AH Committee

From: Tasha A. Kama
Sent: Wednesday, September 18, 2019 7:31 AM
To: AH Committee
Cc: Evan P. Dust
Subject: Fwd: Testimony to Deny Makila Farms based on full disclosure of ATU information
Attachments: 1 Example ATU Variance 5yr 1 ATU Max per TMK.pdf; 2 ATU_State_Variances.pdf; 3 AEROBIC Septic System Failure Rates & Costs.pdf; 4 Texas A_M Living with ATU Issues.pdf; 5 DOH_Response_ATU_Regulations.pdf; 6 HAR-11-62-Rationale_ATU_Fines.pdf; Deakos_Deny_Makila_Farms_Testimony_15SEP2019.pdf

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From: Mark Deakos <deakos@hawaii.edu>
Sent: Wednesday, September 18, 2019 7:07:56 AM
To: Kelly King <Kelly.King@mauicounty.us>; Keani N. Rawlins <Keani.Rawlins@mauicounty.us>; Tasha A. Kama <Tasha.Kama@mauicounty.us>; Riki Hokama <Riki.Hokama@mauicounty.us>; Alice L. Lee <Alice.Lee@mauicounty.us>; Mike J. Molina <Mike.Molina@mauicounty.us>; Tamara A. Paltin <Tamara.Paltin@mauicounty.us>; Shane M. Sinenci <Shane.Sinenci@mauicounty.us>; Yukilei Sugimura <Yukilei.Sugimura@mauicounty.us>; County Clerk <County.Clerk@mauicounty.us>
Cc: County Clerk <County.Clerk@mauicounty.us>
Subject: Testimony to Deny Makila Farms based on full disclosure of ATU information

Aloha Chair Kama and Members of the Committee,

The following is critical information regarding Aerobic Treatment Units (ATUs), 48 of which will be associated with the Makila Farms project, which is deeply concerning and compelling reasons for denying this project.

1. The installation of each ATU requires obtaining a variance from the Department of Health (DOH)[1]. This variance is reviewed after 5 years[1].
2. In order to obtain approval from DOH for an ATU install, the engineer on record has to show a 2-year maintenance agreement with a licensed company to service these complex systems and owners must have an active service agreement (§11-62-33.1, 62-59)[2]. The service can be $400 per year.
3. After 2-years, it is up to the homeowner to continue the service contract, otherwise **DOH is issuing fines of $100/$250 to $200/$500** for first and subsequent violations for homeowners that don't have an ATU service contract (HAR §11-62-82, 62-113)[2].
4. ATU maintenance companies will tell you that most homeowner never extend the contract because they think they can maintain the ATU themselves and hence why most of the ATUs they inspect are not functioning as intended. This is further supported by other sources (https://inspectapedia.com/septic/Aerobic_Septic_Failures.php)[3].
5. A Texas A&M University guide to "Living with an ATU and Spray Field System (http://aglifesciences.tamu.edu/baen/wp-content/uploads/sites/24/2017/01/B-6234.-Living-with-an-Aerobic-Treatment-Unit-and-Spray-Field.pdf)[4] lists some common causes of a system malfunction including:
    - Too much water (too many showers, Jacuzzi, rainwater p. 5, 6, 7)
    - Too little water (water-saving devices, extended vacations, p. 6, 7)
    - Improper laundry detergents, use of bleach or too large a load (p. 6)
    - Garbage disposal (p. 6)

- Drain cleaners (p. 6)
- Antibacterial soap (p.6)
- Excessive toilet paper (p. 7)

6. Also, the ATU system capacity should be large enough to handle the number of members in the household (p. 5)[4]. What happens if the developer builds one-bedroom units with a compatible ATU system and the homeowner wishes to add more rooms? Or will a single bedroom homeowner be paying for a much larger and more costly system that handles more bedrooms?
7. A homeowner can simply turn off the blowers on the ATU to reduce maintenance costs, which essentially turns it into a basic septic system.
8. DOH allows **only one (1) ATU per TMK[1]** and DOH also requires that every independent structure built on a property requires a separate individual wastewater system (IWS) installed, no matter the bedroom count (5 bedroom max associated with a single IWS). **This means only one dwelling per lot, no secondary farm dwellings or ohanas allowed[1]**. Does the developer have a letter from DOH stating they will allow more than one ATU per TMK?

Let's recap the pros and cons of this project:

The Pros

- 19 lucky lottery winners will get a low-cost, 2-acre, ocean view home.

The Cons

- Every resident in this community has to drive at least 2.5 miles to get to school, work, or get access to necessities and the only way to and from Lahaina is via the Lahaina Bypass, subject to daily, gridlock traffic.
- Homeowners have to either maintain their costly ATU service contract or be subject to State fines.
- Given the failure rate of ATUs, this project is essentially installing **48 septic systems** that will degrade water quality. We are trying to phase out septic systems, why would we add more?
- This 201-H makes a mockery of the Community Plan process while doing little to address affordable housing. Pam Eaton already shared with you all that the West Maui Community does not support this development, especially on ag-zoned land.
- The illegal segmentation of this project violates the Community Plan and **will result in a lawsuit**.
- We have large plots of land that would be perfect to provide not just 100% affordable housing but also affordable living, which is equally important.

Please deny this project and focus on supporting a project that actually addresses our affordable housing issue. This project is not ready for approval.

Mahalo for your kokua,

Mark Deakos, *Ph.D.*
Napili
280-6448

Attachments:

1. Example of ATU State Variance 5-year term limit, one per TMK
2. ATU State Variances, contract requirement, penalties for non-compliance
3. ATU Failure Rates Document
4. Texas A&M Guide, Living with an ATU, Causes for Malfunction

5 & 6 DOH justifications for new ATU regulations

DAVID Y. IGE
GOVERNOR OF HAWAII

BRUCE S. ANDERSON, Ph.D.
DIRECTOR OF HEALTH

STATE OF HAWAII
DEPARTMENT OF HEALTH
P. O. BOX 3378
HONOLULU, HI 96801-3378

In reply, please refer to:
File:

WW 532 FINAL DEC CL
JENNIFER HAWKINS
41 IKENA KAI PLACE-ID517

September 10, 2019

Mr. Brandon Murr
CDF Engineering LLC
P.O. Box 2985
Wailuku, Hawaii 96793

Dear Mr. Murr:

Subject: **Variance Application No. WW 532 Docket No. 19-VWW-08 ID 517**
Final Decision Regarding Individual Wastewater System for
Jennifer Hawkins, 41 Ikena Kai Place, Kula, Maui, Hawaii 96790
TMK (2) 2-3-003: 217

The Department of Health (Department) has granted your request for the subject variance per the enclosed Decision and Order dated September 10, 2019 for five (5) years. We are also enclosing the Department's Findings of Fact and Conclusions of Law.

If there are any questions relating to the variance, please contact Ms. Sina Pruder, Chief of the Wastewater Branch at our direct toll-free number 984-2400 ext. 64294.

Sincerely,

MARIANNE ROSSIO, P.E., ACTING CHIEF
Environmental Management Division

LM/MST:lmj

Enclosures: FINAL Decision Documents

c: Agent: Mr. Brandon Murr, via mail & email: brandon@cdfengineers.com
Applicant: Ms. Jennifer Hawkins, via mail
Clean Water Branch, via email
Safe Drinking Water Branch (JS, NU), via email
Wastewater Branch, Maui Staff Engineer, via email
County of Maui, Department of Water Supply, via email: water.supply@mauicounty.gov
Maui District Health Office, via email: patricia.kitkowski@doh.hawaii.gov

STATE OF HAWAII

DEPARTMENT OF HEALTH

In the Matter of the Variance Application WW 532) For Individual Wastewater System) Jennifer Hawkins at 41 Ikena Kai Place, Kula, Maui) Hawaii 96790 TMK (2) 2-3-003: 217))	Docket No. 19-VWW-08 ID 517

DECISION AND ORDER

Pursuant to Hawaii Revised Statutes (HRS), Chapter 342D and Hawaii Administrative Rules (HAR), Chapter 62 of Title 11, "Wastewater Systems," and based upon the application and staff review, the variance request from the provisions of HAR section 11-62-32 is hereby granted for five (5) years with the following conditions:

1. Plans for an NSF/ANSI 40 or 245 certified aerobic treatment unit (ATU) system with a leach field shall be submitted to the Wastewater Branch for review and approval. The design and installation of the ATU system shall conform to applicable requirements of Chapter 11-62, HAR.

2. The leach field shall be sited the furthest extent practical from the drinking water well.

3. Only one (1) ATU system may be constructed for the subject property.

4. The property shall connect to the County sewer system should it become available to the area.

5. There is no automatic renewal. Should the applicant wish to renew this variance application, the applicant must submit an Application for Variance for renewal, 180 days prior to expiration date.

DATED: Pearl City, Hawaii, September 10, 2019.

/s/ Marianne Rossio

MARIANNE ROSSIO, P.E., ACTING CHIEF
Environmental Management Division

STATE OF HAWAII

DEPARTMENT OF HEALTH

In the Matter of the Variance Application WW 532) For Individual Wastewater System) Jennifer Hawkins at 41 Ikena Kai Place, Kula, Maui) Hawaii 96790 TMK (2) 2-3-003: 217))	Docket No. 19-VWW-08 ID 517

FINDINGS OF FACT AND CONCLUSIONS OF LAW

Department of Health staff reviewed an application from Ms. Jennifer Hawkins, property owner of 41 Ikena Kai Place, Kula, Hawaii, 96790 for a five (5) year variance from section 11-62-32 of Hawaii Administrative Rules (HAR), Chapter 62 of Title 11, "Wastewater Systems."

A public notice of the application was printed in the April 24, 2019 issue of the *The Maui News* publication. Four (4) comments pertaining to the application were received during the 30 days following the publication of the public notice.

Findings of Fact

Mr. Brandon Murr, Project Engineer, CDF Engineering LLC, P.O. Box 2985, Wailuku, Hawaii, 96793 is the individual authorized to act for the applicant. The variance request is to install an aerobic treatment tank and absorption field at 41 Ikena Kai Place, Kula, Hawaii 96790 and TMK (2) 2-3-003: 217.

The applicant has made the following comments.

1. The subject property is currently a vacant lot with no sewer accommodations. Applicant is proposing to construct a five (5)-bedroom dwelling unit and 1,000 gallon Aerotech Treatment Unit (Aerobic) with a 1,196 square foot absorption field.

2. Additional statements and information for this project have been provided in the variance application. Please contact the Wastewater Branch at (808) 586-4294 for a copy of the Application for Variance.

The following agencies submitted the following comments:

1. The Clean Water Branch submitted that they will defer to the Wastewater Branch's final decision. Please call Mr. Alec Wong, Branch Chief of the Clean Water Branch at (808) 586-4309, if you have any questions or comments.

2. The Safe Drinking Water Branch submitted the following comments.

   A. The site is located mauka of the Underground Injection Control (UIC) line. Areas mauka of the UIC line are considered to overlie underground sources

of drinking water. The proposed wastewater treatment and disposal system is reported to be approximately 781 feet from a drinking water well.

B. It appears that there may be other areas within the property boundary to locate the wastewater leachfield further away from the drinking water well. Thus, we recommend that the leachfield be relocated to the furthest extent practical from the drinking water well before a variance decision is made. The Wastewater Branch should be in agreement with the consultant's practicality reasons if the leachfield cannot be sited any farther.

If you have any questions on these comments, please contact Mr. Norris Uehara, Supervisor of the UIC Program at (808) 586-4258.

3. Mr. Jeffrey T. Pearson, P.E., Director of the County of Maui's Department of Water Supply submitted a letter with comments that involved recommendations of implementing best management practices for pollution prevention from the aerobic individual wastewater system. Please contact the Wastewater Branch at (808) 586-4294 for a copy of the letter.

4. The Wastewater Branch submitted the following comments:

A. Plans for an NSF/ANSI 40 or 245 certified aerobic treatment unit (ATU) system with a leach field shall be submitted to the Wastewater Branch for review and approval. The design and installation of the ATU system shall conform to applicable requirements of Chapter 11-62, HAR.

B. The leach field shall be sited the furthest extent practical from the drinking water well.

C. Only one (1) ATU system may be constructed for the subject property.

D. The property shall connect to the County sewer system should it become available to the area.

E. Upon the agreement of the conditions stated above, we recommend the granting of this variance application.

Conclusions of Law

Hawaii Revised Statutes Section 342D-7(c), states that in part, no variance shall be granted by the Department unless the application and supporting information clearly show that:

1. The continuation of the function or operation involved in the discharge of waste occurring or proposed to occur by the granting of this variance is in the public interest as defined in section 342D-6;

2. The discharge occurring or proposed to occur does not substantially endanger human health or safety; and

3. Compliance with the rules or standards from which the variance is sought would produce serious hardship without equal or greater benefits to the public.

Based upon the foregoing findings of fact, it is concluded that the above requirements have been met.

Comment and Recommendation

Based upon the foregoing findings of fact and conclusions of law, it is my recommendation that the variance request be granted for five (5) years with the following conditions:

1. Plans for an NSF/ANSI 40 or 245 certified ATU system with a leach field shall be submitted to the Wastewater Branch for review and approval. The design and installation of the ATU system shall conform to applicable requirements of Chapter 11-62, HAR.

2. The leach field shall be sited the furthest extent practical from the drinking water well.

3. Only one (1) ATU system may be constructed for the subject property.

4. The property shall connect to the County sewer system should it become available to the area.

5. There is no automatic renewal. Should the applicant wish to renew this variance application, the applicant must submit an Application for Variance for renewal, 180 days prior to expiration date.

DATED: Pearl City, Hawaii, September 10, 2019 .

Marianne J. Rossio

MARIANNE ROSSIO, P.E., ACTING CHIEF
Environmental Management Division

The foregoing findings of fact and conclusions of law are hereby adopted.

Rules Amending Title 11
Hawaii Administrative Rules

( )

1. Chapter 62 of Title 11, Hawaii Administrative Rules, entitled "Wastewater Systems" is amended and compiled to read as follows:

"HAWAII ADMINISTRATIVE RULES

TITLE 11

DEPARTMENT OF HEALTH

CHAPTER 62

WASTEWATER SYSTEMS

Subchapter 1 Prohibitions and General Requirements

Subchapter 2 Wastewater Treatment Works

Subchapter 3 Individual Wastewater Systems

Subchapter 4 Wastewater Sludge Use and Disposal

Subchapter 5 Wastewater Management Permits and Registration

SUBCHAPTER 1

PROHIBITIONS AND GENERAL REQUIREMENTS

§11-62-01 Preamble. The department of health seeks to ensure that the use and disposal of wastewater and wastewater sludge does not contaminate or pollute any valuable water resource, does not give rise to public nuisance, and does not become a hazard or potential hazard to the public health, safety, and welfare.

The department of health seeks to migrate towards an ultimate goal of regional sewage collection, treatment and disposal systems [which] that are consistent with state and county wastewater planning policies. Off-site treatment and disposal systems, followed in priority by on-site systems, meeting health and environmental standards will be allowed whenever they are consistent with state and county wastewater planning policies and on the premise that these systems will eventually connect to regional sewage systems. Individual wastewater systems may be utilized in remote areas and in areas of low population density. [A goal has been established such that the] Hawai`i is long overdue in eliminating construction of wastewater disposal systems depositing untreated sewage into the environment [will not be allowed], such as cesspools. Indeed, the department stated in its prior rules back in the 1990's, with the agreement of all counties' wastewater advisory committees, that installation of new cesspools should end after the year 2000. [As a means to this end, upon] Upon the adoption of these rules, new buildings shall utilize a method of sewage disposal other than cesspools approved by the department.

The department of health seeks to work in close partnership with the counties [on] to manage wastewater [management matters, seeks to allow each county to participate in the implementation of these rules through the recommendations of a county wastewater advisory committee to the director, and seeks to encourage each county to assume complete administration of the wastewater treatment system program within their county] to prevent pollution and

harm to public health, safety and welfare. Each county may participate in the implementation of these rules through the recommendations of a county wastewater advisory committee to the director.

The department of health seeks to advance the use of recycled water and wastewater sludge consistent with public health and safety and environmental quality. The state department of health acknowledges that when properly treated and used, all recycled water and wastewater sludge are valuable resources with environmental and economic benefits and can be used to conserve the State's precious resources. The director acknowledges that the most highly treated recycled water and exceptional quality wastewater sludge can be used for a wide variety of applications with the appropriate restrictions and when best management practices and other requirements of this chapter are met. [Eff 12/10/88; am and comp 12/09/2004; am and comp] (Auth: HRS §§321-11, 322-8(a), 342D-4, 342D-5, 342E-3)(Imp: HRS §§321-11, 322-1 to 322-4, 322-8, 342D-2, 342D-4, 342D-5, 342D-50, 342E-3)

§11-62-02 Purpose and applicability. (a) [These rules seek] This chapter seeks to ensure that the use and disposal of wastewater and wastewater sludge from wastewater systems:

(1) Do not contaminate or pollute any drinking water or potential drinking water supply, or the waters of any beaches, shores, ponds, lakes, streams, groundwater, or shellfish growing waters;
(2) Do not encourage the harborage of insects, rodents, or other possible vectors;
(3) Do not give rise to nuisances;
(4) Do not become a hazard or a potential hazard to public health, safety and welfare;
(5) Contribute to the achievement of wastewater management goals contained in approved county water quality management plans;
(6) Reinforce state and county planning policies; and

(7) Are consistent with the State's administration of the National Pollutant Discharge Elimination System.

(b) [These rules] This chapter seeks to advance the appropriate uses of recycled water and wastewater sludge.

(c) This chapter allows and does not preempt[:] provisions in county codes, rules or ordinances that are not inconsistent with these rules, including, without limitation:

(1) Plumbing requirements in county plumbing codes or rules, including county adoptions of all or parts of the Uniform Plumbing Code;

(2) Sanitary sewer system and wastewater treatment works use permission and pretreatment requirements in county ordinances or rules regarding the introduction of fats, oils, grease, septage, sludge, or wastewater into sanitary sewers or wastewater treatment works, requirements on the use of grease traps, and requirements on wastewater and wastewater sludge pumping and hauling;

(3) Storm sewer system use permission requirements in county ordinances or rules; or

(4) Water recycling requirements in county ordinances or rules, including requirements for connection to or use of available recycled water. [Eff 12/10/88; am and comp 12/09/2004; am and comp] (Auth: HRS §§321-11, 322-8(a), 342D-4, 342D-5, 342E-3) (Imp: HRS §§321-11, 322-1 to 322-4, 322-8, 342D-2, 342D-4, 342D-5, 342D-50, 342E-3; HRS ch. 340E; 33 U.S.C. §§1311, 1342, 1345; 40 CFR Parts 122, 123, 501, 503)

§11-62-03 Definitions. As used in this chapter:

"Activated sludge process" means a biological wastewater treatment process in which a mixture of wastewater and microorganisms is agitated with induced

aeration. Aeration supplies dissolved oxygen and wastewater supplies the organic substrate necessary for microorganism growth. This process includes sedimentation units which follow the aeration and where settled solids are withdrawn for disposal or returned to the aeration unit.

"Aerosol" means a solid suspended in air with or without preceding evaporation.

"Bedrock" means a continuous horizontal layer of hardened mineral deposits that does not support the growth of common plant life.

"Bedroom" means any room within a dwelling that is or might reasonably be used as a sleeping room. A room is presumed to be a bedroom if it has a superficial floor area not less than seventy square feet and is provided with windows or skylights with an area of not less than one-tenth of the floor area or ten square feet, whichever is greater [and having at least one-half of the window or skylight area being operable to provide natural ventilation].

"Best management practices" or "BMPs" means the most effective, practical schedules of activities, prohibitions of conduct, maintenance procedures, and other specifications of conduct to prevent or reduce the pollution. BMPs also include treatment requirements, operating procedures, and practices to site runoff, spillage or leaks, sludge or waste disposal, and drainage from raw material storage.

"BOD_5" means five days biochemical oxygen demand as measured by a standard test indicating the quantity of oxygen utilized by wastewater under controlled conditions of temperature and time.

"Building" means a structure, permanent or temporary, built, erected, and framed of component structural parts used or designed for the housing, shelter, workplace, enclosure or support of persons, animals or property of any kind.

"Building modification" means any change to an existing building's configuration that may result in the increase in wastewater flows or change in the wastewater characteristics.

"Cesspool" means an individual wastewater system consisting of an excavation in the ground whose depth is greater than its widest surface dimension, which

receives untreated wastewater, and retains or is designed to retain the organic matter and solids discharging therein, but permits the liquid to seep through its bottom or sides to gain access to the underground formation.

"Collection system" means the conveyance system, which includes the building and street sewer laterals, interceptor sewer, sewage pump station, and force main, used to transport the sewage to the treatment unit.

"Composite sample" means sample(s) collected on regular intervals in proportion to the existing flow or volume and then combined to form a sample that represents the flow or volume over a period of time or space.

"Compost toilet" means a non-flush, waterless toilet that employs an aerobic composting process to treat toilet wastes.

"Confined work areas" means any area having a limited means of egress, which is subject to the accumulation of toxic or flammable contaminants or has an oxygen deficient atmosphere. Confined work areas include, but are not limited to, storage tanks, process vessels, bins, ventilation or exhaust ducts, sewers, underground utility vaults, tunnels, pipelines, and open top spaces more than four feet in depth such as pits, tubs, vaults and vessels.

"Construction" in the context of a wastewater system means the building of the system in the ground; construction is not completed until the system has been fully installed so that it is ready for hookup.

"Contractor" means the installer of a wastewater system or any part of a wastewater system.

"County" means any county of the state.

"Critical Wastewater Disposal Area (CWDA)" means an area where the disposal of wastewater has or may cause adverse effects on human health or the environment due to existing hydrogeological conditions.

["CWDA maps" means the maps attached at the end of this chapter as appendix E, pages E-1 through E–6, indicating the boundaries of the critical wastewater disposal areas established pursuant to section 11-62-

05(a) and dated March 16, 1990 and amended April 15, 1997.]

