualified to evaluate [such] conditions of differential subsidence or faulting. The studies must [shall] establish the limits (both upthrown and downthrown) of the zones of influence of all active faulted areas within the site vicinity. Unless the applicant can provide substantial evidence that the zone of influence will not affect the site, no solid waste disposal shall be accomplished within a zone of influence of active geological faulting or differential subsidence because active faulting results in slippage along failure planes, thus creating preferred seepage paths for liquids. The studies must [shall] include information or data on the items in paragraphs (1) - (12) of this subsection, as applicable:

(1) - (12) (No change.)

§330.304. Seismic Impact Zones.

For the purposes of this section, a seismic impact zone is defined as an area with a 10% or greater probability that the maximum horizontal acceleration in rock, expressed as a percentage of the earth's gravitational pull, will exceed 0.10g in 250 years. Maximum horizontal acceleration is defined as the maximum expected horizontal acceleration depicted on a seismic hazard map, with a 90% or greater probability that the acceleration will not be exceeded in 250 years, or the maximum expected horizontal acceleration based on a site-specific seismic risk assessment. Lithified earth material is defined as all rocks, including all naturally occurring and naturally formed aggregates or masses of minerals or small particles of older rock that formed by crystallization of magma or by induration of loose sediments. This term does not include man-made materials, such as fill, concrete, and asphalt, or unconsolidated earth materials, soil, or regolith lying at or near the earth surface. New municipal solid waste landfill units and lateral expansions shall not be located in seismic impact zones, unless the owner or operator demonstrates to the executive director that all containment structures, including liners, leachate collection systems, and surface water control systems, are designed to resist the maximum horizontal acceleration in lithified earth material for the site. The owner or operator shall submit the demonstration with a permit application, a permit amendment application, or a permit transfer. The demonstration must [shall] become part of the operating record once approved.

§330.305. Unstable Areas.

For the purposes of this section, an unstable area is defined to be a location that is susceptible to natural or human-induced events or forces capable of impairing the integrity of some or all of a landfill's structural components responsible for preventing releases from the landfill; unstable areas can include poor foundation conditions, areas susceptible to mass movement, and karst terrains. Owners or operators of new municipal solid waste landfill (MSWLF) units, existing MSWLF units, and lateral expansions located in an unstable area shall demonstrate that engineering measures have been incorporated into the MSWLF unit's design to ensure that the integrity of the structural components of the MSWLF unit will not be disrupted. The owner or operator shall submit the demonstration with a permit application, a permit amendment application, or a permit transfer. The demonstration must [shall] become part of the operating record once approved. The owner or operator shall consider the following factors, at a minimum, when determining whether an area is unstable:

(1) - (3) (No change.)

SUBCHAPTER N: LANDFILL MINING

§330.415, §330.416

STATUTORY AUTHORITY

The amendments are proposed under TWC, §5.103, which provides the commission with the authority to adopt rules necessary to carry out its power and duties under this code and other laws of this state; TWC, §5.105, which authorizes the commission to establish and approve all general policy of the commission by rule; THSC, §361.024, which authorizes the commission to establish standards of operation for the management and control of solid waste; and Texas Civil Statutes, Article 3271b, the Act, which authorizes the public practice of geoscience in the State of Texas.

The proposed amendments implement TWC, §5.103 and §5.105; THSC, §361.024; and Texas Civil Statutes, Article 3271b, the Act.

§330.415. Additional Requirements for Municipal Solid Waste Mining Facilities.

(a) Within 30 days after the approval of a registration of a municipal solid waste (MSW) facility, the owner or operator shall submit three copies of the final approved site development plan [Site Development Plan] to the executive director. These copies must [shall] be loose-leaf bound and must [shall] include all drawings and sketches. The outside binder must [shall] be marked "Approved Site Development Plan" and must [shall] indicate the date of executive director approval. The

executive director may allow an extension of the deadline if work required cannot reasonably be completed within 30 days.

(b) If at any time during the life of the site the site owner or operator becomes aware of any condition in the approved site development plan [Site Development Plan] that necessitates a change to accommodate new technology or improved methods or that makes it impractical to keep the site in compliance, the site owner or operator shall submit to the executive director a revised plan.

(c) All drawings or other sheets prepared for revisions to a site development plan [Site Development Plan] or other previously approved documents, that may be required by this subchapter, must [shall] be submitted in triplicate. The revised pages must [shall] be marked for the current revision (i.e., "Revision Number 3"), dated, and punched for insertion into the loose-leaf binder. Drawings must [shall] be 8 1/2 by 11 inches or 11 by 17 inches. However, standard-sized drawings (24 by 36 inches) folded to 8 1/2 by 11 inches may be submitted or required if reduction would render them illegible or difficult to interpret. All revised engineering drawings must [shall] be signed and sealed by the licensed professional engineer [a Registered Professional Engineer] responsible for their preparation and must [shall] be included in the loose-leaf binder. All revised geological drawings shall be signed and sealed by the licensed professional geoscientist responsible for their preparation and must be included in the loose-leaf binder.