"Department" means the department of health.

"Director" means the director of health or the director's duly authorized agent, including a contractor of the director.

"Disinfection" means a process to destroy, neutralize, or inhibit the growth of pathogenic microbes.

"Disposal system" means any sewer, sewer outfall, sewer lateral, seepage pit, cesspool, injection well, soil absorption system, disposal trench, or other facility used in the disposal of wastewater or wastewater sludge, including any wastewater transmission lines, pumps, power, or other equipment associated with the ultimate disposal of wastewater or wastewater sludge.

"Distribution box" means a watertight chamber from which effluent from a treatment unit is distributed evenly to various portions of a disposal system.

"Drip irrigation" means application of water and wastewater, including recycled water, from emitters, either on the surface or subsurface, that are part of a piping system alongside the plants being irrigated and that discharges at a rate not to exceed two gallons per hour per emitter.

"Domestic sewage" is waste and wastewater from humans or household operations that[:] is:

(1) [Is discharged] Discharged to or otherwise enters a treatment works; or

(2) [Is of] Of a type that is usually discharged to or otherwise enters a treatment works or an individual wastewater system.

"Domestic wastewater" has the same meaning as "domestic sewage".

"Dwelling" means any building which is wholly or partly used or intended to be used for living or sleeping by human occupants and includes, but is not limited to, apartment houses, single family houses, duplex houses, cluster houses, townhouses, and planned developments, but excludes hotels and lodging houses.

"Dwelling unit" means any habitable room or group of habitable rooms located within a dwelling and

forming a single habitable unit with facilities which are used or intended to be used for living, sleeping, cooking, and eating.

"Engineer" means a professional engineer registered in the State of Hawaii.

"EPA" means the [U.S.] United States Environmental Protection Agency.

"EPA's methods for chemical analysis of water and wastes" means the 1979 edition of "Methods for Chemical Analysis of Water and Wastes" as published by the EPA.

"Evapotranspiration system" means a subsurface disposal system which relies on soil capillarity and plant uptake to dispose of treated effluent through surface evaporation and plant transpiration.

"Exceptional quality sludge" means wastewater sludge that has been treated to a level specified in [these rules] this chapter in which it may be used with little or no restrictions for land application.

"Existing" means constructed under a valid county permit or with written approval from the director before the effective date of this rule.

"Filter fabric" means a woven or spun-bonded sheet material used to impede or prevent the movement of sand, silt and clay through the filter material. This material shall be non-biodegradable, resistant to acids and alkalies within a pH range of 4 to 10, and resistant to common solvents.

["General permit" means a rule or document that authorizes each of a class of people, facilities, or sources to generate, treat, use, dispose, or discharge of wastewater, including recycled water, and wastewater sludge within a specified geographic area. General permit refers to a type of permit that has fewer procedural requirements than an individual permit.]

"Grab sample" means a single discrete sample of wastewater collected at a particular time and place which represents the composition of the source at that time and place.

"Graywater" [means wastewater from a dwelling or other establishment produced by bathing, washdown, minor laundry and minor culinary operations, and

specifically excluding toilet waste.] has the same meaning as defined in section 342D-1, HRS.

"Haul" means the transport of an item by vehicle or boat.

"Holding tank" means a nonportable, watertight closed vault used or designed to temporarily hold domestic wastewater.

"Household aerobic unit" means an individual wastewater system which receives domestic wastewater from dwellings or from other sources generating wastewater of a similar volume and strength, and retains solids, aerobically digests organic matter over a period of time, and allows the clarified effluent to discharge outside the tank into a disposal system.

"Individual permit" means a document issued under this rule to a specific person for a specific facility, or practice to generate, treat, use, dispose, or discharge of wastewater and wastewater sludge at a specific location.

"Individual wastewater [system] systems" means [a facility which is used and designed to receive and dispose of no more than one thousand gallons per day of domestic wastewater. Each individual wastewater system includes all connected plumbing, treatment (if any), and disposal components that could, if not connected, serve as separate wastewater systems.] facilities, such as septic systems, aerobic treatment units, and cesspools, that are not connected to a sewer and are used and designed to receive and dispose of:

(1) No more than one thousand gallons per day of domestic wastewater; or

(2) Greater than one thousand gallons of domestic wastewater from buildings with highly variable flows.

"Injection well" has the same meaning as defined in chapter 11-23.

"Land application" means the spraying or spreading of wastewater sludge onto the land surface, the injection of wastewater sludge below the land surface, or the incorporation of wastewater sludge into the soil such that the wastewater sludge can either condition the soil or fertilize crops or vegetation grown in the soil.

"Large capacity cesspool" means a cesspool that serves more than one residential dwelling or, for a non-residential cesspool, has the capacity to serve twenty or more persons per day.

"Living area" means the portion(s) of a dwelling unit including, but not limited to, the bedroom, kitchen, bathroom, living room, family room, covered lanai, den, and library, but excluding the garage, carport, open lanai, fence, and utility shed.

"Makai" means toward the sea or the area outside the Underground Injection Control (UIC) Line encircling the protected aquifer.

"Manual of Septic Tank Practice" means the United States Department of Health, Education and Welfare Publication No. (HSM) 72-10020, formerly known as "PHS Publication No. 526", revised in 1967.

"Modal time" means the amount of time elapsed between the time that a tracer, such as salt or dye, is injected into the influent at the entrance to a chamber and the time that the highest concentration of the tracer is observed in water where it is discharged from the chamber.

"Mound system" means a soil absorption system which is installed in or below an artificially created mound or earth.

"MPN" means most probable number.

"New" means constructed on or after the effective date of this chapter.

"Non-domestic wastewater" means all wastewater excluding domestic wastewater.

"Non-exceptional quality wastewater sludge" means wastewater sludge that is not exceptional quality wastewater sludge.

["Notice of intent" or "NOI" means a form or document used to notify the director that a person seeks coverage under a general permit.]

"Owner" means a person(s) who has legal title to a treatment works or individual wastewater system, or duly authorized representative of the owner.

"Pathogenic organisms" means disease-causing organisms. These include, but are not limited to, certain bacteria, protozoa, viruses, and viable helminth ova.

"Person" has the same meaning as defined in section 342D-1, HRS.

"Person who prepares wastewater sludge" means anyone who generates wastewater sludge during the treatment of wastewater in a wastewater treatment works, a person who derives a material from wastewater sludge, a person who provides treatment of wastewater sludge, or a person who changes the quality of wastewater sludge.

"pH" means the logarithm of the reciprocal of the hydrogen ion concentration measured at 25 degrees Celsius or measured at another temperature and then converted to an equivalent value at 25 degrees Celsius.

"Private" means not owned or operated by a federal, state, or county authority.

"Proposed" means put forward for consideration or suggested to the director. For the purposes of this chapter, [it] "proposed" shall refer to the plans for a wastewater system or activity.

"Public" means, for issues of ownership, owned or operated by a federal, state, or county authority.

"Public water system" has the same meaning as defined in chapter 11-20.

"R-1 water" means recycled water that has been oxidized, filtered, and disinfected to meet the corresponding standards set in this chapter.

"R-2 water" means recycled water that has been oxidized and disinfected to meet the corresponding standards set in this chapter.

"R-3 water" means recycled water that has been oxidized to meet secondary treatment standards as set forth by EPA.

"Recycled water" means treated wastewater that by design is intended or used for a beneficial purpose.

"Recycled water system" means a facility which conveys to users or uses recycled water. Recycled water systems are subdivided into distribution and use systems. Recycled water systems include all piping, storage, and repressurization facilities to deliver recycled water to users, but exclude treatment units.

"Reuse guidelines" means the "Guidelines for the treatment and use of reclaimed water", Hawaii State

Department of Health, Wastewater Branch, November 23, 1993, [and] revised May 15, 2002.

"Seepage pit" means an excavation in the ground whose depth is greater than its widest surface dimension and which receives the discharge from treatment units and permits the effluent to [seep]exit through its bottom or sides [to gain access to the underground formation.] for gradual seepage into the ground.

"Septage" means either a liquid or solid material removed from a septic tank, cesspool, portable toilet, Type III marine sanitation device, or similar treatment works that receives wastewater.

"Septic system" means an individual wastewater system that usually consists of a septic tank, piping, and a drainage field where there is natural biological decontamination as it is filtered through soil.

"Septic tank" means a watertight receptacle [which] that receives the raw wastewater, retains after settling solid matter or sewage for treatment by bacteria, and discharges a [settled,] partially treated effluent.

"Sewage sludge" means any solid, semi-solid, or liquid residue removed during the treatment of municipal wastewater or domestic sewage. Sewage sludge includes, but is not limited to, solids removed during primary, secondary, or advanced wastewater treatment, scum, septage, portable toilet pumping, Type III Marine Sanitation device pumpings (33 Code of Federal Regulations Part 159), and sewage sludge products. Sewage sludge does not include grit, screenings, or ash generated during the incineration of sewage sludge.

"Sewer" means a pipe or conduit or any other appurtenances that carry wastewater from a building or buildings to a specific point for treatment and disposal.

"Soil absorption" means a process which uses the soil to treat and dispose of effluent from a treatment unit.

"Spray irrigation" means application of water and wastewater, including recycled water, to the land to maintain vegetation or support the growth of vegetation by spraying the water and wastewater above

ground from sprinklers, micro-sprinklers, or orifices in piping.

"SS" means suspended solids and indicates the characteristic state of solids in wastewater.

"Standard methods" means the [17th] 22nd edition, [1989,] 2014, of "Standard Methods for the Examination of Water and Wastewater" as published by the American Water Works Association, American Public Health Association and the Water Pollution Control Federation, unless another edition is specified by the director.

"State waters" shall have the same meaning as defined in section 342D-1, HRS.

"Subsurface disposal system" means a disposal system [which permits effluent to reach the underground geologic formation] that allows the gradual seepage of effluent into the ground, such as a seepage pit, cesspool, injection well, soil absorption system, or other facility used in the disposal of wastewater, including any wastewater transmission lines, pumps, power, or other equipment associated with the disposal of wastewater.

"Subsurface drip irrigation" means the application of water and wastewater, including recycled water, to the land to maintain vegetation or to support the growth of vegetation by discharging or emitting the water and wastewater from orifices in piping below the surface or finished grade.

"Suitable soil" means a soil which acts as an effective filter in the removal of organisms and suspended solids before the effluent reaches any highly permeable earth formations, bedrock, or groundwater.

"Surface disposal" means the placing of wastewater sludge on the land for final disposal and includes storage on land for two or more years.

"Surface irrigation" means the application of water and wastewater, including recycled water, by means other than spraying.

"Ten States Standards" means the 1980 edition of the Recommended Standards for Individual Sewage Systems, a report by the committee of the Great Lakes-Upper Mississippi River Board of State Sanitary Engineers on the policies for review and approval of

plans and specifications for individual wastewater systems.

"Theoretical detention time" means the value obtained by dividing the volume of a chamber, through which fluid flows, by the flow rate expressed in amount of fluid volume per unit of time.

"Treatment unit" means any plant, facility, or equipment used in the treatment of wastewater, including the necessary pumps, power equipment, blowers, motors, holding tanks, flow splitter, and other process equipment.

"Treatment works" means any treatment unit and its associated collection system and disposal system, excluding individual wastewater systems.

"Vector attraction" means the characteristic of wastewater sludge that attracts rodents, flies, mosquitoes, or other organisms capable of transporting infectious agents.

"Wastewater" means any liquid waste, whether treated or not, and whether animal, mineral, or vegetable, including agricultural, industrial, and thermal wastes.

"Wastewater sludge" has the same meaning as "sewage sludge".

"Wastewater sludge facility" means a facility which collects, handles, stores, treats, or disposes of wastewater sludge. Wastewater sludge facilities shall exclude individual wastewater systems.

"Wastewater system" means the category of all wastewater and wastewater sludge treatment, use, and disposal systems, including all wastewater treatment works, collection systems, wastewater sludge facilities, recycled water systems, and individual wastewater systems.

"Water pollution" has the same meaning as defined in section 342D-1, HRS.

"Watertight" means constructed so that no water can enter and discharge except through the inlet and outlet pipe respectively. [Eff 12/10/88; am 8/30/91; am and comp 12/09/04; am and comp] (Auth: HRS §§321-11, 328(a), 342D-1, 342D-4, 342D-5) (Imp: HRS §§321-11, 322-1 to 322-4, 322-8, 342D-1, 342D-2, 342D-4, 342D-5, 342D-50, 342E-3; 40 CFR Parts 501, 503, 40 CFR §501.2)

§11-62-04 County wastewater advisory committee. (a) The mayor of each county may request that the director form a county wastewater advisory committee ("committee"), and the mayor may nominate its members, who may include representatives of the county water supply, public works, planning, and land utilization departments, labor, industry, environmental groups, and other interested people. The chief of the environmental management division on Oahu and the district environmental health program chiefs on the neighbor islands shall serve as [ex-officio] ex officio members of their respective county committees. The department shall provide technical and support services for the committee.

(b) The primary role of the committee is to review and make recommendations to the director on the application of [these rules] this chapter on matters which are unique to each county, on the establishment of critical wastewater disposal areas, on proposals which are not specifically addressed in these rules, and upon the director's request, for applications for variances. The committee's recommendations shall seek to advance the purposes of this chapter. [Eff 12/10/88; am 8/30/91; am and comp 12/09/2004; am and comp] (Auth: HRS §§321-11, 342D-4, 342D-5) (Imp: HRS §§321-11, 322-1 to 322-4, 322-8, 342D-2, 342D-4, 342D-5, 342D-50)

§11-62-05 Critical wastewater disposal areas (CWDA). (a) [The director may establish] All areas of the State are critical wastewater disposal areas [in each county based on one or more of the following concerns:

(1) High water table;
(2) Impermeable soil or rock formation;
(3) Steep terrain;
(4) Flood zone;
(5) Protection of coastal waters and inland surface waters;
(6) High rate of cesspool failures; and
(7) Protection of groundwater resources].

(b) The director may impose more stringent requirements than those specified in [these rules] this chapter for wastewater systems located or proposed to be located within [any designated critical wastewater disposal area.] areas that require additional protection. Requirements that the director may impose include, but are not limited to, meeting higher effluent standards for wastewater systems, limiting the method of effluent disposal, and requiring flow restriction devices on water fixtures.

[(c) Proposed cesspools shall be severely restricted or prohibited in any designated critical wastewater disposal area.

(d) Areas designated as critical wastewater disposal areas pursuant to subsection (a) are indicated on the CWDA maps dated March 16, 1990 and revised April 15, 1997, which are attached to this chapter in appendix E, entitled CWDA Maps, dated April 15, 1997. Larger and more detailed copies of the maps are incorporated by reference and are available for examination at the department's environmental management division and district health offices. In case of a conflict between maps, the more detailed tax map key map designations shall control.] [Eff 12/10/88; am 8/30/91; am and comp 12/09/04; am and comp] (Auth: HRS §§321-11, 342D-4, 342D-5) (Imp: HRS §§321-11, 322-1 to 322-4, 322-8, 342D-2, 342D-4, 342D-5, 342D-50)

§11-62-06 General requirements. Owners shall comply with these requirements: (a) All buildings used or occupied as a dwelling, all public buildings, and all buildings and places of assembly[,and all buildings] generating wastewater or with toilets, sinks, drains, or other plumbing fixtures capable of conveying wastewater, shall be connected to a wastewater system. In addition, any new building capable of generating wastewater shall be connected to a wastewater system which meets the requirements of this rule.

(b) All [building(s)] buildings and places of assembly generating wastewater or with toilets, sinks, drains, or other plumbing fixtures capable of

conveying wastewater and located within or near [proximity of] an available public sewer system as determined by the director, shall connect to the public sewer.

(c) All wastewater systems shall be designed, constructed, operated, and maintained in accordance with this chapter.

[(d) Buildings and operations, including farms, generating non-domestic wastewater shall meet the specific requirements of this chapter as determined to be applicable by the director.

(1) Wherever applicable, the director shall use the requirements for non-domestic wastewater as set forth by the EPA, the Reuse Guidelines, and wherever applicable the department's Guidelines for Livestock Waste Management (Animal Waste Guidelines) dated July 1996. The Reuse Guidelines and the Animal Waste Guidelines are available for inspection and purchase at the department's environmental management division and the district health offices. Construction plans and engineering reports for proposed non-domestic wastewater systems shall be sufficient in scope and depth for determining the adequacy of compliance with the provisions of section 11-62-02.

(2) Any building or facility which is located within the state agricultural land use district, county agricultural zoned districts or conservation districts may be exempt from the provisions of subchapters 2 and 3, provided that such buildings or facilities are essential to the operation of an agricultural enterprise or consistent with the conservation district use intent. However, the owner shall submit for the director's approval plans or engineering reports or both for the wastewater systems proposed to accommodate the wastewater generated from any building or facility in this category. Such information submitted shall be sufficient in scope and depth for determining the adequacy of performance of

the wastewater system in meeting the provisions of section 11-62-02.

(e)](d) Operation and maintenance. All wastewater systems and parts thereof that are installed or used by persons to achieve compliance with this [rule] chapter and the conditions of any [permit] department approval for use issued under this rule shall at all times be properly operated and maintained. Proper operation and maintenance includes adequate laboratory controls and appropriate quality assurance procedures as specified by the director. Effluent testing shall be performed by an independent laboratory. Proper operation and maintenance also includes operation of any required back-up or auxiliary facilities or similar systems as specified by the director to be installed to achieve compliance with this [rule] chapter and the conditions of any [permit] department approval for use issued under this [rule] chapter.

[(f)] (e) No holding tank, except for public facilities, and no privy shall be used. No portable toilets shall be used for any permanent structure unless approved by the director.

[(g)] (f) No person or the owner shall cause or allow any wastewater system to create or contribute to any of the following:

(1) Human illness;
(2) Public health hazard;
(3) Nuisance;
(4) Unsanitary condition;
(5) Wastewater spill, overflow, or discharge into surface waters or the contamination or pollution of state waters, except in compliance with a permit or variance issued under chapter 11-55, or a water quality certification or waiver obtained under chapter 11-54;
(6) A wastewater spill, overflow, or discharge (spill) onto the ground, except for R-1 water from a recycled water system that is

implementing BMPs approved by the director. The burden of proof is on the recycled water system's owner or operator to demonstrate that the spill qualifies for this exception;

(7) Harborage of vectors, including insects and rodents;

(8) Foul or noxious odors;

(9) Public safety hazard; or

(10) Contamination, pollution, or endangerment of drinking waters, except in compliance with a permit issued under chapter 11-23.

[(h)](g) Notice. If any of the conditions in subsection [(g)](f) exist, the owner or the person responsible for the wastewater system shall notify the director immediately, unless for subsection [(g)(5)] (f)(5) and [(g)(6)] (f)(6), the owner or person responsible demonstrates compliance with the protocol attached to this chapter as [appendix C,] Appendix B, entitled Responses for Wastewater Spills, Overflows, and Discharges ("Spills") dated [April 15, 1997.] July 1, 2014.

[(i)](h) In case of a violation of this chapter, the director, at the director's discretion, shall initiate enforcement action against the owner(s) of the wastewater system [and initiate enforcement action against other persons] to have the offending condition abated, corrected, or removed [, destroyed, or prevented]. In addition, once a violation of this chapter occurs, the director shall order the [owner of the wastewater system] owner to take immediate actions to protect public health and safety.

[(j)](i) Duty to mitigate. The owners of wastewater systems shall take steps to minimize or prevent the use and disposal of wastewater or wastewater sludge in violation of this chapter which has a reasonable likelihood of adversely affecting human health or the environment.

[(k)](j) Upon request by the director, proposed wastewater systems in critical wastewater disposal areas shall be approved in writing or by rule by the respective county board of water supply or department of water supply.

[(l)](k) If applicable, a wastewater system involving the subsurface disposal of wastewater shall be in compliance with chapter 11-23.

[(m)](l) Approvals to construct the wastewater system shall be considered invalid if:

(1) A county does not issue a building permit for a private building within [one year] five years after the director approves the wastewater system, or the construction of the wastewater system has not [begun] been completed within [one year] five years of the approval; [and] or

(2) [A] The director revokes approval to construct or a county revokes [or rescinds] a building permit and the building is to be served by a wastewater system that was approved in conjunction with the building permit application.

Reapproval of any wastewater system for which the director's approval has been [rescinded] revoked or determined invalid pursuant to this paragraph shall be based on the applicable rules in effect at the time the request for reapproval is made.

[(n) Whenever] (m) The director, at the director's discretion, may require that a wastewater system be upgraded to meet the applicable requirements of this chapter whenever a building modification is proposed that may change the nature or quantity of the wastewater flowing to the wastewater system. The modifications may include but not be limited to adding additional bedrooms to a dwelling or adding a restaurant to a shopping complex. The director, at the director's discretion, may also require that a wastewater system be upgraded[, the wastewater system serving the building shall be required to be upgraded in order to meet the applicable requirements of this rule]if any of the following conditions exists:

(1) The existing wastewater system has created or contributed to any of the conditions noted in subsection [(g);](f);

(2) The existing wastewater disposal system has [been pumped more than twice] within the last twelve months [;] been pumped more than

twice or has spilled wastewater more than once;

(3) The existing wastewater system disposes untreated wastewater directly into the groundwater table; or

(4) The owner of the existing wastewater system has not satisfactorily addressed [any] all of the deficiencies noted by the director.

[Upon the director's discretion and the engineer's recommendation, for a cesspool located below the Underground Injection Control Line, not disposing wastewater directly into the groundwater table, located in suitable soil, and meeting all distance requirements of Table II, the installation of a septic tank before the cesspool shall temporarily meet this upgrade requirement until such time that the director determines a new wastewater system is required.]

[(o)] (n) Modifications to wastewater systems that may affect the quality [and] or quantity of the wastewater and wastewater sludge shall meet the applicable provisions of this [rule] chapter.

[(p)] (o) Actions [of] taken by the director to evaluate and determine possible [engaged in the evaluation and determination of] measures [required]to [effect] achieve compliance with this chapter [shall in no way be taken as a] do not guarantee that [the] an approved wastewater [systems approved] system will function [in a satisfactory] satisfactorily [manner] for any [given] period of time, or mean that [the] department employees [assume any] are [liability] liable for any damages, consequential or direct, that [which] are or may be caused[, or which may be caused,] by a malfunction of the wastewater systems.

[(q)] (p) Duty to comply. The owners of any wastewater system shall comply with all applicable provisions of this chapter. In addition, all [permittees] owners shall comply with all conditions of any [permit] department approval for use issued under this chapter. Any noncompliance constitutes a violation and is grounds for: enforcement action; [forpermit] department approval for use termination, revocation and reissuance, or modification; or denial of a [permit] department approval for use renewal application.

[(r)](q) In cases where the director is required to conduct an inspection at a location outside the State, the owner of the wastewater system shall be required to cover all costs related to the inspection.

(r) Upon sale of any building served by an existing cesspool, the building, no later than one hundred and eighty days after ownership transfer, shall be connected to a sewer or, where a sewer connection is not feasible, the cesspool shall be replaced with a new wastewater system, other than a cesspool, that meets the applicable requirements of subchapter 3.

[Eff 12/10/88; am 8/30/91; am and comp 12/09/04; am and comp] (Auth: HRS §§321-11, 322-8(a), 342D-4, 342D-5, 342D-15, 342E-3) (Imp: HRS §§321-11, 322-1 to 322-4, 322-8, 342D-2, 342D-4, 342D-5, 342D-6, 342D-50, 342E-3; HRS chs. 340E; 33 U.S.C. §§1311, 1342, 1345; 40 CFR Parts 122, 123, 40 CFR §501.15(b)(6))

§11-62-07 REPEALED [R 8/30/91]

§11-62-07.1 Requirements for non-domestic wastewater. (a) The director will review the use and disposal of non-domestic wastewater on a case-by-case basis.

(b) Non-domestic wastewater includes, but is not limited to:

(1) Wastewater from agricultural, commercial, or industrial activities or operations;

(2) Solids, semi-solids, or liquids removed from the non-domestic wastewater;

(3) Wastewater that contains a mix of both domestic and non-domestic wastewater; or

(4) Solids, semi-solids, or liquids removed from wastewater that contains a mix of both domestic and non-domestic wastewater.

(c) Buildings and operations generating non-domestic wastewater, including farms, shall meet the specific requirements of this chapter as determined to be applicable by the director.

(1) Wherever applicable, the director shall use the requirements for non-domestic wastewater as set forth by the EPA, the Reuse Guidelines, and wherever applicable the department's Guidelines for Livestock Waste Management (Animal Waste Guidelines) dated January 10, 2010. The Reuse Guidelines and the Animal Waste Guidelines are available on-line at the Wastewater Branch section of the department's website and are available for inspection and purchase at the department's environmental management division and the district health offices. Construction plans and engineering reports for proposed non-domestic wastewater systems shall be sufficient in scope and depth for determining compliance with the provisions of this chapter.

(2) Any building or facility which is located within the state agricultural land use district, county agricultural zoned districts, or conservation districts may be exempt from the provisions of subchapters 2 and 3 for its non-domestic wastewater provided that the buildings or facilities are essential to the operation of an agricultural enterprise or consistent with the conservation district use intent. The owner shall submit for the director's approval plans or engineering reports, or both, for the wastewater systems proposed to accommodate the wastewater generated from any building or facility in this category. Information submitted shall be sufficient in scope and depth for determining the adequacy of performance of the wastewater system in meeting the provisions of this chapter.

[(e)](d) [The director in] In determining treatment requirements for the non-domestic wastewater shall use requirements for non-domestic wastewater, the director as set forth by EPA, 40 CFR 257, subchapter 4, the Reuse Guidelines, and the Animal Waste Guidelines. [Eff and comp 12/09/04; am and comp

](Auth: HRS §§321-11, 322-8(a), 342E-3) (Imp: HRS §§321-11, 322-1 to 322-4, 322-8, 342E-3)

§11-62-08 Other requirements for wastewater systems. (a) Purpose.

(1) It is the purpose of this section and subchapters 2, 3, and 4 to set forth minimum requirements for the following purposes:

(A) To clarify responsibilities of owners, engineers, and the department;

(B) To set minimum distance requirements so that nuisances are avoided;

(C) To set minimum requirements to protect public health, safety, and welfare, and to protect the wastewater systems from malicious damage or unauthorized entry; and

(D) To emphasize the need for proper design, installation, operation, and maintenance.

(2) This section and subchapters 2, 3, and 4 give the engineer designing the wastewater system flexibility and design responsibility. The design engineer is responsible for the choice of equipment, types of treatment processes used, structural integrity, electrical components, disposal system designs, adequate work space, accessibility for operation, maintenance and repair, redundancy of major equipment and processes, corrosion control, and all other major aspects of wastewater system design.

(3) Nothing in this chapter shall be construed to prevent the engineer from exceeding the minimum requirements if the engineer determines that specific conditions warrant such additional measures.

(b) No person shall construct [or], modify the construction of, or modify the use of a wastewater system without the approval of the director. The

following documents shall be submitted to the director prior to such approval:

(1) Construction plans prepared by or under the supervision of an engineer indicating the following:

(A) Acreage, address, and tax map key number(s) of the project site;

(B) Plot plan drawn to scale showing the location of the proposed and any existing wastewater system and its distances from existing and proposed buildings, structures, legal boundaries, property lines, adjacent surface bodies of water, drinking water sources, and existing public sewers within 2,000 feet of the nearest property line; and

(C) Sufficient details to show compliance with all applicable requirements of this chapter.

(2) Construction plans for an individual wastewater system prepared by the engineer [shall show] showing sufficient details to enable the contractor to construct the individual wastewater system.

(3) Wastewater sludge use and disposal plan indicating how the wastewater sludge facility will comply with subchapter 4.

(c) Whenever applicable, the design flow of any development to be served by a wastewater system shall be based on Appendix D, Table I, dated July 1, 2014, except as provided by section 11-62-24(b).

(d) Measures to control public accessibility to all treatment units shall be provided to prevent accidents, drownings, vandalism, and interference with the treatment process. At a minimum, the provisions shall include:

(1) Fencing or other secured enclosures at least six feet in height with no more than three and a half inch clear openings or spaces for treatment units with exposed water surfaces or equipment; or

(2) Completely enclosed treatment units with unexposed water surfaces and equipment. Access openings to completely enclosed

treatment unit(s) and equipment shall be secured and properly identified, and be large enough to allow removal of equipment from the facility.

(e) No person shall use the area adjacent to or directly above any wastewater system for purposes or activities which may hinder or interfere with the operation and maintenance, modification, or replacement of the wastewater system.

(f) No person shall operate a wastewater system unless that person or the owner of the wastewater system is authorized by the director in accordance with the applicable provisions of sections 11-62-23.1(e) and 11-62-31.1(f) and the applicable provisions of chapter 11-61. The director may inspect the wastewater system or its site at any time before authorizing the use of the system and may require advance notice of the engineer's inspection.

(g) All wastewater systems shall be constructed or modified by a person meeting the requirements of [section] chapter 444, HRS, and any pertinent rules [promulgated] adopted by the department of commerce and consumer affairs, State of Hawaii. [Eff 8/30/91; am and comp 12/09/04; am and comp] (Auth: HRS §§321-11, 342D-4, 342D-5, 342E-3) (Imp: §§321-11, 322-1 to 322-4, 322-8, 342D-2, 342D-4, 342D-5, 342D-6, 342D-50, 342E-3)

§11-62-09 Public access to information. (a) The following information is available for public inspection:

(1) The name and address of any person seeking or obtaining registration, an individual permit, or [general permit coverage;] department approval for use of an individual wastewater system; and

(2) Registration information and forms, registrations, individual permit applications and permits, [notices of intent to be covered by a general permit, general permit coverage notices,] department approval for use of an individual wastewater system, sludge and effluent data, and

reports required to be submitted under this chapter. This includes information submitted on the forms themselves and any attachments used to supply information required by the forms.

(b) This section is not intended to limit chapter 92F, HRS, or any other law requiring the disclosure of information.

(c) Applications for request for public information regarding wastewater system shall be made in writing on forms furnished by the director. At a minimum, the application shall identify where the wastewater system is, including when possible the applicable street address to and tax map key of the lot, and a mailing address which the information is to be sent. [Eff and comp 12/09/04; am and comp](Auth: HRS §§91-2, 92-21, 342D-4, 342D-5, 342D-14) (Imp: HRS §§91-2, 92-21, 342D-2, 342D-4, 342D-5, 342D-6, 342D-14, 342D-55)

§11-62-10 Public hearings and informational meetings. (a) The director may hold a public hearing in the director's discretion, when such a hearing may help the director's decision on a matter regulated by this chapter or for another reason which the director considers to be in the public interest.

(b) The director may hold a public informational meeting when the director considers it to be in the public interest. [Eff and comp 12/09/04; comp] (Auth: HRS §§342D-4, 342D-5, 342D-6) (Imp: HRS §§342D-2, 342D-4, 342D-5, 342D-6, 342D-57; 40 CFR Part 501, §501.15(d)(7))

§11-62-11 Incorporation by reference. Appendices A through [F] E, dated [April 15, 1997,] July 1, 2014, [and form A] located at the end of this chapter, [is] are made a part of this chapter. [Eff and comp 12/09/04; am and comp] (Auth: 342D-4, 342D-5) (Imp: 342D-4, 342D-5, 342D-6)

§11-62-12 Timely processing. (a) [The] This section applies to applications for a permit, license, certificate, or any form of approval required under this chapter.

(b) The director shall approve, approve with conditions, or deny a complete application and notify the applicant accordingly within one hundred eighty days of the receipt of the complete application. Otherwise, the application is deemed automatically approved on the one hundred eighty-first day.

(c) The director shall determine and notify an applicant of the completeness or deficiency of an application covered by this section, including payment of required fees, within forty-five days of receipt of the application. Failure by the applicant to provide additional information, pay the fees, or correct a deficiency for completeness of the application is sufficient ground to suspend or terminate a review of the application. The director shall determine and notify an applicant of the completeness of a revised application covered by this section, including payment of required fees, within thirty days of receipt of the revised completed application.

(d) Notice to the applicant shall be complete upon mailing, facsimile transmission, or electronic mail transmission.

(e) The period for the director's action includes all calendar days, but if the period ends on a Saturday, Sunday, or state holiday, the period extends to the next working day.

(f) The one hundred eighty day period for the director's action under subsection (b) applies to the director's initial decision and notice. The initial decision and notice do not become untimely if later there is a request for hearing, an actual hearing, a lawsuit, or other challenges to the initial decision which prevents it from becoming final.

(g) The time for the director's action and notice to the applicant shall be extended when allowed by section 91-13.5, HRS.

(h) Any action taken and any wastewater system or sludge facility built, modified, or operated under an automatic approval shall comply with all applicable requirements of this chapter, and the automatic

approval is effective for a period of one year. [Eff 10/21/00; comp 12/09/04; am and com](Auth: HRS §§91-13.5, 322-11, 322-8(a), 342D-4, 342D-5) (Imp: HRS §91-13.5)

SUBCHAPTER 2

WASTEWATER TREATMENT WORKS

§11-62-21 REPEALED [R 8/30/91]

§11-62-22 REPEALED [R 8/30/91]

§11-62-23 REPEALED [R 8/30/91]

§11-62-23.1 Specific requirements for wastewater treatment works. (a) In addition to the requirements of section 11-62-08(b), the following documents shall be submitted to the director prior to approval to construct the treatment works:

(1) A written declaration signed and dated by the engineer that the proposed treatment works was designed to meet all applicable effluent requirements of sections 11-62-26 and 11-62-27; and

(2) Certification by the owner of a proposed treatment works that the treatment works shall be operated and maintained in accordance with all of the provisions of the operation and maintenance manual developed pursuant to subsection (d)(2). The owner shall certify that the operation and maintenance manual shall be available to the operator of the treatment works and shall further certify that, upon sale or transfer of ownership of the treatment works, the sale or transfer will include construction drawings, equipment manuals, operational data collected, and the appropriate transfer documents and provisions binding the new

owner to the operation and maintenance manual.

(b) All treatment works shall be provided with a continuous effluent flow measuring device such that daily wastewater flow can be determined. For treatment works with design flows equal to or greater than 100,000 gallons per day, the continuous effluent flow measuring device shall include recording equipment to totalize or chart daily flows.

(c) Unless otherwise specified by the director, the following distance requirements apply to all treatment works:

(1) Treatment units, except as provided in paragraph (3), shall not be less than twenty-five feet from any property lines nor less than ten feet from any building and swimming pools;

(2) Disposal systems, excluding effluent irrigation systems, shall not be less than five feet from a property line nor less than five feet from any building; and

(3) Completely enclosed, locked, and ventilated equipment rooms used to house items such as blowers, motors, pumps, electrical controls, and chemical feeders shall not be less than five feet from property lines or less than ten feet from dwelling unit(s).

(d) No person shall operate a treatment works unless the following documents are provided:

(1) A written declaration signed and dated by the engineer responsible for the preparation of the operation and maintenance manual for the treatment works, that the operation and maintenance manual meets paragraph (2) and that if the treatment works is operated in accordance with the manual, all applicable effluent requirements will be met; and

(2) An operation and maintenance manual prepared by the engineer. The manual [shall], as a minimum, <u>shall</u> provide the details on the following:

(A) Operation and maintenance instructions for each pump station and treatment unit or process under normal and

emergency conditions such as power outage and equipment malfunction;

(B) Operation and maintenance instructions for the disposal system including procedures for purging or chemical "shock loading" to prevent or eliminate biological growth in the subsurface disposal system;

(C) List of required sampling frequencies and analyses to be conducted by the operator;

(D) Troubleshooting, corrective, and preventive measures to be taken to maintain process control and treatment performance;

(E) Start-up procedures;

(F) Applicable state effluent requirements;

(G) Instructions on wasting and disposal of wastewater sludge;

(H) Manpower requirements needed to operate and maintain the treatment works;

(I) List of critical parts of the treatment works;

(J) "As-built" drawings of the treatment works;

(K) List of required daily activities, checks, and observations;

(L) Logs or report forms for all operation and maintenance activities performed;

(M) Flow schematic diagrams with details of piping and valving;

(N) Plot plan of the treatment works and project site including all collection lines and equipment;

(O) Details on all safety equipment at the treatment works site, any applicable spare parts, maintenance, and operation instructions; and

(P) Details on all monitoring equipment including spare parts, maintenance, and operating instructions.

(e) No person shall operate a treatment works until it has been inspected to the director's

satisfaction and the director has authorized in writing the use of the treatment works.

(1) The owner's engineer shall inspect the treatment works and submit to the director a final inspection report stating whether the wastewater treatment works has been constructed according to the submitted plans approved by the director and identifying any discrepancies and their resolutions. Any discrepancy between the constructed treatment works and the approved plans is sufficient reason to withhold approval to operate the treatment works.

(2) Before operation of the treatment works, the owner shall resolve all discrepancies.

(3) Any changes to the approved plan shall be resubmitted to the director for approval before the final inspection.

(4) The inspection shall not be considered final until the constructed treatment works conforms to the approved plans.

(f) After the first year of operation, the [owner of the treatment works] owner's engineer shall submit to the director a written statement based on results of actual sampling and [the] professional judgment of [the owner's engineer] whether or not the treatment works is meeting and at the design flow will meet the applicable effluent requirements of sections 11-62-26 and 11-62-27. If the treatment works is not meeting the applicable effluent requirements, the [owner] owner's engineer shall submit to the director a corrective action report containing:

(1) An analysis of the cause of the treatment works' failure to meet the effluent requirements and an estimate of the scope of the corrective action necessary to enable the treatment works to be in compliance;

(2) A schedule for undertaking the corrective actions; and

(3) A date by which the treatment works shall be in compliance with the applicable effluent requirements.

(g) Treatment works shall be designed with

safety in mind and comply with appropriate provisions of the Occupational Safety and Health Standards of the State of Hawaii, Department of Labor and Industrial Relations.

(h) Upon abandoning, retiring, or permanently discontinuing use of a treatment works, the owner shall render it safe by removing it or filling it completely with earth, sand, gravel, or similar non-organic matter. All above ground portions of the treatment works shall be rendered safe and vector free. Electrical components shall be disconnected at the circuit breaker or source and all access openings sealed. Injection wells shall be abandoned in accordance with chapter 11-23.

(i) For public wastewater treatment works, a facility plan shall be initiated when the actual wastewater flow reaches 75 per cent of the design capacity of the wastewater treatment works. Implementation of the recommendation of the facility plan shall be initiated when the actual wastewater flow reaches 90 per cent of the design capacity of the wastewater treatment works.

(j) [Standby] The owner or operator shall provide standby power for all lift stations to prevent unauthorized discharges of wastewater during a primary power outage.

(k) For all treatment works which produce recycled water, the director shall be guided by the requirements of subchapter 1, other applicable sections of this subchapter, and the Reuse Guidelines for all decisions on production of recycled water. [Eff 8/30/91; am and comp 12/09/04; am and comp] (Auth: HRS §§321-11, 342D-4, 342D-5) (Imp: HRS §§321-11, 322-1 to 322-4, 322-8, 342D-2, 342D-4, 342D-5, 342D-6, 342D-50)

§11-62-24 Treatment unit requirements. (a) For private wastewater treatment works of required design capacities of less than 100,000 gallons per day:

(1) For sludge digesters or aerated sludge holding tanks constructed after December 10, 1988, the sludge digesters or aerated sludge holding tanks shall treat and store at least

the amount of sludge generated over a twenty day period;

(2) Except for subsurface disposal systems, continuous disinfection of the treated effluent shall be provided for treatment works unless otherwise approved or ordered by the director;

(3) For aeration tanks constructed after December 10, 1988, the aeration tank loading shall not exceed 12.5 pounds of BOD_5 per 1,000 cubic feet. For the sequencing batch reactor process, food to microorganism (F/M) ratios shall be between 0.05 and 0.10;

(4) For final settling tanks constructed after December 10, 1988, the detention time for final settling tanks shall not be less than four hours and the surface overflow rate shall not exceed 300 gallons per day per square foot based on the average daily flow;

(5) For treatment works constructed after December 10, 1988, flow equalization shall be provided unless the engineer submits written justification that changes in normal daily flow rate or seasonal occupancy rates shall not affect the treatment unit's ability to meet continuous compliance with the effluent requirements of sections 11-62-25, 11-62-26, and 11-62-27;

(6) For treatment works constructed after December 10, 1988, easy access shall be provided for operators to allow necessary operation, maintenance, and repair. Completely enclosed treatment units with unexposed water surfaces and equipment shall not be allowed unless the design engineer can satisfy the director that provisions have been included to eliminate confined space work areas and to allow accessibility for necessary operation, maintenance, and repair, and replacement; and

(7) For all treatment units utilizing gas chlorination for disinfection, the following equipment shall be provided: chlorine gas leak detector and alarm, self contained

breathing apparatus, chlorine gas mask, warning signs, and an emergency eyewash and shower.

(b) New and proposed private wastewater treatment works of required design capacity greater than or equal to 100,000 gallons per day and new and proposed county wastewater treatment works shall comply with the design standards of their respective counties. If a county does not have wastewater treatment works design standards, then the design standards of the City and County of Honolulu shall be used.

(c) Private wastewater treatment works with design flows greater than or equal to 100,000 gallons shall have solids dewatering equipment included in the facility design. [Eff 12/10/88, am 8/30/91; am and comp 12/09/04; am and comp](Auth: HRS §§321-11, 342D-4, 342D-5) (Imp: HRS §§321-11, 322-1 to 322-4, 322-8, 342D-2, 342D-4, 342D-5, 342D-6, 342D-50)

§11-62-25 Wastewater effluent disposal systems. (a) New and proposed [subsurface] effluent disposal systems.

(1) [Subsurface] Effluent disposal systems shall at least consist of a primary disposal component and a separate 100 per cent back-up disposal component.

(2) The primary disposal component and the back-up disposal component shall each be designed to handle the peak flow. The peak flow shall be determined in accordance with the design standards of their respective county. If a county does not have design standards, the design standards of the City and County of Honolulu shall be used. Other means of determining the peak flow, as recommended by the design engineer, may be approved by the director.

(3) Each disposal component shall be tested to accommodate the wastewater flow as required in paragraph (2).

(b) For treatment works utilizing subsurface disposal systems, [other than subsurface disposal systems] design data and other pertinent data shall be submitted to and approved by the director on a case-by-case basis. Decisions by the director shall be guided by subchapter 1 and other applicable sections of this subchapter.

(c) All wastewater effluent disposal systems shall include provisions to facilitate operation, maintenance, and inspection.

(d) All wastewater subsurface effluent disposal systems shall include provisions for purging and chemical "shock loading". [Eff 12/10/88, am 8/30/91; am and comp 12/09/04; am and comp] (Auth: HRS §§321-11, 342D-4, 342D-5) (Imp: HRS §§321-11, 322-1 to 322-4, 322-8, 342D-2, 342D-4, 342D-5, 342D-6, 342D-50)

§11-62-26 Wastewater effluent requirements, recycled water quality, and monitoring and reporting requirements applicable to treatment works treating [domestic] wastewater. (a) All treatment works shall meet the applicable requirements of this section. Nothing in this section shall be construed to prevent the engineer from applying more stringent requirements if the engineer determines that the particular design and circumstances for which the engineer is responsible warrants the more stringent requirements.

(b) Treatment works' effluent and other parameters shall be monitored as follows and shall not exceed the following limits:

(1) Biochemical oxygen demand (BOD_5).

(A) For wastewater treatment works excluding wastewater pond systems with [design] actual flows greater than or equal to 100,000 gallons per day, the owner or operator shall perform composite sampling at least weekly.