(d) Prior to the beginning of initial excavation or construction for an MSW [a municipal solid waste] mining facility, a preconstruction conference shall be held. All aspects of the application, construction activities, and inspections shall be discussed. An initial preconstruction conference shall

be held within 90 days after the issuance of a registration. Executive director representatives and owner's representatives, including the engineer, the geotechnical consultant, the contractor, and the site manager, shall attend the preconstruction conference.

(e) (No change.)

(f) The MSW [municipal solid waste] mining facility shall not process solid waste until the executive director has confirmed in writing that all applicable submissions required by the registration, the approved site development plan [Site Development Plan], and this chapter have been received and found to be acceptable, and that construction is in compliance with the application and the approved site development plan [Site Development Plan]. If the executive director has not provided a written or verbal response within 14 days of completion of the pre-opening inspection, the facility shall be considered approved for mining.

§330.416. Registration Application Preparation.

(a) General instruction and title page. To assist the executive director in evaluating the technical merits of a landfill mining facility, a site development plan shall be prepared and submitted to the commission along with a Registration Application Form. The site development plan shall be sealed by a licensed [registered] professional engineer in accordance with the provisions of 22 TAC §131.166 (relating to Engineers' Seals). All submittals must [shall] be in a complete final form. The site development plan must [shall] contain all of the information specified in this section. A title page must

[shall] show the name of the project, the county (and city if applicable) in which the proposed project is located, the name of the applicant, the name of the engineer, the date the application was prepared, and the latest date the application was revised.

(b) - (e) (No change.)

(f) Soil boring plan approval. The applicant is responsible for submitting to the executive director a soil boring plan that conforms [Soil Boring Plan which shall conform] to the requirements found in the applicable subchapter. The soil boring plan [Soil Boring Plan] shall be approved by the executive director prior to initiation of the work.

(g) Permanent site benchmark. A permanent benchmark must [shall] be established at the site in an area of the site that is readily accessible. This benchmark must [shall] be a bronze or other suitable metal survey marker set in concrete at a sufficient depth to retain a stable and distinctive location and be of sufficient size to withstand the deteriorating forces of nature to best achieve this goal. The benchmark elevation and survey date must [shall] be stamped on it. The benchmark elevation must [shall] be surveyed from a known National Geodetic Survey benchmark or other compatible and comparable benchmark. The location and elevation of the reference benchmark and the permanent benchmark must [shall] be identified on a map and must [shall] be included in the site development plan [Site Development Plan]. Horizontal monumentation must [shall] be in accordance with 22 TAC §663.15 (relating to Precision) of the Texas Board of Professional Land Surveying rules. Vertical control precision must [shall] be ± 0.1 feet relative to the elevation of the benchmark of origin.

(h) - (k) (No change.)

(l) Access. To assist the executive director in evaluating the impact of the facility on the surrounding roadway system, the applicant shall provide the following:

(1) - (3) (No change.)

(4) an access roadway map showing all area roadways within a mile of the facility.

The data and analysis required in paragraphs (1) - (3) [(1), (2), and (3)] of this subsection must [shall] be keyed to this map.

(m) Site plans. To assist the executive director in evaluating the impact of the facility on the environment, public safety, and public health, the applicant shall provide the following.

(1) Surface water protection plan. The surface water protection plan shall be prepared by a licensed [registered] professional engineer. At a minimum the applicant shall provide all of the following.

(A) - (D) (No change.)

(E) The test pit evaluation report shall be prepared by an engineer. Prior approval of a test pit plan must be obtained from the executive director before excavation of test pits

including location and depth of all test pits. The applicant shall include a discussion and information on the following:

(i) - (ii) (No change.)

(iii) a TCLP of each representative type of waste excavated must [shall] be included in the report. Additionally, waste excavated from each test pit must [shall] be analyzed for asbestos and polychlorinated biphenyl [PCBs]. Consideration should be given to analysis of waste material from each test pit for hazardous waste constituents.

(iv) - (ix) (No change.)

(F) In cases where a geologic/hydrogeologic report is determined to be needed by the executive director, the geologic/hydrogeologic report shall be prepared and signed by a licensed professional engineer or geoscientist [an engineer or qualified geologist/hydrogeologist]. If determined to be needed by the executive director, the applicant shall include discussion and information on all of the following:

(i) a description of the regional geology of the area. This section must [shall] include:

(I) (No change.)

(II) a description of the generalized stratigraphic column in the facility area from the base of the lowermost aquifer capable of providing usable groundwater [ground water], or from a depth of 1,000 feet, whichever is less, to the land surface. The geologic age, lithology, variation in lithology, thickness, depth geometry, hydraulic conductivity, and depositional history of each geologic unit should be described based upon available geologic information.