(B) For wastewater treatment works with [design] actual flows less than 100,000 gallons per day, the owner or operator

shall perform grab sampling at least monthly.

(C) For wastewater pond systems with actual flows greater than or equal to 100,000 gallons per day, the owner or operator shall perform grab sampling at least weekly.

[(C)](D) The BOD_5 in the effluent from a treatment works shall not exceed 30 milligrams per liter based on the [arithmetic] monthly average of the results of the analyses of composite samples.

[(D)](E) The BOD_5 in the effluent from a treatment works shall not exceed 60 milligrams per liter based on a grab sample.

(2) Suspended solids.

(A) For wastewater treatment works, except for wastewater pond systems, with [design] actual flows greater than or equal to 100,000 gallons per day, the owner or operator shall perform composite sampling at least weekly.

(B) For wastewater treatment works with [design] actual flows less than 100,000 gallons per day, the owner or operator shall perform grab sampling at least monthly.

(C) For wastewater pond systems with actual flows greater than or equal to 100,000 gallons per day, the owner or operator shall perform grab sampling at least weekly.

[(C)](D) The suspended solids in the effluent from a treatment works shall not exceed 30 milligrams per liter based on the [arithmetic] monthly average of the results of the analyses of composite samples.

[(D)](E) The suspended solids in the effluent from a treatment works shall not exceed 60 milligrams per liter based on a grab sample.

(3) Owners or authorized agents shall submit suspended solids and BOD_5 lab data to the director no later than thirty days after the last day of June and December.

[(3)](4) The dissolved oxygen, pH, and 30 minutes settleability of the contents of the aeration tank shall be sampled and analyzed at least weekly.

[(4)](5) Effluent chlorine residual, if any, shall be sampled and analyzed at least weekly.

[(5)](6) Total daily flow shall be monitored at least weekly.

[(6)](7) The volume of wastewater sludge wasted, the solids concentration of wastewater sludge wasted, the name of the wastewater sludge pumping and hauling firm, and the dates of pumping and hauling, if applicable, shall be recorded.

(8) The operator shall maintain a servicing log book at the wastewater treatment works.

[(7)](9) Alternative effluent limitations as permitted by EPA regulations, (40 CFR 125 and 40 CFR 133), relating to the definition of secondary treatment or other industrial categories, may be utilized by the director.

[(8)](10) For the purposes of this section, the arithmetic average of the results of the analyses of composite samples shall be based upon one or more analyses made within a 30 consecutive calendar day period. The arithmetic average shall be the sum of the results of all analyses divided by the number of analyses made during the 30 consecutive calendar day period.

[(9)](11) For the purposes of this section, composite samples shall consist of at least eight sample aliquots, collected at periodic intervals during the operating hours of the facility over a 24-hour period. The composite sample must be flow proportional; either the time interval between each aliquot or the volume of each aliquot must be proportional to either the stream flow at

the time of sampling or the total stream flow since the collection of the previous aliquot. Aliquots may be collected manually or automatically.

(c) In addition to subsection (b), treatment works producing R-1 water or R-2 water for recycled water systems shall provide continuous disinfection of the effluent as specified below unless otherwise specified by the director.

(1) R-1 water disinfection requirements.

(A) For chlorine disinfection process. The disinfection process shall [provides] provide a CT (the product of total chlorine residual and modal contact time measured at the same point) value of not less than 450 milligrams-minutes per liter at all times with a modal contact time of at least ninety minutes based on peak dry weather design flow; or

(B) For non-chlorine disinfection processes. The disinfection process shall demonstrate to the director's satisfaction [that] the inactivation and removal of 99.999 per cent of the plaque forming units of F-specific bacteriophage MS2 or polio virus in the wastewater.

(2) R-2 water disinfection requirements.

(A) For chlorine disinfection processes.

(i) A theoretical contact time of fifteen minutes or more and an actual modal time of ten minutes or more throughout which the chlorine residual is 0.5 milligrams per liter or greater; and

(ii) Automatic [control of chlorine dosage and automatic] continuous measuring and recording of chlorine residual shall be provided. The chlorine facilities shall have adequate capacity to

maintain a residual of 2 milligrams per liter.

(B) For non-chlorine disinfection processes.

(i) The disinfection process shall demonstrate to the director's satisfaction the ability to meet the requirements of [paragraph] subsection (d)(2); and

(ii) Automatic controls shall be provided to continuously measure and record disinfection dosage and residuals, if any.

(3) Monitoring shall be by grab samples that shall be taken at a point following disinfection.

(d) In addition to [subsection] subsections (b) and (c), treatment works producing R-1 water or R-2 water for recycled water systems shall meet the following daily fecal coliform requirements unless other sampling frequencies are approved by the director. Monitoring shall be by grab samples that shall be taken at a point following disinfection.

(1) R-1 water.

(A) The median density measured in the disinfected effluent shall not exceed 2.2/100 milliliters using the bacteriological results of the last seven days for which analyses have been completed;

(B) The density shall not exceed 23/100 milliliters in more than one sample in any thirty day period; and

(C) The density in any one sample shall not exceed 200/100 milliliters.

(2) R-2 water.

(A) The median density as measured in the disinfected effluent shall not exceed 23/100 milliliters using the bacteriological results of the last seven days for which analyses have been completed; and

(B) The density of shall not exceed 200/100 milliliters in more than one sample in any thirty day period.

(e) In addition to subsections (b) through (d), treatment works producing R-1 water for recycled water systems shall provide continuous turbidity monitoring and recording prior to the filtration process and at a point after the filters and before application of the disinfectant. [For granular media filtration units, the effluent turbidity shall not exceed 2.0 nephelometric turbidity units (NTUs). For membrane filtration units, the effluent turbidity limitations shall be determined by the director on a case by case basis.] The R-1 water shall meet the following turbidity limits:

(1) For filtration systems utilizing sand or granular media, cloth, or other synthetic media, the turbidity shall not exceed any of the following:

(A) An average of two nephelometric turbidity units (NTU) within a twenty-four hour period;

(B) 5 NTU more than five percent of the time within a twenty-four hour period; and

(C) 10 NTU at any time.

(2) For filtration systems utilizing membrane filtration, the turbidity shall not exceed any of the following:

(A) 0.2 NTU more than five percent of the time within a twenty-four hour period; and

(B) 0.5 NTU at any time.

(f) When using media filtration for existing R-1 facilities the following performance criteria shall apply:

(1) The design UV dose shall be at least 100 mJ/cm^2 under maximum daily flow; and

(2) The filtered UV transmittance shall be 55 percent or greater at 254 nanometers (nm).

(g) When using membrane filtration for existing R-1 facilities, the following performance criteria shall apply:

(1) The design UV dose shall be at least 80 mJ/cm^2 under maximum daily flow; and

(2) The filtered effluent UV transmittance shall be 65 percent or greater at 254 nm.

(h) The minimum acceptable design requirements and commissioning of new UV disinfection systems shall comply with the Ultraviolet Disinfection Guidelines for Drinking Water and Water Reuse, Third Edition, 2003, published by the National Water Research Institute.

[(f)](g) The analysis, including the handling and preservation of samples, to determine compliance with effluent requirements shall be performed in accordance with Standard Methods or EPA's Methods for Chemical Analysis of Water and Wastes. The director may approve alternative methods for analyzing the effluent limits of this section. The alternative test methods, when approved, may be used by the director to determine compliance with effluent limits as stated in this rule. [Eff 12/10/88, am 8/30/91; am and comp 12/09/04; am and comp] (Auth: HRS §§321-11, 342D-4, 342D-5) (Imp: HRS §§321-11, 322-1 to 322-4, 322-8, 342D-2, 342D-4, 342D-5, 342D-6, 342D-50)

§11-62-27 Recycled water systems. (a) No recycled water system shall be constructed, used, or modified without written approval by the director.

(b) In reviewing recycled water systems and in addition to [the these rules] this chapter, the director shall be guided by the Reuse Guidelines.

(c) Before using recycled water, the owner of the recycled water system shall submit to the director the following information:

(1) Name, address, and phone number of the owner and party responsible for the application of recycled water at the site (if different from the owner);

(2) Clear identification of the people who will actually operate and maintain the system, if different from paragraph (1);

(3) Detailed site information on the water recycling application site and its

surroundings, including site name, address, and tax map key number(s), a map indicating specific areas of use, areas of public access, surrounding land use, location of all wells within a one-fourth mile radius, description of nearest housing or public area, setbacks, general location of existing and proposed water and sewer lines, the direction of drainage with a description of how the drainage will flow, and the depth to groundwater underlying the irrigated area with a description of the ground water quality; and

(4) Information sufficient to show compliance with the requirements of subsection (h), and identification of best management practices.

(d) Before using recycled water, the owner of the recycled water system shall also submit to the director for approval an engineering report. The report shall include the following information and shall clearly identify all best management practices to be implemented:

(1) An irrigation use plan that includes information on application rates, intended uses, and schedules for recycled water use. The irrigation use plan shall also include information on types of vegetation, types and methods of irrigation, proposed irrigation schedules, vegetative consumption rates, water balance calculations, nutrient balance calculations, and the corresponding acreage to be used for irrigation;

(2) An overflow control plan that includes detailed best management practices to control or minimize runoff or ponding or recycled water;

(3) A management plan that includes establishment and delineation of the responsibilities of operation and maintenance of the recycled water system;

(4) A public information and access plan, to minimize public contact with the recycled water, that includes methods to adequately inform the public that recycled water is

being used[,] and that the recycled water is unfit for human consumption; and methods to control public access to the recycled water system and areas of recycled water use;

(5) A labeling plan to distinguish piping and appurtenances which carry or contain recycled water from those for potable water;

(6) An employee training plan that describes the training that the employees will receive to ensure compliance with [these rules] this chapter and any other features specified by the director;

(7) A vector control plan (if applicable); and

(8) A groundwater monitoring plan (if applicable), including formulation of a strategy for the observation and surveillance of groundwater for possible sources of pollution.

(e) For existing users of recycled water, the owner of the recycled water system shall submit the information and plans required in subsections (c) and (d), except for the information contained in subsection (d)(1) regarding the vegetative consumption rates and water balance, and subsection (d)(8) regarding groundwater monitoring. For users of non R-1 recycled water spray irrigation systems, the owner shall also describe the methods and controls used to ensure that public contact with aerosols are minimized.

(f) For recycled distribution water systems, the owner of the recycled water distribution system shall submit an engineering report containing the following information:

(1) Name, address, and phone number of the owner and party responsible for the recycled water distribution system (if different from the owner);

(2) Information about the treatment works supplying the recycled water, including the name, address, tax map key number, and owner's name;

(3) Maps showing the location of the distribution system layout. The maps shall

also include the location of all water and sewer lines;

(4) A labeling plan to distinguish piping and appurtenances which carry or contain recycled water from those for potable water; and

(5) A description of how the distribution system complies with [these rules] this chapter and the Reuse Guidelines.

(g) The engineering report required in subsection (d), (e), or (f) plus any other submittals shall contain sufficient information to assure the director that the degree of treatment and reliability is commensurate with the proposed use, that the distribution and use of the recycled water will not create a health hazard or nuisance, and that the director is able to make decisions in accordance with subsection (b).

(h) For recycled water systems that use recycled water, the owner of the recycled water system shall operate the system in accordance with the requirements of this chapter and to the maximum extent practicable shall:

(1) Irrigate at a rate not greater than the plants use it;

(2) Minimize recycled water runoff and ponding on the ground;

(3) Post signs or other devices warning the public not to drink, swim, or otherwise come into contact with the recycled water;

(4) Keep the public away from the areas being irrigated with recycled water;

(5) Clearly mark pipes, tanks, valves, and equipment used in recycled water use systems such that they are easily differentiated from potable water systems;

(6) Provide training to employees such that they are aware of [these rules] this chapter and any conditions the director imposed on the recycled water use system;

(7) Provide control measures to minimize vector nuisances; and

(8) Monitor groundwater as required by the director.

(i) The owners of new, proposed, or modified recycled water systems, where applicable, shall provide adequate storage basin(s) or a backup disposal system to prevent any overflows or discharges from the system when the irrigation system is not in operation or when recycled water quantities exceed the irrigation requirements.

(j) Spills, overflows, and discharges ("spills") of recycled water shall be responded to as required by section 11-62-06[(g) and (h)] (f) and (g) and [appendix C] Appendix B, entitled Responses for Wastewater Spills, Overflows, and Discharges ("Spills"), dated [April 15, 1997.] July 1, 2014.

(k) For recycled water systems, the owner or the owner's duly authorized agent [shall], unless otherwise directed, shall report the following information to the director:

(1) The volume of recycled water used, the volume of recycled water stored, the volume and location of any recycled water spills, and details on the irrigated areas, including water budgets, precipitation, evaporation, application rates, and monitoring of best management practices; and

(2) Reported information shall be submitted by February 19 of each year and shall be in a monthly summary format for the preceding calendar year unless otherwise specified or agreed to by the director. [Eff and comp 12/09/04; am and comp] (Auth: HRS §§321-11, 342D-4, 342D-5) (Imp: HRS §§321-11, 322-1 to 322-4, 322-8, 342D-2, 342D-4, 342D-5, 342D-6, 342D-50; 33 U.S.C. §§1311, 1342; 40 CFR Parts 122, 123)

Historical note: §11-62-27 is based substantially upon §11-62-25(b)(1), (b)(2), and (c). [Eff 12/10/88; am and comp 8/30/91]

§11-62-28 Additional monitoring, recordkeeping, and reporting. (a) The owners of treatment works or the owners' duly authorized agents shall maintain

complete records of operation and maintenance, repairs, replacements, and improvements performed or installed at the treatment works.

(b) The monitoring results, reports, and all records required in sections 11-62-26 and 11-26-27, this section, and [appendix C] Appendix B, entitled Responses for Wastewater Spills, Overflows, and Discharges ("Spills"), dated [April 15, 1997,] July 1, 2014, located at the end of this chapter shall be kept on site and available for the director's inspection for at least five years and a copy made available to the director without charge upon the director's request. [Eff and comp 12/09/04; am and comp] (Auth: HRS §§321-11, 342D-4, 342D-5) (Imp: HRS §§321-11, 322-1 to 322-4, 322-8, 342D-2, 342D-4, 342D-6, 342D-50)

§§11-62-29 (Reserved)

SUBCHAPTER 3

INDIVIDUAL WASTEWATER SYSTEMS

§11-62-31 REPEALED [R 8/30/91]

§11-62-31.1 General requirements for individual wastewater systems. (a) Individual wastewater systems may be used as a temporary on-site means of wastewater disposal in lieu of wastewater treatment works under the following conditions:

(1) Developments involving dwellings.
  (A) There shall be 10,000 square feet of land area for each individual wastewater system;
  (B) Total development of an area shall not exceed [fifty] fifteen single family residential lots or exceed [fifty] fifteen dwelling units [, except for developments consisting of one dwelling unit per acre or greater;].
  (C) Area of the lot shall not be less than 10,000 square feet, except for lots created and recorded before August 30, 1991. For lots less than 10,000 square feet which were created and recorded before August 30, 1991, only one individual wastewater system shall be allowed.
  (D) The total wastewater flow into one individual wastewater system shall not exceed one thousand gallons, and one individual wastewater system shall not serve more than five bedrooms, whether they are in one dwelling unit or two.
(2) Developments involving buildings other than dwellings.
  (A) There shall be 10,000 square feet of usable land area for each individual wastewater system. Usable land area shall not include the area under buildings;

(B) The total wastewater flow of the development shall not exceed 15,000 gallons per day;

(C) Area of the lot shall not be less than 10,000 square feet except for lots created and recorded before August 30, 1991. For lots less than 10,000 square feet which were created and recorded before August 30, 1991, only one individual wastewater system shall be allowed; and

(D) The total wastewater flow into each individual wastewater system shall not exceed one thousand gallons per day.

(b) Whenever an individual wastewater system is allowed under subsection (a), the following shall apply:

(1) The director may allow an individual wastewater system other than a cesspool to be used for two dwelling units which may or may not be located within the same building; provided[:] that:

(A) Both of the dwelling units are located on the same single family residential lot; and

(B) The individual wastewater system used shall meet the current requirements of this chapter.

(2) A building may use more than one individual wastewater system where each individual wastewater system shall connect to a single dwelling unit[;].

(3) For buildings without any dwelling units:

(A) More than one individual wastewater system may be used provided that the building is owned by one person; or

(B) Upon the director's discretion, buildings may connect to one individual wastewater system other than a cesspool provided the buildings are located on the same lot and the buildings generate wastewater of similar strength and character[;].

(4) For buildings, other than dwellings with highly variable wastewater flow rates, such as but not limited to schools, parks, and churches, the individual wastewater system excluding cesspools may exceed a design flow rate of 1000 gallons per day; provided that the density does not exceed 1000 gallons per day per 10,000 square feet of useable land area and the development is owned by one person.

(c) The director may require the installation of dry sewers as a condition of approval of proposed individual wastewater systems where:

(1) Public sewers exist but are at capacity such that connection is prohibited but remedial actions have been initiated to increase the public sewer capacity;

(2) Public sewers exist, but the treatment and disposal system is not complete or operational;

(3) Design of the public sewers has been completed and construction of the public sewers is imminent; or

(4) Conditions warrant such requirements.

(d) No cesspool shall be used as the wastewater system by any new [public] building. No new cesspools shall be constructed after the effective date of this rule unless they have been approved for construction before the effective date of this rule.

(e) Before the approval of the operation of an individual wastewater system excluding cesspools, the following requirements shall be satisfied:

(1) An operation and maintenance manual developed pursuant to section 11-62-23.1(d)(2) as applicable shall be submitted and approved by the director; and

(2) The owner of the individual wastewater system shall certify that the individual wastewater system shall be operated and maintained in accordance with all of the provisions of the operation and maintenance manual developed pursuant to paragraph (1). The certification shall include a statement that upon sale or transfer of ownership of

the individual wastewater system, the sale or transfer will include the appropriate transfer documents and provisions binding the new owner to the operation and maintenance manual.

(f) No person shall use an individual wastewater system until authorized in writing by the director.

(1) Written approval to use an individual wastewater system shall be issued if:

(A) The owner resolves all discrepancies recorded as a result of any inspections conducted.

(B) The engineer furnishes a final inspection report to the director within thirty days after the completion of the construction which provides the following information:

(i) A certification that the individual wastewater system was constructed and installed in accordance with the approved plans and specifications or that changes made to the approved plans and [specification] specifications are accepted by the engineer; and

(ii) An "as-built" plan of the individual wastewater system; and

(2) The director may inspect the individual wastewater system or its site at any time before approving the system and may require advance notice of the engineer's inspection.

(g) A graywater system shall be designed in accordance with [the following criteria:

(1) Design of graywater systems for dwelling units shall be based on a minimum graywater flow of 150 gallons per day per bedroom. The design flow of graywater systems for buildings other than dwellings or from specific graywater sources shall be determined on a case-by-case basis;

(2) Graywater treatment units when required shall be sized with no less than a 600 gallon tank capacity and for graywater tanks

shall conform to the requirements of section 11-62-33.1(a);

(3) Effluent from a graywater tank may be conveyed to a sand filter, absorption trenches and beds, mounds or seepage pits, or used for subsurface irrigation;

(4) Graywater from a residential washing machine may be used for subsurface irrigation; and

(5) Graywater use or disposal shall not interfere with the operation of the other parts of the wastewater system or any other individual wastewater systems.] Chapter 3-183.

(h) Each individual wastewater system shall be an independent system and shall have all of its plumbing, treatment (if any), and disposal components separate from any other wastewater system.

(i) Wastewater into an individual wastewater system from buildings other than dwellings shall meet the pretreatment standards and local pollutant limits as set by the respective county. If the county does not have any local pollutant limits, the local limits as set forth by the City and County of Honolulu shall be used.] [Eff 8/30/91; am and comp 12/09/04; am and comp] (Auth: HRS §§321-11, 342D-4, 342D-5) (Imp: HRS §§321-11, 322-1 to 322-4, 322-8, 342D-2, 342D-4, 342D-5, 342D-6, 342D-50)

§11-62-31.2 Site evaluation. (a) The site evaluation shall be performed by the engineer.

(b) The site shall be evaluated for depth of permeable soil over seasonal high groundwater, bedrock, or other limiting layer, soil factors, land slope, flooding hazard, and amount of suitable area available.

(c) The minimum depth of the soil profile observation shall be at least five feet. If the engineer performs a preliminary observation at three feet, the engineer shall confirm the soil profile to five feet at the time of construction.

(d) The following factors shall be evaluated and reported for a depth of at least three feet below the proposed absorption system:

(1) Thickness of layers or horizons;
(2) Texture of soil layers;
(3) General color, and color variation (mottling);
(4) Depth to water, if observed;
(5) Depth to estimated seasonal high groundwater table;
(6) Depth to and type of bedrock, if observed; and
(7) Other prominent features such as structure, stoniness, and roots[, etc].

(e) Percolation tests.

(1) Soil percolation tests shall be conducted at a minimum depth of three feet. If at the time of construction, the soil profile at five feet is different than at three feet, another percolation test shall be performed at the depth of the bottom of the absorption system;
(2) Percolation tests shall follow the falling head test procedure in [appendix D,] Appendix C, entitled Falling Head Test Procedure, dated [April 15, 1997,] July 1, 2014, located at the end of this chapter; and
(3) Additional percolation tests may be required to identify the existence of a limiting layer.

(f) The site evaluation information shall be reported on forms developed by the director.

(g) If, during construction the actual site conditions differ from the site conditions upon which the wastewater system was approved, the design engineer shall revise the wastewater plans to reflect the actual site conditions. The plans of the revised wastewater system shall be submitted to the director for approval pursuant to section 11-62-31.1(f). [Eff 8/30/91, am and comp 12/09/04; am and comp] (Auth: HRS §§321-11, 342D-4, 342D-5) (Imp: HRS §§321-11, 322-1 to 322-4, 322-8, 342D-2, 342D-4, 342D-5, 342D-50)

§11-62-32 Spacing of individual wastewater systems. No individual wastewater system shall be located at any point having less than the minimum distances indicated in Table II attached to this chapter in [appendix F,] Appendix D, entitled Tables, dated [April 15, 1997] July 1, 2014, and located at the end of this chapter unless otherwise approved by the director. The minimum distances indicated in Table II shall be measured from the outer edge of each item. [Eff 12/10/88, am 8/30/91; am and comp 12/09/04; am and comp] (Auth: HRS §§321-11, 342D-4, 342D-5) (Imp: HRS §§321-11, 322-1 to 322-4, 322-8, 342D-2, 342D-4, 342D-5, 342D-6, 342D-50)

§11-62-33.1 Specific requirements for new and proposed treatment units. (a) Septic tank.

(1) All wastewater shall discharge into the septic tank. Roof, footing, garage, surface water drainage, cooling water, and graywater disposed of in accordance with section 11-62-31.1(g)(4) shall be excluded.

(2) Septic tanks shall meet the International Association of Plumbing and Mechanical Officials (IAPMO) material and property standards for prefabricated septic tanks, IAPMO [PS 1-93.] ANSI Z1000-2013. Septic tanks shall be approved and listed by IAPMO.

[(3) Septic tanks which currently meet the requirements of the Ten States Standards and are being distributed in the State shall comply with paragraph (2) within two years after the effective date of this rule.

(4)](3) Plans for cast-in-place septic tanks shall be submitted with the application for the individual wastewater system. The plans for the septic tank shall be designed and stamped by a licensed structural engineer and shall meet the IAPMO design specifications.

[(5)](4) The following schedule shall apply to septic tank sizing:

No. of Bedrooms	Minimum Capacity (Gallons)
4 or less	1000
5	1250

(5) For wastewater flows greater than 1,000 gallons or five bedrooms, the formula Q(flow)= 1,000 + (Q-800) x 1.25 shall be used.

(6) Concrete septic tanks shall be coated to protect the tank from leakage and corrosion by acceptable means. The coating shall cover the entire tank interior.

(7) Manholes or removable covers to [the]septic tanks shall be [extended to within twelve inches of the finished grade. If the manhole or removable cover is brought to grade, it shall be secured from unwanted entry. If the manhole or removable cover does not extend to the finished grade, a permanent inspection port with a minimum diameter of six inches expanding through the cover shall be brought to the finished grade and fitted with a screw type cap. The inspection port shall be located such that the downward projection of the inspection port clears the inlet and outlet devices by not less than two inches.] brought to grade. The cover shall be secured to prevent unauthorized entry or opening of the tank.

(8) When septic tanks are installed in ground water or in clay soils with an expansive nature, the engineer shall design or provide adequate protection to prevent the tank from floating, moving, or crushing.

(9) The excavation to receive the tank shall be large enough to permit the proper placement of the tank and backfill. Tanks shall be installed on a solid base that will not settle and shall be level. Where rock or other undesirable protruding obstructions are encountered, the bottom of the hole shall be excavated a.0n additional six

inches and backfilled with sand, crushed stone, or gravel to the proper grade. Backfill around and over the septic tank shall be placed in such a manner as to prevent undue strain or damage to the tank or connected pipes.

(10) When a septic tank is installed under a driveway, parking lot, in a heavy saturated soil, or other areas subject to heavy loads, the tank shall be capable of withstanding an H-20 wheel load as defined by the American Association of State Highway Officials.

(11) Effluent from a septic tank shall be discharged into a soil absorption system, sand filter, subsurface irrigation system as approved by the director, or other treatment unit [permitted] approved for use by the director.

(b) Household aerobic units.

(1) All wastewater shall discharge into the household aerobic unit. Roof, footing, garage, surface water drainage, and cooling water [, and graywater disposed of in accordance with section 11-62-31.1(g)(4) shall be excluded].

(2) Household aerobic units shall be approved by the director based upon the "Standard No. 40" for Class I units as set forth by the National Sanitation Foundation. The performance data shall have been obtained by an agency such as a university or an independent research laboratory acceptable to the director or from the National Sanitation Foundation (NSF) Testing Laboratory, Ann Arbor, Michigan.

(3) Owners of proposed and existing household aerobic units shall have an active service contract for the proper maintenance of the aerobic unit[.] and its disposal system with a certified operator or factory certified representative. The contract shall also include pumping service to maintain the household aerobic unit. For proposed household aerobic units, a copy of an

executed service contract shall be submitted prior to the final approval of the individual wastewater system and a copy of an active service contract shall be resubmitted annually to the department.

(4) As a minimum, the aerobic treatment unit service contract shall include the term of contract period (start and end dates) and the following requirements:

(A) Inspect all aerobic treatment unit equipment to ensure its proper operation at least every six (6) months;

(B) Provide regular maintenance of equipment as required by the manufacturer;

(C) Verify the aerobic treatment unit is providing adequate mixing and aeration of the microbes;

(D) Measure the depth or volume of sludge in the aerobic treatment unit every six months, and assess whether sludge removal by pumping is necessary. Provide sludge pumping, as needed. If pumping is necessary, record the depth of sludge or percentage of sludge volume in the ATU prior to pumping; and

(E) Maintain a log of all service provided.

[(4)](5) Effluent from an aerobic unit shall be discharged into a soil absorption system, sand filter, subsurface irrigation system as approved by the director, or other treatment unit or disposal system [permitted] approved for use by the director.

[(5)](6) In areas below (makai of) the Underground Injection Control Line established pursuant to chapter 11-23, a new household aerobic unit may discharge its effluent [directly into the groundwater provided the effluent is disinfected.] into an elevated mound or drip irrigation system or, with a variance approved by the director and if the effluent is disinfected, to a seepage pit.

(c) Subsurface and recirculating sand filters shall be reviewed on a case-by-case basis by the director. [Eff 8/30/91; am and comp 12/09/04; am and comp] (Auth: HRS §§321-11, 342D-4, 342D-5) (Imp: HRS §§321-11, 322-1 to 322-4, 322-8, 342D-2, 342D-4, 342D-5, 342D-50)

§11-62-34 Specific requirements for new and proposed disposal systems. (a) Absorption trenches.

(1) Location.

(A) Absorption trenches shall be located in accordance with section 11-62-32.

(B) Absorption trenches shall not be constructed in soils with a percolation rate slower than sixty minutes per inch or where rapid percolation may result in contamination of water-bearing formations or surface waters.

(C) Absorption trenches shall be located on the property to maximize the vertical separation distance from the bottom of the absorption trench to the seasonal high groundwater level, bedrock, or other limiting layer, but under no circumstance shall the vertical separation be less than three feet. The director may require a greater vertical separation where water-bearing formations are in danger of contamination.

(D) Absorption trenches shall not be constructed in unstabilized fill.

(2) Design.

(A) The minimum absorption area for any absorption trench system shall be based upon a flow of 200 gallons per bedroom per day and in accordance with Table III located in Appendix [F,] D, entitled Tables, dated [April 15, 1997] July 1, 2014, and located at the end of this chapter.

(B) The absorption area shall be computed using the bottom area of the absorption trench.
(C) Each absorption trench system shall have a minimum of two trenches.
(D) Each distribution line shall be equal in length.
(E) The maximum length of any one trench shall be one hundred feet.
(F) Absorption trenches shall be at least eighteen inches wide but no more than thirty-six inches wide.
(G) The bottom of absorption trenches shall be at least eighteen inches below the finished grade.
(H) Gravity fed absorption lines and trenches shall have a slope at the rate of two to four inches per hundred feet.
(I) Absorption trenches shall not be installed on land with a slope gradient greater than twelve per cent.
(J) On rolling or sloping land, each absorption trench shall approximate the land surface contour.
(K) A distribution box or header shall be installed between the treatment unit and the absorption trenches.
(L) Each distribution line shall connect individually to the distribution box.
(M) If a header is used, there shall be an equal number of distribution lines on each side of the influent junction. An inspection port shall be provided on the header and shall be brought to grade and fitted with a screw type cap or cover.
(N) If a distribution box is used, a permanent inspection port with a minimum interior diameter of six inches shall be secured to the box cover, brought to the finished grade, and fitted with a screw type cap or cover.

(3) Materials.
  (A) The engineer shall be responsible for the choice of materials used in the soil absorption system.
  (B) Pipe used for distribution lines shall meet the appropriate ASTM standard or those of an equivalent testing laboratory. Fittings used in the absorption system shall be compatible with the materials used in the distribution lines.
  (C) Gravel or crushed stone shall be washed and shall range in size from three-fourths to two and one-half inches.
  (D) The material used to cover the top of the stone shall be a filter fabric material or equal.
(4) Construction.
  (A) A distribution box or header shall be set level and arranged so that effluent is evenly distributed to each distribution line. Adequate provisions shall be taken to assure stability and provide access for inspection of the distribution lines.
  (B) The pipe connecting the distribution box to the distribution line shall be of a tight joint construction laid on undisturbed earth or properly bedded throughout its length.
  (C) If a header is used, it should be made of water-tight construction.
  (D) When the trenches have been excavated, the sides and bottom shall be raked to scarify any smeared soil surfaces. Construction equipment and other materials not needed to construct the system should be kept off the area to be used for the absorption system to prevent undesirable compaction of the soils. Construction shall not be initiated when the soil moisture is high.

(E) At least six inches of gravel or crushed stone shall be placed in the bottom of the trench.

(F) The distribution line shall be carefully placed on the bedding at a uniform slope and covered with at least two inches of gravel or stone.

(G) The ends of the distribution lines shall be capped or plugged.

(b) Deep absorption trenches. Deep absorption trenches may be considered where the depth of suitable soil is insufficient to permit the installation of a conventional trench system due to the presence of a limiting layer more than two feet in depth which overlies suitable soils of sufficient thickness. Requirements for location, design, slope, material, construction, and dosing system design contained in subsection (a) shall apply to deep absorption trenches except for depth of construction. In addition, the following design considerations shall apply:

(1) The site evaluation procedure shall include soil profile observations of at least three soil observation pits constructed to a minimum depth of three feet below the proposed trench bottom. Monitoring to establish depth to seasonal soil saturation or high groundwater may be considered;

(2) Deep absorption trenches shall be constructed at least one foot into the suitable soil; and

(3) The distribution piping in deep absorption trenches shall be installed with the invert of the piping at a depth of not more than thirty inches. Gravel or crushed stone shall be placed from the bottom of the trench excavation to a point two inches above the top of the distribution piping.

(c) Absorption beds.

(1) Location.

(A) Absorption beds shall be located in accordance with section 11-62-32.

(B) Absorption beds shall not be constructed in soils with a percolation rate slower than sixty minutes per inch

or where rapid percolation may result in contamination of water-bearing formations or surface waters.

(C) Absorption beds shall be located on the property to maximize the vertical separation distance from the bottom of the absorption bed to the seasonal high groundwater level, bedrock, or other limiting layer, but under no circumstance shall the vertical separation be less than three feet. The director may require a greater vertical separation where water-bearing formations are in danger of contamination.

(D) Absorption beds shall not be constructed in unstabilized fill.

(2) Design.

(A) The minimum area for any absorption bed system shall be based upon a flow of 200 gallons per bedroom per day and in accordance with Appendix D, Table III dated [April 15, 1997] July 1, 2014 and located at the end of this chapter.

(B) The absorption area shall be computed using the bottom area of the absorption bed.

(C) Each soil absorption bed system shall have a minimum of two distribution lines.

(D) If more than one absorption bed is designed, each absorption bed shall be equal in area.

(E) The maximum length of any distribution line shall be one hundred feet.

(F) Distribution lines within an absorption bed shall be uniformly spaced no more than six nor less than four feet apart.

(G) Distribution lines within an absorption bed shall be placed no more than three feet nor less than eighteen inches from the sidewall of the bed.

(H) The bottom of absorption beds shall be at least eighteen inches below the finished grade.
(I) Absorption beds shall not be installed on land with a slope gradient greater than eight per cent.
(J) A distribution box or header shall be installed between the treatment unit and the absorption bed.
(K) Each distribution line shall connect individually to the distribution box.
(L) If a header is used, there shall be an equal number of distribution lines on each side of the influent junction. An inspection port shall be provided on the header and shall be brought to grade and fitted with a screw type cap.
(M) If a distribution box is used, a permanent inspection port with a minimum interior diameter of six inches shall be secured to the box cover, brought to the finished grade, and fitted with a screw type cap or cover.

(3) Materials.
(A) The engineer shall be responsible for the choice of materials used in the soil absorption system.
(B) Pipe used for distribution lines shall meet the appropriate ASTM standard or those of an equivalent testing laboratory. Fittings used in the absorption system shall be compatible with the materials used in the distribution lines.
(C) Gravel or crushed stone shall be washed and shall range in size from three-fourths to two and one-half inches.
(D) The material used to cover the top of the stone shall be a filter fabric material or equal.

(4) Construction.
(A) The floor of the absorption bed shall be level.

(B) A distribution box or header shall be set level and arranged so that effluent is evenly distributed to each distribution line. Adequate provisions shall be taken to [assure] ensure stability and provide access for inspection of the distribution lines.
(C) The pipe connecting the distribution box to the distribution line shall be of a tight joint construction laid on undisturbed earth or properly bedded throughout its length.
(D) If a header is used, it should be made of watertight construction.
(E) When the beds have been excavated, the sides and bottom shall be raked to scarify any smeared soil surfaces. Construction equipment and other materials not needed to construct the system should be kept off the area to be used for the absorption system to prevent undesirable compaction of the soils. Construction shall not be initiated when the soil moisture is high.
(F) At least six inches of gravel or crushed stone shall be placed in the bottom of the bed.
(G) The distribution line shall be carefully placed on the bedding with no slope and covered with at least two inches of gravel or stone.
(H) The ends of the distribution lines shall be capped or plugged.

(d) Seepage pits.

(1) Location.
(A) Seepage pits shall be located in accordance with section 11-62-32.
(B) Seepage pits shall not be constructed in soils having a percolation rate slower than ten minutes per inch (weighted average) or where rapid percolation through such soils may

result in contamination of water-bearing formations or surface water.

(C) The seepage pit shall be located on the lot to maximize the vertical separation distance from the bottom of the seepage pit to the seasonal high groundwater table, bedrock, or other limiting layer. The vertical separation shall not be less than three feet unless otherwise approved by the director and the requirements of section 11-62-33.1(b)(5) are met. Where water-bearing formations are in danger of contamination, greater vertical separation may be required.

(2) Design.

(A) Seepage pits shall be used only when one of the following are met:

(i) Slope of the finished elevation of the lot is greater than twelve per cent and the use of absorption beds or trenches is not feasible.

(ii) The presence of a limiting layer more than seven feet in depth which overlies suitable soils of sufficient thickness.

(iii) Insufficient land area exists to install absorption trenches or beds.

(B) The minimum area in any seepage pit shall be based upon a flow of 200 gallons per bedroom per day and in accordance with Appendix D, Table III dated [April 15, 1997] July 1, 2014 and located at the end of this chapter.

(C) The surface dimension is measured as the mean distance of the clear opening below the inlet pipe.

(D) The minimum surface dimension is six feet.

(E) The effective depth of the seepage pit shall be measured from the bottom of the inlet pipe to the bottom of the

pit, with the thickness of strata of soils having percolation rates slower than thirty minutes per inch deducted.

(F) The minimum effective depth is ten feet and shall be greater than its widest surface dimension.

(G) The effective area of the seepage pit shall be the vertical wall area of the areas corresponding to the effective depth of the pit excavation. No allowance shall be made for the bottom area.

(H) When more than one seepage pit is used, a distribution box shall be installed between the treatment unit and all seepage pits. Each seepage pit shall individually connect to the distribution box.

(I) When more than one seepage pit is used, each pit shall have an equal effective area.

(J) If a distribution box is used, a permanent inspection port with a minimum interior diameter of six inches shall be secured to the box cover, brought to the finished grade, and fitted with a screw type cap or cover.

(3) Construction.

(A) Seepage pits shall include a sidewall lining constructed of durable material that will permit free passage of wastewater without excessive plugging while still excluding the entry of surrounding soil.

(B) Seepage pits shall include a cover which extends at least twelve inches beyond the seepage pit excavation[.], unless a concrete ring is used.

(C) The lining and cover of any seepage pit shall be capable of supporting the normal loads imposed. The engineer shall submit written justification for the deletion of any sidewall lining.

(D) The distance between the outer diameter of the lining and the excavation diameter shall be at least six inches, but not more than twelve inches. The space between lining and the excavation diameter shall be filled with washed gravel or crushed stone ranging in size from three-fourths to two and one-half inches. The placement of the gravel or stone shall fill the annular space between the pit lining and excavation diameter. Gravel and stone shall not be placed within the seepage pit itself.

(E) The watertight cover shall be provided and at least one watertight manhole either round or square, tapered to a minimum of twelve inches in dimension shall be provided in the cover for inspection or for emptying the contents when required.

(F) The top of the seepage pit shall be within twelve inches of the final grade.

(G) If the cover of the seepage pit does not extend to the finished grade, a permanent inspection port with a minimum diameter of [six] twelve inches expanding through and secured to the cover shall be brought to the finished grade and fitted with a screw type cap or cover.

(H) The distribution box shall be set level so that the effluent is evenly distributed to each seepage pit.

(I) The distribution box shall connect to each seepage pit with pipe of watertight construction at least six inches in diameter, and sloped at least one-eighth inch per foot.

(J) The material used to cover the top of the stone or gravel surrounding the lining shall be a filter fabric material or equal.

(e) Elevated mound system. Elevated mound systems shall be reviewed on a case-by-case basis.

(f) Other disposal systems.

(1) Soil replacement system.

(A) Soil replacement systems shall be used for sites with the following soils layers in the upper soil horizons:

(i) Soils with percolation rates less than one minute per inch;

(ii) Soils with percolation rates greater than sixty minutes per inch that occur within the upper five feet of the soil and underlain by more permeable soils. Installation guidelines shall comply with the requirements of very high permeability soils of subparagraph (B); or

(iii) Fractured lava.

(B) Trenches may be excavated up to thirty-six inches in width to depths not to exceed five feet below grade nor closer than three feet to seasonal high groundwater level, provided any groundwater mounding induced by wastewater does not rise closer than one foot from the bottom of the excavation and bedrock is at least three feet below the bottom of the excavation.

(C) Soil replacement absorption trenches and beds shall follow the applicable provisions of subsections (a), (b), and (c).

(2) Evapotranspiration systems shall be reviewed on a case-by-case basis by the director. The director shall use the provisions of section 7.3.2 of the October 1980 edition of the EPA Design Manual on Onsite Wastewater Treatment and Disposal Systems as a guide for the review of evapotranspiration systems.

(3) Gravelless systems.

(A) Gravelless soil absorption systems may be used as an alternative to soil absorption systems as specified in subsections (a) and (b), except for sections 11-62-34(a)(3)(C), 11-62-34(a)(3)(D), 11-62-34(a)(4)(E), and 11-62-34(a)(4)(F), 11-62-34(c)(2)(F), 11-62-34(c)(2)(G), 11-62-34(c)(3)(C), 11-62-34(c)(3)(D), and 11-62-34(c)(4)(F).

(B) Design criteria, material specifications, and other pertinent data shall be submitted to the director.

(C) The total area of the soil absorption system for the gravelless system shall be the same as specified in subsections (a), (b), and (c), except for chambered system where the director may approve of a reduction factor as deemed appropriate.

(D) If chambered systems are used, the chamber units shall be [place] placed up against the sidewall of the excavation. In absorption beds, the adjacent chambers shall abut one another.

(E) The use of filter fabric, unless specified by the director, shall follow the manufacturer's recommendation.

[Eff 8/30/91; am and comp 12/09/04; am and comp] (Auth: HRS §§321-11, 342D-4, 342D-5) (Imp: HRS §§321-11, 322-1 to 322-4, 322-8, 342D-2, 342D-4, 342D-5, 342D-50)

§11-62-35 Other individual wastewater systems. (a) The specific design requirements for composting toilets, incinerator toilets, natural systems, and other individual wastewater systems not specifically covered in this [rule] chapter shall be reviewed and approved by the director on a case-by-case basis. Solids generated from such products that are land

applied must meet the requirements of subchapter 4. Such products, if sold in Hawaii, shall be approved by the director based on appropriate testing procedures and standards as set forth by the National Sanitation Foundation (NSF) Testing Laboratory, Ann Arbor, Michigan. The performance data shall be obtained by an agency such as [an] a university or an independent research laboratory acceptable to the director or from the NSF.

(b) The director may approve an innovative wastewater system based on the following conditions:

(1) The innovative system provides or may provide a benefit to the people of the State;

(2) The owner of the innovative system shall agree that for a period of up to twelve months after the initiation of the operation of the innovative system, operational data shall be gathered and submitted to the director; and

(3) The owner shall submit a written agreement stating that should the director at any time find the operation of the innovative system unsatisfactory, the owner shall promptly repair or modify the system, or replace it with another acceptable system. [Eff 8/30/91; am and comp 12/09/04; am and comp] (Auth: HRS §§321-11, 342D-4, 342D-5) (Imp: HRS §§321-11, 322-1 to 322-4, 322-8, 342D-2, 342D-4, 342D-5, 342D-6, 342D-50)

§11-62-36 Cesspools. (a) No new cesspools shall be [construction without the approval of the director. Approved cesspools shall be constructed in areas designated by the director after the effective date of this rule.] constructed after the effective date of this rule unless they have been approved for construction before the effective date of this rule.

[(b) Design.

(1) The inlet pipe shall be at least ten feet above the bottom of the cesspool and there shall be at least three feet of suitable

soil from the bottom of the cesspool to the highest known level of the groundwater table. The ultimate depth required shall be determined by the engineer based on actual soil materials encountered on the site or on the record of experience with the performance of cesspools in the area.

(2) The inlet pipe shall be at least one and one-half feet below the finished ground surface.

(3) Each cesspool shall have a clear opening of at least six feet in diameter.