(ii) (No change.)

(iii) a description of the regional aquifers in the vicinity of the facility based upon published and open-file sources. The section must [shall] provide:

(I) - (VI) (No change.)

(VII) an estimate of the rate of groundwater [ground-water] flow;

(VIII) typical values or a range of values for total dissolved solids content of groundwater [ground water] from the aquifers;

(IX) (No change.)

(X) the present use of groundwater [ground water] withdrawn from aquifers in the vicinity of the facility. The identification, location, and aquifer of all water wells within one mile of the property boundaries of the facility must [shall] be provided.

(iv) a subsurface investigation report. If determined to be needed by the executive director, the subsurface investigation report must [shall] include all or any part of the following details. The report must [shall] describe all borings drilled on-site to test soils and characterize groundwater [ground water] and must [shall] include a site map drawn to scale showing the surveyed locations and elevations of the boring. Boring logs must [shall] include a detailed description of materials encountered including any discontinuities such as fractures, fissures, slickensides, lenses, or seams. Each boring must [shall] be presented in the form of a log that contains, at a minimum, the boring number; surface elevation and location coordinates; and a columnar section with text showing the elevation of all contacts between soil and rock layers, description of each layer using the unified soil classification [Unified Soil Classification], color, degree of compaction, and moisture content. A key explaining the symbols used on the boring logs and the classification terminology for soil type, consistency, and structure must [shall] be provided.

(I) - (VI) (No change.)

(v) a groundwater [ground water] investigation report. If required by the executive director, this report must [shall] establish and present the groundwater [ground water] flow characteristics at the site and must [which shall] include groundwater [ground water] elevation,

gradient, and direction of flow. The flow characteristics and most likely pathway(s) for pollutant migration must [shall] be discussed in a narrative format and shown graphically on a piezometric contour map. The groundwater [ground water] data must [shall] be collected from piezometers installed at the site. The minimum number of piezometers required for the site must [shall] be three for sites of five acres or less;[,] for sites greater than five acres the total number of piezometers required must [shall] be three piezometers plus one piezometer for each additional five acres or fraction thereof unless otherwise approved by the executive director.

(G) The application shall demonstrate the processing facility is designed so as not to contaminate the groundwater and so as to protect the existing groundwater quality from degradation. At a minimum, groundwater protection must [shall] consist of all of the following. [:]

(i) (No change.)

(ii) Groundwater [Ground water] monitor system. If required by the executive director, a groundwater [ground water] monitoring system must [shall] be designed and installed such that the system will reasonably assure detection of any contamination of the groundwater [ground water] before it migrates beyond the boundaries of the processing area.

(I) - (II) (No change.)

(iii) (No change.)

(H) The facility plan and facility layout shall be prepared by a licensed [registered] professional engineer. All proposed facilities, structures, and improvements must [shall] be clearly shown and annotated on this drawing. The plan must [shall] be drawn to standard engineering scale. Any necessary details or sections must [shall] be included. As a minimum the plan must [shall] show property boundaries, fencing, internal roadways, processing area, facility office, sanitary facilities, potable water facilities, storage areas, etc. If phasing is proposed for the facility, a separate facility plan for each phase is required.

(I) (No change.)

(J) The health and safety plan must [shall] be composed of a descriptive narrative describing types of equipment and methods of its use for all of the following: [.]

(i) air [Air] monitoring; [.]

(ii) radiation [Radiation] monitoring; [.]

(iii) pathogen [Pathogen] monitoring; [.]

(iv) hazardous [Hazardous] constituent monitoring; [.]

(v) personal [Personal] protective equipment; [.]

(vi) decontamination [Decontamination] plans; [.]

(vii) emergency [Emergency] response plans; and [.]

(viii) fire [Fire] protection.

(K) Contingency plans must include a description of the courses of action which should be taken in response to abnormal or unsafe events that may occur during excavation or material processing. The contingency plan must address hazard evaluation and protection from potential hazards, including engineering controls, personal protection equipment, and air monitoring techniques. The plan must include decontamination procedures, on-site communication procedures, and emergency procedures. The contingency plan must [shall] be composed of a narrative describing actions taken in response to all of the following: [.]

(i) hazardous [Hazardous] constituents; [.]

(ii) leachate; [Leachate.]

(iii) drums; [Drums.]

(iv) compressed [Compressed] gas cylinders; [.]

(v) unanticipated [Unanticipated] releases; [.]

(vi) unanticipated [Unanticipated] emergency; [.]

(vii) fires [Fires] and explosions; [.]

(viii) hydrogen [Hydrogen] sulfide; and [.]

(ix) respiratory [Respiratory] protection.

(2) - (5) (No change.)