(4) Cesspools shall include a sidewall lining constructed of durable material that will permit free passage of wastewater without excessive plugging while still excluding the entry of surrounding soil. The sidewall lining of any cesspool shall be capable of supporting the normal loads imposed. The engineer shall submit justification for the deletion of any sidewall lining. The distance between the outer diameter of the lining and the excavation diameter shall be at least six inches, but not more than twelve inches. The space between outer lining and the excavation diameter shall be filled with gravel or crushed stone ranging in size from three-fourths to two and one-half inches. The placement of the gravel or stone shall fill the annular space between the pit lining and the excavation diameter. Gravel and stone shall not be placed within the cesspool itself.

(5) A structurally sound reinforced concrete cover shall be provided. The cover shall protrude at least twelve inches beyond the perimeter of the cesspool and resting on firm ground with substantially stable sidewalls. At least one watertight manhole with a minimum dimension of twelve inches shall be provided in the cover for inspection or for emptying of the contents when required. The top of each cover shall

be at least twelve inches below the finished ground surface. If the cover does not extend to the finished grade, a permanent inspection port with a minimum diameter of six inches expanding through and secured to the cover shall be brought to the finished grade and be provided with a screw type cap or cover.

(c) Location. The cesspool shall be located in accordance with section 11-62-32.

(d) If the cesspool was approved to construct prior to the effective date of this chapter, the design engineer shall perform a final inspection and submit a new cesspool card to the director within thirty days after the completion of the construction certifying that the cesspool was constructed in accordance with the requirements in this section.

(e)] b The director may require a cesspool card from an owner whose cesspool has no cesspool card on file with the department. An existing cesspool card shall be completed and signed by a licensed engineer, contractor, plumber, or architect. [Eff and comp 12/09/04; am and comp] (Auth: HRS §§321-11, 342D-4, 342D-5, 342E-3)(Imp: HRS §§321-11, 322-1 to 322-4, 322-8, 342D-2, 342D-4, 342D-5, 342D-6, 342D-50, 342E-3)

§11-62-37 Application for and review of building permits and individual wastewater systems. (a) The director shall review all individual wastewater systems before [signing] the director signs any related county building permit application.

(b) The application to construct a new individual wastewater system or to modify an existing individual wastewater system shall be made by the applicant on forms furnished by the director. The application at a minimum shall contain the following information:

(1) Name of the owner of the individual wastewater system;

(2) The location of the individual wastewater system, including a location map, plot plan,

street address, and tax map key number; [and]

(3) The type and size of treatment unit and disposal system[.];

(4) Certification by the engineer that the individual wastewater system has been designed in accordance with sections 11-62-31.1 through 11-62-41; and

(5) Certification by the engineer that a final inspection report will be submitted to the director in accordance with section 11-62-31.1(f)(1)(B).

(c) Every applicant for an individual wastewater system shall pay a filing fee in accordance with the schedule of this subsection. The filing fee shall be submitted with the individual wastewater system application and shall not be refunded nor applied to any subsequent individual wastewater system application. Fees shall be made payable to the State of Hawaii.

(1) New individual wastewater system, new treatment unit or new disposal system - $100; and

(2) Addition or modification to an approved or existing individual wastewater system or part thereof - $25. [Eff and comp 12/09/04; am and comp] (Auth: HRS §§321-11, 342D-4, 342D-5) (Imp: HRS §§321-11, 322-1 to 322-4, 322-8, 342D-2, 342D-4, 342D-5, 342D-6, 342D-13, 342D-50)

§§11-62-38 to 11-62-39 (Reserved)

SUBCHAPTER 4

WASTEWATER SLUDGE USE AND DISPOSAL

§11-62-41 General requirements and prohibition. (a) No person shall generate, treat, prepare, store, haul, apply, place, use, or dispose of wastewater sludge except:

(1) In compliance with:

(A) A permit or department approval for use of an individual wastewater system obtained under this chapter;

[(B) General permit coverage under this chapter;

(C)](B) A registration under this chapter; or

[(D)](C) An exemption from permitting or registration provided by section 11-62-50.

(2) In a municipal solid waste landfill unit which is in compliance with the sludge related conditions in a permit issued under chapter 11-58.1:

(A) Where that permit was issued following public participation procedures at least as open to the public as those specified in subchapter 5; and

(B) Incorporates the requirements of 40 CFR Part 258.

(3) By incineration in a facility in compliance with the requirements of 40 CFR Part 503, Subpart E, Incineration, and 40 CFR §503.8, Sampling and analysis, and §503.9, General definitions;

(4) In a facility in compliance with the sludge related conditions in a National Pollutant Discharge Elimination System (NPDES) permit issued under chapter 11-55 or issued by the U.S. EPA, where that permit includes or incorporates the requirements of 40 CFR Part

503, Subpart B, Land Application, Subpart C, Surface Disposal, Subpart D, Pathogens and Vector Attraction Reduction, and 40 CFR §503.8, Sampling and analysis, and §503.9, General definitions and any applicable requirements of this chapter;

(5) For hauling, by a county, state, or federal agency, or by a person or an operation registered under [§] section 11-62-50(b)(4); or

(6) As otherwise authorized in writing by the director.

(b) Direct enforceability. No person shall generate, treat, prepare, store, haul, apply, place, use, or dispose of wastewater sludge except in compliance with the requirements of this chapter and all applicable federal rules, whether or not a permit has been issued, general permit coverage has been obtained, or registration has been made.

(c) Exclusion. This chapter does not apply to operations and facilities involved with the collection, handling, storage, treatment, use, disposal, or transportation of the following:

(1) Wastewater sludge co-fired in an incinerator with other wastes or incinerators in which the wastewater sludge and other wastes are co-fired;

(2) Wastewater sludge generated at an industrial facility during the treatment of industrial wastewater, including wastewater sludge generated during the treatment of industrial wastewater combined with domestic wastewater;

(3) Wastewater sludge determined to be hazardous under state rule or federal regulation;

(4) Wastewater sludge containing polychlorinated biphenyls (PCBs) equal to or greater than 50 milligrams per kilogram of total solids (dry weight basis);

(5) Incinerator ash generated during the firing of wastewater sludge in a wastewater sludge incinerator;

(6) Grit and screenings;

(7) Drinking water treatment sludge; and

(8) Commercial and industrial septage that contains no domestic wastewater. [Eff and comp 12/09/04; am and comp] (Auth: HRS §342D-4, 342D-5) (Imp: HRS §§342D-2, 342D-4, 342D-5, 342D-6, 342D-50; 40 CFR Parts 258, 501, 503, 40 CFR 503 Subparts B, C, D, E, 40 CFR §§501.15, 503.1(b), 503.3, 503.4, 503.6, 503.7, 503.8, 503.9)

§11-62-41.1 Relation to federal law. (a) This chapter shall be interpreted and applied so that it is at least as stringent as 40 CFR Part 503 and so that the department's sludge management program complies with 40 CFR Part 501.

(b) No wastewater sludge generation, treatment, preparation, storage, hauling, application, placement, use, or disposal shall be conducted unless allowed by this chapter, even if allowed under 40 CFR Part 503.

(c) References to the Code of Federal Regulations (CFR) are to the July 1, 1999 version, and references to specific sections or subparts of the CFR incorporate those regulations and make them part of this chapter, whether or not the word incorporate is specifically used, unless otherwise specifically stated.

(d) Special definitions. For the purposes of this chapter, when used in 40 CFR Part 503:

"Municipal solid waste landfill unit" has the same meaning as defined in 40 CFR Part 258.

"Permitting authority" means the director.

"Sewage" means wastewater.

(e) No permit shall be issued when the [U.S.] United States Environmental Protection Agency Administrator for Region IX has objected in writing under 40 CFR §123.44. [Eff and comp 12/09/04; am and comp] (Auth: HRS §342D-4, 342D-5) (Imp: HRS §§342D-2, 342D-4, 342D-5, 342D-6, 342D-50; 40 CFR Parts 258, 501, 503, 40 CFR §§123.41, 123.42, 123.44, 501.2, 501.18, 501.19, 501.20, 503.1(b), 503.5, 503.21, 503.32)

§11-62-42 Land application of exceptional quality wastewater sludge. (a) Exceptional quality wastewater sludge shall meet the following criteria at a minimum:

(1) Pollutant limits. No pollutant concentration shall exceed the ceiling limits in Appendix D, Table IV.

(2) Pathogens. The Class A pathogen requirements in section 11-62-46(a) shall be met.

(3)_ Vectors. One of the vector attraction reduction requirements in 40 CFR §503.33(b)(1) through (8) shall be met.

(b) Monitoring. Exceptional quality wastewater sludge shall be monitored by the preparer at least as often as required by 40 CFR § 503.16(a). References in §503.16(a) to federal pollutant limit tables are replaced with Appendix D, Table IV dated [April 15, 1997] July 1, 2014 and located at the end of this chapter. To determine compliance with section 11-62-42(a)(2), wastewater sludge shall be monitored not more than sixty days before land application or being bagged for distribution unless otherwise specified by the director. The director may also specify more monitoring, to better protect human health or the environment.

(c) Recordkeeping.

(1) The preparer of exceptional quality wastewater sludge that is applied to the land shall meet the requirements of 40 CFR §503.17(a)(1), except the certification requirement there;

(2) The preparer shall sign complete certification form, form A, entitled Certification Form - Land Application, dated [April 15, 1997] July 1, 2014, and located at the end of this chapter, in Appendix E, items 1, 2.a, and 3.a, and retain the form for five years; and

(3) The preparer shall develop and retain information for five years on the volume of wastewater sludge bagged, distributed, or land applied.

(d) Reporting. The test results and records required in subsections (b) and (c) shall be kept on site and unless otherwise specified, copies shall be submitted to the director on February 19 of each year.

(e) The exceptional quality sludge shall be applied to the land at a rate that is less than ten dry tons per acre and equal to or less than the agronomic rate.

(1) The preparer shall provide to each land applier a fact sheet which contains the nitrogen, phosphorus, and potassium concentrations of the wastewater sludge; and

(2) When the wastewater sludge is applied in bulk to agricultural land, forest, a public contact site, or a reclamation site, the director may require a nutrient balance to be submitted prior to the application to the land. [Eff and comp 12/09/04; comp] (Auth: HRS §§342D-4, 342D-5) (Imp: HRS §§342D-2, 342D-4, 342D-5, 342D-6, 342D-50; 40 CFR §§503.1, 503.5, 503.10, 503.13, 503.15(a), 503.16(a), 503.17(a), 503.18, 503.32, 503.33(b))

§11-62-43 Land application of other than exceptional quality wastewater sludge, to agricultural land, forest, public contact site, or reclamation site. (a) No person shall apply non-exceptional quality wastewater sludge to land unless the land is agricultural land, forest, a public contact site, or a reclamation site, and all the requirements of this section are met.

(b) Pollutant limits. Non-exceptional quality wastewater sludge shall not be land applied if the concentration of any pollutant in the wastewater sludge exceeds the ceiling limits in Appendix D, Table IV dated [April 15, 1997] July 1, 2014, and located at the end of this chapter.

(c) Pathogens. The Class A pathogen requirements in section 11-62-46(a) or the Class B pathogen requirements in 40 CFR §503.32(b) shall be met for non-exceptional quality wastewater sludge.

(d) Vectors. One of the vector attraction reduction requirements in 40 CFR §503.33(b)(1) through (10) shall be met for non-exceptional quality wastewater sludge.

(1) The preparer shall meet one of the requirements of 40 CFR §503.33(b)(1) through (8); or

(2) The applier shall meet one of the requirements of 40 CFR §503.33(b)(9) or (10).

(e) Notice. The preparer of the non-exceptional quality wastewater sludge shall inform in writing to the land applier and the owner of the land application site of:

(1) The vector attraction reduction requirements of 40 CFR §503.33(b)(9) and (10), if the preparer did not use or meet any of the requirements of 40 CFR §503.33(b)(1) through (8);

(2) The spacing and site restrictions in subsection (g);

(3) The management requirements of subsection (h); and

(4) The concentration of total nitrogen (as N on a dry weight basis).

(f) Monitoring. Non-exceptional quality wastewater sludge shall be monitored at least as often as required by 40 CFR § 503.16(a). References in §503.16(a) to federal pollutant limit tables are replaced with Appendix D, Table IV dated [April 15, 1997,] July 1, 2014, and located at the end of this chapter. To determine compliance with section 11-62-43(c), wastewater sludge shall be monitored not more than sixty days before land application unless otherwise specified by the director. The director may also specify more monitoring, to better protect human health or the environment.

(g) Spacing and site restrictions for non-exceptional quality sludge.

(1) Horizontal distances. The land application of wastewater sludge shall meet the minimum horizontal limits in Appendix D, Table VI.

(2) Vertical separation. The land application of wastewater sludge shall be at least five

feet above the seasonal high groundwater table.

(3) If the class B pathogen requirements are met, the site restrictions in 40 CFR §503.32(b)(5) shall be met.

(h) Management practices. The management practices required by 40 CFR §503.14(a), (b), (d), (e)(1), and (e)(2) shall be met, and wastewater sludge shall not be applied to the land so that either the sludge or any pollutant from the sludge enters state waters.

(i) Recordkeeping, preparers of non-exceptional quality wastewater sludge.

(1) The preparer of the wastewater sludge which meets the Class A pathogen requirements in section 11-62-48(a) shall develop and retain for five years information on:

(A) The concentration of pollutants listed in Appendix D, Table IV dated [April 15, 1997] July 1, 2014, and located at the end of this chapter; and

(B) A description of how the pathogen requirements in section 11-62-48(a) are met.

(2) The preparer of wastewater sludge which meets the class B pathogen requirements in 40 CFR §503.32(b) shall develop and retain for five years information on:

(A) The concentration of pollutants listed in Appendix D, Table IV dated [April 15, 1997] July 1, 2014, and located at the end of this chapter;

(B) A description of how the pathogen requirements in 40 CFR §503.32(b) are met; and

(C) A description of how one of the vector attraction reduction requirements of 40 CFR §503.33(b)(1) through (8) is met, when one is met.

(3) The preparer shall sign and complete certification form, form A entitled Certification Form - Land Application dated [April 15, 1997,] July 1, 2014, and located at the end of this chapter, in Appendix E,

items 1, 2, and 3, and retain the form for five years; and

(4) The preparer shall develop and retain for five years information on the volume of wastewater sludge prepared for land application, names of persons taking wastewater sludge from the facility, the date and time the wastewater sludge was taken, and the amount taken.

(j) Recordkeeping, appliers of non-exceptional quality wastewater sludge to the land.

(1) The applier shall meet the information requirements of 40 CFR §503.17(a)(3)(ii)(B) and (C); or §503.17(a)(4)(ii)(B), (C), (D), and (E);

(2) The applier shall sign and complete the certification form, form A entitled Certification Form - Land Application, dated [April 15, 1997] July 1, 2014, and located at the end of this chapter, in Appendix E, items 4, 5, and 6, and retain the form for five years; and

(3) The applier shall develop and retain for five years the following information:

(A) The location, including street address and tax map key number, of the site on which wastewater sludge is applied;

(B) The number of acres in each site on which wastewater sludge is applied;

(C) The date and time the wastewater sludge is applied to each site;

(D) The amount of wastewater sludge applied to each site; and

(E) A nutrient balance.

(k) Reporting. The test results and records required in subsections (f), (i), and (j) shall be kept on site and unless otherwise specified copies shall be submitted to the director on February 19 of each year.

(l) Notification to other states. Any person who prepares wastewater sludge that is land applied in another state shall provide written notice, prior to the initial land application, to the permitting authority for

the state in which the bulk in which the wastewater sludge is to be applied to the land in accordance with 40 CFR §503.12(i). [Eff and comp 12/09/04; am and comp] (Auth: HRS §342D-4, 342D-5) (Imp: HRS §§342D-2, 342D-4, 342D-5, 342D-6, 342D-50; 40 CFR §§503.12, 503.13(b), 503.14, 503.15(a), (c), 503.16(a), 503.17, 503.18, 503.32, 503.33(b))

§11-62-44 Land application of domestic septage to agricultural land, forest, or reclamation site. (a) No person shall apply domestic septage to land unless the land is agricultural land, forest, or a reclamation site if the annual application rate (AAR) exceeds 1/0.0026 the amount of nitrogen (N) in pounds per acre per 365 day period needed by the crop or vegetation growth on the land.

$$AAR = \frac{N}{0.0026} \qquad \text{Equation (1)}$$

(b) Pathogens. The pathogen requirements of
(1) 40 CFR §503.32(c)(1); or
(2) 40 CFR §503.32(c)(2), including the site restrictions of 40 CFR §503.32(b)(5)(i) through (iv), shall be met for domestic septage.

(c) Vectors. One of the vector attraction reduction requirements in 40 CFR §503.33(b)(9), (10), or (12) shall be met for domestic septage. (d) Monitoring. If either the pathogen requirement in subsection (b)(2) or vector attraction reduction requirement in 40 CFR §503.33(b)(12) applies, each container of domestic septage shall be monitored for compliance with those requirements. The director may specify more monitoring, to better protect human health or the environment.

(e) Recordkeeping.
(1) The applier shall meet the information requirements of 40 CFR §503.17(b)(2), (3), (4), (5), (7), and (8);

(2) The applier shall develop and retain for five years the location, including street address and tax map key number, of the site on which septage is applied; and

(3) The applier shall sign and complete the certification form, form A entitled Certification Form - Land Application dated [April 15, 1997] July 1, 2014, and located at the end of this chapter, in Appendix E, items 7, 8, 9, and 10, and retain the form for five years.

(f) Reporting. The test results and records required in subsection (e) shall be kept on site and unless otherwise specified copies shall be submitted to the director on February 19 of each year.

(g) Spacing and site restrictions.

(1) Horizontal distances. The land application of domestic septage shall meet the minimum horizontal limits in Appendix D, Table VI dated [April 15, 1997] July 1, 2014, and located at the end of this chapter.

(2) Vertical separation. The land application of domestic septage shall be at least five feet above the seasonal high groundwater table.

(3) The site restrictions in:

(A) 40 CFR §503.32(b)(5); or

(B) The pathogen requirement of 40 CFR §503.32(c)(2) and the site restrictions of 40 CFR §503.32(b)(5)(i) through (iv) shall be met for domestic septage.

(h) Management practices. The management practices required by 40 CFR §503.14(a), (b), (d), (e)(1), and (e)(2)for wastewater sludge shall be met for domestic septage, and domestic septage shall not be applied to the land so that the septage or any pollutant from septage enters state waters. [Eff and comp 12/09/04; am and comp] (Auth: HRS §342D-4, 342D-5) (Imp: HRS §§342D-2, 342D-4, 342D-5, 342D-6, 342D-50; 40 CFR §§503.12(c), 503.13(c), 503.14, 503.15(b), (d), 503.16(b), 503.17, 503.18, 503.32, 503.33)

§11-62-45 Surface disposal. (a) The requirements of 40 CFR Part 503, Subpart C, Surface Disposal, §§503.20 through 503.28, shall be met with the modifications and exclusions made by this section.

(b) Applicability. This section does not adopt the exclusion in 40 CFR §503.20(c), and this section applies to wastewater sludge treated on the land and land on which wastewater sludge is treated.

(c) Pollutant limits. The pollutant concentrations of wastewater sludge, other than domestic septage, placed on an active wastewater sludge unit without liner and leachate collection system shall not exceed the limits in Appendix D, Table VII dated [April 15, 1997] July 1, 2014, and located at the end of this chapter. 40 CFR §503.23(a) is not adopted.

(d) Monitoring. Wastewater sludge in surface disposal shall be monitored at least as often as required by 40 CFR §503.26(a) and (c). References in §503.26(a) to federal tables are replaced with Appendix D, Table IV dated [April 15, 1997] July 1, 2014, and located at the end of this chapter. To determine compliance with section 11-62-46, wastewater sludge shall be monitored not more than sixty days before surface disposal unless otherwise specified by the director. The director may also specify more monitoring, to better protect human health or the environment.

(e) Recordkeeping. The requirements of 40 CFR §503.27(a) and the following shall be met:

(1) The preparer of the wastewater sludge shall develop and retain for five years information on the volume of wastewater sludge prepared for surface disposal, names of persons taking wastewater sludge from the site, the date and time the wastewater sludge was taken, and the amount taken;

(2) The person who places domestic septage in an active sludge unit shall develop and retain for five years information on the volume of domestic septage treated, the location of active wastewater sludge unit, volume of domestic septage placed on the active wastewater sludge unit, and the date and

time the domestic septage was placed on the active wastewater sludge unit; and (3) The owner or operator of a surface disposal site shall develop and retain for five years information on the amount of wastewater sludge disposed to the site.

(f) Reporting. The test results and records required in subsection (e) shall be kept on site and unless otherwise specified copies shall be submitted to the director on February 19 of each year.

(g) Setbacks.

(1) Horizontal distances. The surface disposal site shall meet the minimum horizontal distances specified in Appendix D, Table VI dated [April 15, 1997] July 1, 2014, and located at the end of this chapter.

(2) Vertical separation. For active wastewater sludge units without liner and leachate collection system, there shall be a minimum of five feet separation between the bottom of the active wastewater sludge unit and the seasonal high groundwater table. [Eff and comp 12/09/04; am and comp] (Auth: HRS §342D-4, 342D-5) (Imp: HRS §§342D-2, 342D-4, 342D-5, 342D-6, 342D-50; 40 CFR Part 503, Subpart C, 40 CFR §§503.20 - 503.28)

§11-62-46 Pathogens. (a) Wastewater sludge - class A. (1) The requirements of this subsection shall be met for a wastewater sludge to be classified exceptional quality sludge or class A with respect to pathogens.

(2) One of the class A requirements in paragraphs (3), (4), (6) or (7) shall be met, or with the prior approval of the director paragraph (5) shall met. The requirements in paragraphs (3) through (7) shall be met before or at the same time that the vector attraction reduction requirements in 40 CFR §503.33 are met, unless one of the vector attraction

reduction requirements in 40 CFR §503.33(b)(6) through (8) is met.

(3) Class A - alternative 1. The requirements of 40 CFR §503.32(a)(3) apply, except that the requirements of §503.32(a)(3)(i) are replaced with those of paragraph (8).

(4) Class A - alternative 2. The requirements of 40 CFR §503.32(a)(4) apply, except that the requirements of §503.32(a)(4)(i) are replaced with those of paragraph (8).

(5) Class A - alternative 3. The requirements of 40 CFR §503.32(a)(6) apply, except that the requirements of §503.32(a)(6)(i) are replaced with those of paragraph (8).

(6) Class A - alternative 4. The requirements of paragraph (8), and subsection (d), Process to Further Reduce Pathogens (PFRP), apply.

(7) Class A - alternative 5. The requirements of paragraph (8) apply and, as determined by the director, a process equivalent to one in subsection (d), Process to Further Reduce Pathogens (PFRP), shall be used.

(8) Pathogen density at the time the wastewater sludge is used, disposed, or prepared for sale or give away in a bag or other container for land application, shall meet the following:

(i) Unless otherwise specified by the director, seven samples shall be analyzed; and

(ii) For each sample the fecal coliform shall be less than 1000 MPN per gram of total solids (dry weight basis) or for each sample the Salmonella sp. bacteria shall be less than three MPN per four grams of total solids (dry weight basis).

(b) Wastewater sludge - class B. The requirements of 40 CFR §503.32(b) shall be met for a wastewater sludge to be classified class B with respect to pathogens.

(c) Domestic septage. The requirements of 40 CFR §503.32(c) apply.

(d) Processes to further reduce pathogens (PFRP). The requirements of 40 CFR Part 503, appendix B, Pathogen Treatment Processes, section B, Processes to Further Reduce Pathogens, apply, except for section B.1 which is replaced by paragraph (1).

(1) Composting.

(A) Windrow. The temperature of the wastewater sludge is maintained at 55 degrees Celsius or higher for at least fifteen consecutive days during the composting period. In addition, during the high temperature period, the windrow must be turned at least five times and turned at least once every three days.

(B) Static aerated pile. The wastewater sludge must be maintained at operating temperatures of 55 degrees Celsius or greater for three consecutive days.

(C) Within vessel method. The wastewater sludge must be maintained at operating temperatures of 55 degrees Celsius or greater for three consecutive days.

(2) Heat Drying. See Part 503, appendix B, section B.2.

(3) Heat Treatment. See Part 503, appendix B, section B.3.

(4) Thermophilic Aerobic Digestion. See Part 503, appendix B, section B.4.

(5) Beta ray irradiation. See Part 503, appendix B, section B.5.

(6) Gamma ray irradiation. See Part 503, appendix B, section B.6.

(7) Pasteurization. See Part 503, appendix B, section B.7.

(e) Processes to significantly reduce pathogens (PSRP). The requirements of 40 CFR Part 503, appendix B, Pathogen Treatment Processes, section A, Processes to Significantly Reduce Pathogens, apply.

(1) Aerobic Digestion. See Part 503, appendix B, section A.1.

(2) Air Drying. See Part 503, appendix B, section A.2.

(3) Anaerobic Digestion. See Part 503, appendix B, section A.3. (4) Composting. See Part 503, appendix B, section A.4.

(5) Lime Stabilization. See Part 503, appendix B, section A.5. [Eff and comp 12/09/04; comp] (Auth: HRS §342D-4, 342D-5) (Imp: HRS §§342D-2, 342D-4, 342D-5, 342D-6, 342D-50; 40 CFR Part 503, Subpart D, Appendix B, 40 CFR §503.32)

§11-62-47 Vector attraction reduction. (a) Requirements for land application and surface disposal.

(1) One of the vector attraction reduction requirements in 40 CFR §503.33(b)(l) through (8) shall be met before exceptional quality wastewater sludge is land applied.

(2) The requirements of 40 CFR §503.33(a)(1), (4), and (5) apply.

(b) Vector attraction reduction requirements. The requirements of 40 CFR §503.33(b) apply. [Eff and comp 12/09/04; comp] (Auth: HRS §342D-4, 342D-5) (Imp: HRS §§342D-2, 342D-4, 342D-5,342D-6, 342D-50; 40 CFR Part 503, Subpart D, 40 CFR §503.33)

§11-62-48 Sampling method. Samples of wastewater sludge that is applied to the land, placed on a surface disposal site, fired in a wastewater sludge incinerator, or disposed into a solid waste landfill or any other wastewater system shall be collected and analyzed using the methods specified in 40 CFR §503.8. [Eff and comp 12/09/04; comp] (Auth: HRS §342D-4, 342D-5) (Imp: HRS §§342D-2, 342D-4, 342D-5, 342D-6, 342D-50; 40 CFR §503.8)

SUBCHAPTER 5

WASTEWATER MANAGEMENT PERMITS AND REGISTRATION

§11-62-50 Registration and permits. (a) Owners and operators are not required under this subchapter to register or obtain any permit coverage for their:

(1) Individual wastewater systems (e.g., cesspools, septic tanks, and household aerobic units);
(2) Land on which exceptional quality wastewater sludge is applied;
(3) Land application or land placement operations involving only exceptional quality wastewater sludge; [or]
(4) Operations, such as businesses, that haul only exceptional quality wastewater sludge; or
(5) Non-domestic wastewater treatment works, unless [the] deemed necessary by the director.

(b) Owners or operators or both of the following shall register with the department:

(1) Land on which non-exceptional quality sludge is applied or placed, with or without the landowner's permission;
(2) Land on which non-exceptional quality sludge is stored for less than two years, if the land is different from the treatment works which generated the sludge;
(3) Land application or land placement operations for non-exceptional quality wastewater sludge, whether or not the wastewater sludge is applied or placed on land with the landowner's permission;
(4) Operations, such as businesses, that haul wastewater or wastewater sludge, or both, including grease haulers and cesspool pumpers, except those operations that only haul exceptional quality sludge; and
(5) Other facilities, operations, or land, if directed by the director.

[(c) Owners or operators or both shall obtain

general permit coverage for their wastewater systems not covered by section 11-62-41(a)(2) through (4) or subsection (d).

(d)](c) Owners or operators or both shall obtain an individual permit for their:

(1) Treatment works that generate wastewater sludge that is directly land applied;

(2) If different from the generator, facilities or operations that treat or prepare wastewater sludge that is land applied or surface disposed;

(3) Treatment works not located in the State but generate wastewater sludge that is directly land applied in the State;

(4) Facilities or operations not located in the State that treat or prepare wastewater sludge that is land applied or surface disposed in the State;

(5) Land used for the surface disposal of wastewater sludge; and

(6) Other facilities, operations, or land, if directed by the director.

(e) The department may accept and issue consolidated registrations[, general permit coverage notices,] and individual permits (collectively "authorizations"), and for the consolidated authorizations the department may charge the fee for only the most expensive authorization. The department may also charge the fees for all or some of the authorizations. [Eff and comp 12/09/04; am and comp] (Auth: HRS §§342D-4, 342D-5, 342D-6) (Imp: HRS §§342D-2, 342D-4, 342D-5, 342D-6, 342D-13, 342D-50; 40 CFR §§501.15, 503.3(a))

§11-62-51 Fees. (a) Registration. Every registrant shall pay a filing fee according to this subsection. The filing fee shall be submitted with the registration and shall not be refunded nor applied to any later registration after filing or denial of a registration. Fees shall be made payable to the State of Hawaii.

(1) For a new operation, facility, or land, the fee is $30;

(2) For major changes in the registration of an

operation, facility, or land, the fee is $30;

(3) For renewal, the fee is $10;

(4) To change only ownership shown in a registration, the fee is $5; and

(5) To make other changes in a registration, the fee is $10;

(b) Individual permits. Every person applying for an individual permit, its modification, or renewal shall pay a filing fee according to this subsection. This filing fee shall be submitted with the application for the permit or permit modification and shall not be refunded nor applied to any subsequent individual after final issuance or denial. Fees shall be made payable to the State of Hawaii.

(1) To apply for an individual permit for a new or existing operation or facility, the fee is $1000;

(2) To apply to modify an individual permit to cover a substantial alteration or addition to an operation, facility, or land, the fee is $1000;

(3) To renew an individual permit for an existing operation or facility, the fee is $1000;

(4) To transfer ownership or to modify an individual permit to show only a change in ownership, the fee is $25; and

(5) To apply to modify an individual permit to cover a change other than those covered above, the fee is $100.

[(c) General permit coverage. Every person submitting a notice of intent to be covered by a general permit, or seeking modification or renewal of such coverage shall pay a filing fee according to this subsection. This filing fee shall be submitted with the notice of intent and shall not be refunded nor applied to any subsequent general permit coverage after final issuance or denial of general permit coverage. The filing fee may be applied to any subsequent individual permit if the director requires or the person seeks an individual permit instead of general permit coverage. Fees shall be made payable to the State of Hawaii.

(1) To submit a notice of intent for a new or existing operation, facility, or land, the fee is $100;
(2) To submit a notice of intent to modify general permit coverage to cover a substantial alteration or addition to an operation, facility, or land, the fee is $100;
(3) To submit a notice of intent to modify general permit coverage to cover a change in the location of the covered operation or facility the fee is $100;
(4) To transfer ownership or to modify general permit coverage to show only a change in ownership, the fee is $25; and
(5) To submit a notice of intent to modify general permit coverage to cover a change other than those covered above, the fee is $25.

(d)](c) Late fees. Every person who fails to submit complete forms for a new or renewed registration[,]or a complete application for a new or renewed individual permit[, or a complete notice of intent for new or renewed general permit coverage] when required by this chapter, shall pay a late fee. Fees shall be payable to the State of Hawaii. Late submission of required fees and registration forms, notice of intent, or individual permit application does not excuse a person from liabilities for any violations due to the lack of a required registration, individual permit or general permit coverage.

(1) The fee for submitting a registration form late is $5;
[(2) The fee for submitting a notice of intent late is $25;] and
[(3)] (2) The fee for submitting an application for an individual permit late is $250.

[(e)](d) Relation to other fees. The foregoing fees are subject to section 11-62-50(e) and do not include any public participation costs (for notices, hearings,etc.) that the would-be registrant or permittee may be required to pay under other sections.

[Eff and comp 12/09/04; am and comp]

(Auth: HRS §§342D-4, 342D-5) (Imp: HRS §§342D-2, 342D-4, 342D-5, 342D-13, 342D-50)

§11-62-52 Signatories and certification requirements. (a) Unless otherwise specified, each registration, notice of intent, permit application, and any information required to be submitted to the director shall be signed and certified as required by 40 CFR §122.22.

(b) Each person who knowingly makes any false statement, representation, or certification in any application, record, report, plan, or other documentation submitted or required to be maintained under this chapter or who knowingly falsifies, tampers with, or renders inaccurate any monitoring device or method required to be maintained under this chapter is subject to the penalties and remedies in section 11-62-72. [Eff and comp 12/09/04; comp] (Auth: HRS §§342D-4, 342D-5, 342D-6) (Imp: HRS §§342D-2, 342D-4, 342D-5, 342D-6; 40 CFR Parts 122, 501, 40 CFR §§122.22, §501.15(a)(4), (b)(11))

§11-62-53 Wastewater management registration. (a) Timing. Completed registrations forms required under section 11-62-50 shall be submitted as follows.

(1) For existing lands, facilities, and operations, not later than ninety days after the effective date of this rule; and

(2) For new lands, facilities, and operations, no later than one hundred eighty days before such lands, facilities, or operations are used or begin activity.

(b) Registration information and forms. Registrants shall complete and submit one original and one copy of the form(s) furnished by the director. Registrants shall provide at least the following information:

(1) Activities conducted by the applicant which require registration;

(2) Name, mailing address, and location of the wastewater or wastewater sludge collection, handling, storage, treatment, use, disposal,

or transportation facility, operation, or land;

(3) Owner's name, mailing address, telephone number, ownership status, and status as federal, state, private, public, or other entity; and

(4) Operator's name and certification number under chapter 11-61, if applicable.

(c) The director may require the submission of additional information after registration forms have been submitted.

(d) Records. Registrants shall keep records of all data used to complete registrations and any supplemental information submitted under this section for at least five years from the date the registrant submits the registration form, unless otherwise specified by the director.

(e) Fees. Each registrant shall pay the filing fee specified in section 11-62-51 for each facility, operation, or land registered, except as the director may provide under section 11-62-50(e).

(f) Term. Registrations expire on November 15 of each even-numbered year.

(g) Renewals. Renewal registration forms shall be submitted by November 15. If a renewal registration form is not submitted on time, it may be submitted after payment of the current annual fee and a late payment fee. If a renewal registration form is submitted more than ninety days after it is due, then the registrant shall supply all the information required for a new registration regardless of whether there have been any changes to report.

(h) Automatic filing. Registrations shall be deemed filed automatically sixty days after submission, or on the next working day after sixty days expire, unless the director suspends registration.

(i) Filing suspension. If the director considers a registration form incomplete, lacking payment of all or part of the fee, otherwise deficient, or considers more information necessary, the director shall order that the land, operation, or facility shall not be registered until the registrant has supplied the missing information or otherwise

corrected the deficiency. [Eff and comp 12/09/04; comp] (Auth: HRS §§342D-4, 342D-5, 342D-6) (Imp: HRS §§342D-2, 342D-4, 342D-6, 342D-13)

§11-62-54.01 Wastewater management individual permits. (a) Timing. Applications for individual permits required under section 11-62-50 shall be submitted as follows:

(1) For existing lands, facilities, operations, and lands, not later than one year after the effective date of this section; and

(2) New facilities, operations, and lands, not later than one hundred eighty days before the facilities, operations, or lands are used or begin activity. The director may waive this one hundred eighty day requirement by issuing the permit before the one hundred eighty days expire[;].

(b) Information and forms. Applicants for individual permits shall complete and submit one original and one copy of the form(s) furnished by the director. Applicants shall provide at least the type of information required by 40 CFR Part 501 and the following information:

(1) The type of activities conducted by the applicant which requires a permit to be obtained;

(2) The name, mailing address, and location of the wastewater or wastewater sludge collection, handling, storage, treatment, use, disposal, or transportation facility, operation, or land;

(3) The owner's name, address, telephone number, ownership status, and status as federal, state, private, public, or other entity;

(4) The operator's name, address, telephone number, ownership status, status as federal, state, private, public or other entity, and operator's certification number under chapter 11-61, if applicable;

(5) A listing of all environmental permits received or applied, including all federal, state, or local permits;

(6) A topographical map or other map if a topographical map is unavailable extending one mile beyond the property boundaries of the sludge management facility, depicting the treatment and disposal sites, the location of all water bodies, and the locations of potable water wells within one-quarter mile of the property boundaries;

(7) Any sludge monitoring data and for land application and surface disposal sites, any available groundwater monitoring data, with a description of the well locations and approximate depth to the groundwater;

(8) A description of the applicant's sludge use and disposal practices, including where applicable, the location of any sites where the applicant transfers wastewater sludge for treatment, disposal, or both, as well as the name of the applier who applies the wastewater sludge to the land if different from the applicant, and the name of any distributors when the sludge will be distributed, if different from the applicant;

(9) For each land application site the applicant will use during the life of the permit, the applicant will supply information necessary to determine if the site is appropriate for land application and a description of how the site is, or will be managed. Applicants intending to apply wastewater sludge to land application sites not identified at the time of application must submit a land application plan which at a minimum:

(A) Describes the geographical area covered by the plan;

(B) Identifies the site selection criteria;

(C) Describes how the site will be managed;

(D) Provides for advanced notice to the director of specific land application sites; and

(E) Provides for advance public notice and notice to landowners and occupants adjacent to or abutting the proposed

land application site;
(10) Annual sludge production volumes; and
(11) Any information required to determine the appropriate standards for permitting under 40 CFR Part 503.

(c) The director may require the submission of additional information after an individual permit application has been submitted.

(d) Records. Applicants shall keep records of all data used to complete permit applications and any supplemental information submitted under this section for a period of at least five years from the date the application is submitted, unless otherwise specified by the director.

(e) Fees. Every applicant for an individual permit shall pay the filing fee specified in section 11-62-51 for each facility, operation, or land to be permitted, except as the director may provide under section 11-62-50(e).

(f) Processing suspension. If the director considers permit application incomplete, lacking payment of the fee, otherwise deficient, or considers more information necessary, the director shall order that the permit application shall not be processed or a permit issued until the applicant supplies the missing information or otherwise corrects the deficiency. [Eff and comp 12/09/04; am and comp] (Auth: HRS §§342D-4, 342D-5, 342D-6) (Imp: HRS §§342D-2, 342D-4, 342D-6, 342D-13, 342D-50; 40 CFR Part 501, 40 CFR §501.15(a),(d))

§11-62-54.02 Draft individual permits. After an application for a new, modified, or renewed permit is complete, the director shall tentatively decide to prepare a draft individual permit or deny the application. If the director tentatively proposes to revoke and reissue a permit, the director shall prepare a draft individual permit. A draft permit shall contain the necessary conditions to implement the requirements of this chapter, 33 U.S.C. §1345, and the incorporated sections of 40 CFR Parts 501 and 503. [Eff and comp 12/09/04; comp] (Auth: HRS §§342D-4, 342D-5, 342D-6) (Imp: HRS §§342D-2,

342D-4, 342D-5, 342D-6; 40 CFR Part 501, 40 CFR §501.15(d)(3))

§11-62-54.03 Fact sheets. (a) The director shall prepare a fact sheet for every draft individual permit for a major facility, operation, or activity, and when required by 40 CFR §501.15(d)(4).

(b) The director shall send the fact sheet to the applicant and, upon request, to any other person.

(c) Fact sheets shall include at least the information required by 40 CFR §501.15(d)(4)(i). [Eff and comp 12/09/04; comp] (Auth: HRS §§342D-4, 342D-5, 342D-6) (Imp: HRS §§342D-2, 342D-4, 342D-5, 342D-6; 40 CFR Part 501, 40 CFR §501.15(d)(4))

§11-62-54.04 Public notices of draft individual permits; public comments and hearing requests. (a) The director shall notify the public that a draft individual permit has been prepared and that the public has thirty days to comment on it. The comment period may be extended at the discretion of the director. The director may require the permit applicant to have the notice published.

(b) Methods. The director shall notify the public by at least the methods specified in 40 CFR §501.15(d)(5)(ii).

(c) Content. The public notice shall include at least the information required by 40 CFR 501.15(d)(5)(iii)(A).

(d) Costs. All publication and mailing costs associated with notifying the public of a draft permit shall be paid by the permit applicant(s) to the appropriate publishing agency or agencies determined by the director. Failure to provide and pay for public notice as required by the director is a basis to deny issuance of a permit.

(e) Public comments and hearing requests. During the public comment period, any person may submit comments in writing and may ask in writing for a public hearing. A request for hearing shall state the nature of the issues that the hearing should cover. [Eff and comp 12/09/04; comp]

(Auth: HRS §§342D-4, 342D-5, 342D-6, 342D-13) (Imp: HRS §§342D-2, 342D-4, 342D-5, 342D-6; 40 CFR Part 501, 40 CFR §501.15(d)(5),(6))

§11-62-54.05 Public meetings or hearings on individual permits. (a) The director shall hold a public meeting or hearing if the director determines that there is a significant degree of public interest in a draft individual permit, based on hearing requests.

(b) The director may hold a meeting or hearing at the director's discretion, when such a meeting or hearing may help the director's decision on an individual permit application or for another reason which the director considers to be in the public interest. [Eff and comp 12/09/04; comp] (Auth: 342D-4, 342D-5, 342D-6) (Imp: 342D-2, 342D-4, 342D-5, 342D-6, 342D-57; 40 CFR Part 501, 40 CFR §501.15(d)(7))

§11-62-54.06 Public notice of public meetings or hearings on individual permits. (a) The director shall notify the public that a meeting or hearing on an individual permit matter has been scheduled. The notice shall be given at least thirty days before the hearing. The director may require the permit applicant to have the notice published.

(b) Methods. The director shall notify [to] the public by at least the methods specified in 40 CFR §501.15(d)(5)(ii).

(c) Content. The public notice shall include at least the information required by 40 CFR §501.15(d)(5)(iii).

(d) Costs. All publication and mailing costs associated with notifying the public of a public meeting or hearing shall be paid by the permit applicant(s) to the appropriate publishing agency or agencies determined by the director. Failure to provide and pay for public notice as required by the director is a basis to deny issuance of a permit. [Eff and comp 12/09/04; comp] (Auth: HRS §§342D-4, 342D-5, 342D-6, 342D-13) (Imp: HRS

§§342D-2, 342D-4, 342D-5, 342D-6; 40 CFR Part 501, 40 CFR §501.15(d)(5))

§11-62-54.07 Response to comments. When a final individual permit is issued, the director shall issue a written response to written comments as required by 40 CFR §501.15(d)(8). [Eff and comp 12/09/04; comp] (Auth: HRS §§342D-4, 342D-5, 342D-6) (Imp: HRS §§342D-2, 342D-4, 342D-5, 342D-6; 40 CFR Part 501, 40 CFR §501.15(d)(8))

§11-62-54.08 Issuance of individual permits; duration, conditions. (a) Duration. The director may issue an individual permit for any period not exceeding five years, may renew such permit for any additional periods not exceeding five years each, and shall not modify an individual permit to extend its maximum period.

(b) Each individual permit shall contain conditions and requirements at least as stringent as:

(1) Those conditions contained in 40 CFR §501.15(b);
(2) The wastewater sludge standards in subchapter 4;
(3) The treatment requirements in subchapter 2;
(4) The application rates in sections 11-62-27;
(5) The standard permit conditions stated in [appendix] Appendix A entitled Wastewater Management Individual [and General] Permit Standard Conditions dated [April 15, 1997,] July 1, 2014, and located at the end of this chapter; and
(6) Other requirements deemed necessary by the director. [Eff and comp 12/09/04; comp] (Auth: HRS §§342D-4, 342D-5, 342D-6) (Imp: HRS §§342D-2, 342D-4, 342D-5, 342D-6, 342D-50; 40 CFR Parts 501, 503, 40 CFR §§501.15(a)(5),(b), 503.3(a), 503.10(b),(c), 503.13, 503.32, 503.33)

§11-62-54.09 Schedules of compliance. Individual permits may contain schedules of compliance that are at least as stringent as those allowed by 40 CFR §501.15(a). [Eff and comp 12/09/04; comp] (Auth: HRS §§342D-4, 342D-5) (Imp: HRS §§342D-2, 342D-4, 342D-5, 342D-6, 342D-50; 40 CFR Part 501, 40 CFR §501.15(a)(6))

§11-62-55.01 REPEALED [R]

§11-62-55.02 REPEALED [R]

§11-62-55.03 Requiring an individual permit. [Notwithstanding the provisions of a general permit, the director may require any person covered by a general permit or seeking coverage under a general permit to apply for and obtain an individual permit.] Cases where an individual permit may be required include, but are not limited to the following:

[(1) The wastewater system is not in compliance with the conditions of the general permit;

(2) Circumstances have changed since the notice of intent was submitted so that the wastewater system is no longer covered by the general permit;

(3)](1) The wastewater system generates wastewater sludge that is land applied or placed into a surface disposal site; and

[(4)](2) Other relevant factors. [Eff and comp 12/09/04; am and comp] (Auth: HRS §§342D-4, 342D-5) (Imp: HRS §§342D-2, 342D-4, 342D-5, 342D-6, 342D-50; 40 CFR Part 122, 40 CFR §122.28(b)(3)(i))

§11-62-55.04 REPEALED [R]

§11-62-55.05 REPEALED [R]

§11-62-55.06 REPEALED [R]

§11-62-55.07 REPEALED [R]

§11-62-55.08 REPEALED [R]

§11-62-56 Standard permit conditions. Standard permit conditions for individual [and general] permits are contained in [appendix] Appendix A entitled Wastewater Management Individual [and General] Permit Standard Conditions dated [April 15, 1997,] July 1, 2014, and located at the end of this chapter. [Eff and comp 12/09/04; am and comp] (Auth: HRS §§342D-4, 342D-5) (Imp: HRS §§342D-2, 342D-4, 342D-5, 342D-6, 342D-50; 40 CFR Part 501, 40 CFR §501.15(b))

§11-62-57.01 Transfer of permits. An individual permit [and general permit] coverage may be transferred for the reasons and under the procedures specified in 40 CFR §501.15(c)(1), which allows for transfers by modification or automatically. [Eff and comp 12/09/04; am and comp] (Auth: HRS §§342D-4, 342D-5) (Imp: HRS §§342D-2, 342D-4, 342D-5, 342D-6; 40 CFR Part 501, §501.15(c)(1))

§11-62-57.02 Modification or revocation and reissuance of permits. (a) Each permit [and general permit] coverage shall be subject to modification or revocation and reissuance by the director after notice and opportunity for a contested case hearing, except for minor modifications.

(b) Individual permits [and general permit coverage] may be modified, or revoked and reissued, for the reasons specified in 40 CFR §501.15(c)(2) and section 342D-6(e), HRS, and the director shall follow the procedures in 40 CFR §501.15(c)(2) and (d)(2) and section 342D-6(e), HRS, except for minor

modifications, which shall follow the procedures specified in [appendix] Appendix A.

(c) All applications under section 342D-7, HRS, for a variance from the requirements of subchapter 4 shall be treated as an application for a modification under this section. Any variances, if granted, shall be for a period not to exceed five years and may be renewed upon application. [Eff and comp 12/09/04; am and comp] (Auth: HRS §§342D-4, 342D-5, 342D-6, 342D-7) (Imp: HRS §§342D-2, 342D-4, 342D-5, 342D-6, 342D-7, 342D-50; 40 CFR Part 501, §501.15(c)(2),(d)(2))

§11-62-57.03 Termination of permits. (a) On the expiration date specified in the individual permit, the permit shall automatically terminate and the permittee shall be divested of all rights therein.

(b) Each individual permit [and general permit] coverage shall be subject to termination by the director after notice and opportunity for a contested case hearing.

(c) Individual permits [and general permit coverage] may be terminated [may be] or denied for [the] any of the reasons specified in 40 CFR §501.15(c)(3) and section 342D-6(e), HRS, and under the procedures specified in 40 CFR §501.15(d)(2) and section 342D-6(e), HRS. [Eff and comp 12/09/04; am and am and comp] (Auth: HRS §§342D-4, 342D-5, 342D-6) (Imp: HRS §§342D-2, 342D-4, 342D-5, 342D-6, 342D-50; 40 CFR Part 501, 40 CFR §§501.15(c)(3), (d)(2))

§11-62-57.04 Renewal of permits. (a) Permittees seeking individual permit [or general permit coverage] renewal shall submit a renewal application [or notice of intent] at least one hundred eighty days before the individual permit [or general permit coverage] expires.

(b) An application for individual permit renewal is subject to all of the requirements for an application for a new permit, including a draft permit and fact sheet, public notice, and a possible public

hearing, but excepting deadlines and fees specific to new permits.

[(c) An application for general permit coverage renewal is subject to all of the requirements for new general permit coverage, excepting deadlines and fees specific to new general permit coverage.

(d)] (c) The director may administratively extend the existing permit [or general permit coverage] pending the renewal of a wastewater management permit.

[(e)](d) Individual permits [and general permit coverage] may be renewed for the reasons and under the procedures specified in section 342D-6(c), HRS, and renewal may be denied for noncompliance with the permit. [Eff and comp 12/09/04; am and comp] (Auth: HRS §§342D-4, 342D-5, 342D-6) (Imp: HRS §§342D-2, 342D-4, 342D-5, 342D-6, 342D-50; 40 CFR Part 501, 40 CFR §501.15(b)(14))

§11-62-58 Conflict of interest. (a) Any board or body who reviews or approves applications [or notices of intent] for new, modified, or renewed individual permits [or general permit coverage] shall not include as a member any person who receives, or has during the previous two years received, a significant portion of that person's income directly or indirectly from permit holders or applicants for a permit.

(b) For this section the definitions of 40 CFR §501.15(f)(1) shall apply. [Eff and comp 12/09/04; am and comp] (Auth: HRS §§342D-3, 342D-4, 342D-5) (Imp: HRS §§342D-2, 342D-3, 342D-4, 342D-5; 40 CFR Part 501, 40 CFR §501.15(f))

SUBCHAPTER 6

WASTEWATER AND WASTEWATER SLUDGE PUMPERS AND HAULERS

§11-62-60 Applicability. This subchapter applies to all persons who own or conduct operations that haul or pump wastewater or wastewater sludge, including septage and grease, and including cesspool pumping firms (collectively "pumpers"). [Eff and comp 12/09/04; comp] (Auth: HRS §§342D-4, 342D-5) (Imp: HRS §§342D-2, 342D-4, 342D-5, 342D-50)

§11-62-61 Registration requirements. In addition to meeting the registration requirements of sections 11-62-50(b)(4) and 11-62-53, each pumper shall submit with its registration:

(1) A statement signed by the owner of the wastewater and wastewater sludge pumping and hauling firm attesting that:
    (A) The owner has read, understands, and shall follow all applicable rules regarding the collection, disposal, monitoring, recordkeeping, and reporting of pumping and hauling wastewater and wastewater sludge, including septage from individual wastewater systems and other wastewater systems; and
    (B) The owner has and will continue to provide employees of the pumping and hauling firm with adequate training in the proper pumping, collection, hauling, and disposal of wastewater and wastewater sludge;
(2) Copies of authorization to dispose of wastewater and wastewater sludge into any state, county, federal, or private facility or site; and
(3) A statement signed by the owner of the wastewater and wastewater sludge pumping and hauling firm describing the firm's prior and current involvement in the activity of

cesspool pumping. [Eff and comp 12/09/04; comp] (Auth: HRS §§342D-4, 342D-5) (Imp: HRS §§342D-2, 342D-4, 342D-5, 342D-50)

§11-62-62 Recordkeeping and reporting. [(a)] In addition to meeting the requirements of section 11-62-53(c) and (d), each pumper shall maintain the following types of records and information. Such information shall be made available upon request to any state, county, or federal wastewater agency regulating or managing wastewater:

(1) Number of wastewater systems, including individual wastewater systems and grease traps pumped;
(2) Names of the owner of each wastewater system and grease trap pumped;
(3) Location (street address or tax map key or both) of each wastewater system and grease trap pumped;
(4) Date of pumping;
(5) Type of wastewater or wastewater sludge pumped;
(6) Volume of wastewater or wastewater sludge pumped;
(7) Results of any test analyses performed on the wastewater or wastewater sludge;
(8) Disposal site of the pumped wastewater or wastewater sludge; and
(9) Date of such disposal.

[(b) Reports or copies of forms containing the tabulated information required in subsection (a) shall be submitted to the director no later than thirty daysafter the last day of the following months - March, June, September, and December.

(1) Each report shall tabulate information for the preceding three months;
(2) Special reports covering shorter periods than three months shall be submitted on request by the director or a county, state, or federal agency responsible for wastewater or wastewater sludge management or control;

(3) The "wastewater pumping and hauling report form" as furnished by the director shall be the format used by the wastewater sludge pumping and hauling firms to report information to the director; and

(4) The owner or operator of wastewater sludge pumping and hauling firm shall sign and certify the reports in accordance with section 11-62-52.] [Eff and comp 12/09/04; am and comp] (Auth: HRS §§342D-4, 342D-5) (Imp: HRS §§342D-2, 342D-4, 342D-5, 342D-6, 342D-50, 342D-55)

SUBCHAPTER 7

VARIANCES, PENALTIES, AND SEVERABILITY

§11-62-71 Variances. (a) Variances and variance applications shall comply with section 342D-7, HRS.

(b) Variance application forms shall be provided by the department. All applications for variances shall be submitted with a filing fee of $300 for each application. Additionally, the applicant shall pay all fees assessed for publishing the legal notice(s) for each variance application. If a public hearing is required, the applicant shall pay all fees assessed for publishing the public hearing notice(s).

(c) Applications for renewal of variances shall be submitted one hundred eighty days before the expiration of the variance on forms provided by the department. A filing fee of $150 shall be submitted with each application for renewal. Additionally, the applicant shall pay all fees assessed for publishing the legal notice(s) and public hearing notice(s). Failure to renew a variance within the specified time will result in the termination of the variance and require the applicant to apply for a new variance. [Eff 12/10/88, am 8/30/91; §11-62-41; ren, am and comp 12/09/04; comp] (Auth: HRS §§321-11, 342D-4, 342D-5, 342D-7, 342D-13) (Imp: HRS §§321-

11, 322-1 to 322-4, 322-8, 342D-2, 342D-4, 342D-5, 342D-7, 342D-50

§11-62-72 Penalties and remedies. Any person who violates any provision of this chapter shall be subject to the penalties and remedies for violations provided for in chapters 321, 322-part I, 342D, and 342H, HRS. [Eff 12/10/88; §11-62-42; ren, am and comp 12/09/04; comp] (Auth: HRS §§321-11, 322-8(a), 342D-1, 342D-4, 342D-5, 342D-9, 342D-11, 342D-30, 342D-31, 342D-50) (Imp: HRS §§321-11, 322-1 to 322-4, 322-8, 322-9, 342D-2, 342D-4, 342D-5, 342D-9, 342D-11, 342D-18, 342D-30, 342D-31, 342D-50, 603-23)

§11-62-73 Severability. If any provision of this chapter or its application to any person or circumstance is held invalid, the application of such provision to other persons or circumstances, and the remainder of this chapter, shall not be affected thereby. [Eff 12/10/88; §11-62-43; ren and comp 12/09/04; comp] (Auth: HRS §§321-11, 342D-4, 342D-5) (Imp: HRS §§321-11, 322-1 to 322-4, 322-8, 342D-2, 342D-4, 342D-19, 342D-50)

§11-62-74 Public participation in enforcement. The department shall provide for public participation in enforcement relating to violations of subchapters 4 and 5 at least to the extent specified in 40 CFR §501.17(d)(2). [Eff and comp 12/09/04; comp] (Auth: HRS §§342D-4, 342D-5) (Imp: HRS §§342D-2, 342D-4, 342D-5, 342D-50; 40 CFR Part 501, 40 CFR §501.17(d)(2))

SUBCHAPTER 8

FIELD CITATIONS

§11-62-81 Purpose. This subchapter authorizes field citations to effectively and quickly settle easily verifiable violations of chapters 322 and 342D, HRS, and this chapter. Settlements under this section are an additional remedy and do not supplant the director's authority to issue orders under section 342D-9, HRS. [Eff and comp 12/09/04; comp] (Auth: HRS §§321-11, 322-8(a), 342D-1, 342D-4, 342D-5, and 342D-31) (Imp: HRS §§321-11, 322-1 to 4, 322-8, 342D-2, 342D-4, 342D-5, 342D-9, 342D-18, 342D-31, 342D-50)

§11-62-82 Offer to settle;[penalties.]settlement amounts. (a) A field citation is an offer to settle an administrative case against a specific violation on a specific day. Instead of issuing a formal notice and finding of violation and order, the director [may], in the director's sole discretion, through any authorized employee, may issue a filed citation by personal service or certified mail to:

(1) Any person or owner who causes or allows a wastewater system to create or contribute to a wastewater spill, overflow, or discharge onto the ground or into surface waters, in violation of section [11-62-06(g)(6);] 11-62-06(f)(5) or (6);

(2) Any person or owner who uses or occupies a building not connected to a wastewater system in violation of section 11-62-06(a); [or]

(3) Any person or owner who constructs, modifies, or uses any individual wastewater system without approval by the director or a county authorized by the director to approve and regulate individual wastewater systems, in violation of section 11-62-08(b) or 11-62-31.1(f)[.]; or

(4) Any person or owner who does not respond within thirty days to an operation and maintenance inspection report issued by the Department.

(b) A field citation shall [assess] indicate the following [penalties for violations:] settlement amounts:

(1) [Any person who violates section 11-62-06(g)(6) shall be fined $100 for a first violation, and $250 for a subsequent violation;] $200 for a first violation, and $500 for a subsequent violation for:

(A) Violating sections 11-62-06(a),(f)(1)-(4) and (f)(6)-(9), 11-62-08(b) or 11-62-31.1(f);

(B) Failing properly to operate or maintain an aerobic treatment unit;

(C) Failing to provide an effective contract for an aerobic treatment unit;

(D) Failing to respond to department inspection reports;

(E) Having a cesspool without a concrete cover;

(F) Not having a secured manhole cover for the cesspool; or

(G) A collapsed cesspool.

[(2) Any person who violates section 11-62-06(a) shall be fined $100 for a first violation, and $250 for a subsequent violation; and

(3) Any person who violates section 11-62-08(b) or 11-62-31.1(f) shall be fined $100 for a first violation, and $250 for a subsequent violation.]

(2) $500 for a first violation, and $2,000 for a subsequent violation for violating section 11-62-06(f)(5) or (10); and

(3) $1,000 for a first violation, and $2,500 for a subsequent violation for constructing an individual wastewater system without department approval to construct. [Eff and comp 12/09/04; am and comp] (Auth: HRS §§321-11, 322-8(a), 342D-1,

342D-4, 342D-5, 342D-9, 342D-11, 342D-30, 342D-31, 342D-50) (Imp: HRS §§321-11, 322-1 to 4, 322-8, 342D-2, 342D-4, 342D-5, 342D-9, 342D-11, 342D-18, 342D-30, 342D-31, 342D-50)

§11-62-83 Resolution of field citation. (a) A person issued a field citation may accept the citation by[,]:

(1) Signing the field citation;

(2) Paying the full amount [assessed] indicated by the field citation. Payment shall be made payable to the "State of Hawaii" by check, cashier's check, [or] money order [made payable to the State of Hawaii;] or as otherwise specified by the director;

(3) Mailing or delivering the signed citation and full payment to the wastewater branch in Honolulu, or the district health office for the county where the violation occurred. The department must receive the signed filed citation and full payment within twenty days after the person receives the field citation; and

(4) Correction within seven days or unless otherwise specified on the field citation any violation of section [11-62-06(g)(6)] 11-62-06(f)(6).

(b) By signing the field citation, the person to whom it was issued agrees to:

(1) Give up the person's right to a contested case hearing under chapter 91 or 342D, HRS, or otherwise challenge the field citation;

(2) Pay the [penalty assessed;] amount indicated; and

(3) Correct the violation.

(c) If the field citation is not accepted in compliance with subsection (a), the director may seek for that cited violation any remedies available under this chapter, chapters 321, 322, 342D, HRS, or any other applicable law. For all other violations the director retains authority to seek any available

remedies. [Eff and comp 12/09/04; am and comp] (Auth: HRS §§321-11, 322-8(a), 342D-1, 342D-4, 342D-5, 342D-9, 342D-11, 342D-30, 342D-31, 342D-50) (Imp: HRS §§321-11, 322-1 to 4, 322-8, 322-9, 342D-2, 342D-4, 342D-5, 342D-9, 342D-11, 342D-18, 342D-30, 342D-31, 342D-50, 603-23)

§11-62-84 Form of citation. The department shall prescribe a field citation form." [Eff and comp 12/09/04; am and comp] (Auth: HRS §§321-11, 322-8(a), 342D-1, 342D-4, 342D-5) (Imp: HRS §§321-11, 322-1 to 4, 322-8, 342D-2, 342D-4, 342D-5, 342D-9, 342D-18, 342D-31, 342D-50)

2. Material, except source notes, to be repealed is bracketed. New material is underscored.

3. Additions to update source notes to reflect these amendments and compilation are not underscored.

4. These amendments to and compilation of chapter 11-62, Hawaii Administrative Rules, shall take effect ten days after filing with the Office of the Lieutenant Governor.

I certify that the foregoing are copies of the rules, drafted in the Ramseyer format pursuant to the requirements of section 91-4.1, Hawaii Revised Statutes, which were adopted on and filed with the Office of the Lieutenant Governor.

LINDA ROSEN, M.D., M.P.H.
Director of Health

APPROVED AS TO FORM:

EDWARD G. BOHLEN
Deputy Attorney General

CHAPTER 11-62 APPENDIX A

INDIVIDUAL PERMIT STANDARD CONDITIONS

July 1, 2014

Appendix A, Individual standard conditions

1. Duty to comply
2. Compliance with sludge standards
3. Compliance with wastewater effluent standards
4. Compliance with water quality standards
5. Clean Water Act (CWA) penalties
6. Signatory and certification requirement
7. Duty to reapply
8. Need to halt or reduce activity not a defense
9. Duty to mitigate
10. Proper operation and maintenance
11. Permit actions
12. Property rights
13. Duty to provide information
14. Inspection and entry
15. Sampling requirements and definitions
16. Monitoring and recordkeeping
17. Notice requirements
18. Reopener clause
19. Transfers by modification
20. Automatic transfers
21. Minor modification of permits
22. Modification or revocation and reissuance of permits
23. Termination of permits
24. Availability of reports
25. Civil and criminal liability
26. State law
27. Severability

The following conditions apply to individual permits unless otherwise specified. "Permittee" refers to a person to whom an individual permit has been issued.

CHAPTER 11-62 APPENDIX A

1. **Duty to comply.** Permittees shall comply with and are subject to §11-62-06(q).

2. **Compliance with sludge standards.** Permittees shall comply with HAR chapter 11-62, subchapter 4.

3. **Compliance with wastewater effluent standards.** Permittees treating wastewater shall comply with §11-62-26 and, if applicable, §11-26-27.

4. **Compliance with water quality standards.** Permittees shall not cause or contribute to any violation of applicable sections of HAR chapter 11-54.

5. **Clean Water Act (CWA) penalties.** The monetary fines and imprisonment terms referred to in 40 CFR §§501.15(b)(3), on CWA §309; 501.15(b)(11)(ii), on false statement, representation, or certification; and §501.15(b)(10), on falsification, tampering with, or rendering inaccurate any monitoring device or method; all apply, in addition to any state penalties.

6. **Signatory and certification requirements.** Each permit application, report, notice, and any information submitted to the director shall be signed and certified as required by §11-62-52.

7. **Duty to reapply.** Permittees shall comply with §11-62-57.04.

8. **Need to halt or reduce activity not a defense.** It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

9. **Duty to mitigate.** Permittees shall comply with §11-62-06(j).

10. **Proper operation and maintenance.** Permittees shall comply with §11-62-06(e).

11. **Permit actions.** This permit may be modified, revoked and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any permit condition.

12. **Property rights.** This permit does not convey any property rights of any sort, or any exclusive privilege.

13. **Duty to provide information.** The permittee shall furnish to the director, within a reasonable time, any information which the director may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit or to determine compliance with this permit. The permittee shall also furnish to the director, upon request, copies of records required to be kept by this permit.

14. **Inspection and entry.** The permittee shall allow the director, or an authorized representative, upon the presentation of credentials and other documents as may be required by law, to:

    a. Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;

    b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;

c. Inspect at reasonable times any facility, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and

d. Sample or monitor at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the Clean Water Act, any substances, parameters, or practices at any location.

15. Sampling requirements.

a. Sampling points. All samples shall be taken at the monitoring points specified in this permit and, unless otherwise specified, before final use, disposal, or discharge. Monitoring points shall not be changed without notification to and the approval of the director. No use, disposal, or discharge is authorized which does not totally pass through the final monitoring point.

b. Calibration. The permittee shall periodically calibrate and perform maintenance on all monitoring and analytical equipment used to monitor the pollutants, sludge, and other items specified by the director under this permit, at intervals which will ensure the accuracy of measurements, but no less than the manufacturer's recommended intervals or one year intervals (whichever comes first). [Records of calibration shall be kept pursuant to section 13(b) of this general permit.]

16. Monitoring and recordkeeping.

a. Monitoring results shall be reported at a frequency specified here or elsewhere in the

permit, whichever is greater. The frequency of sampling shall be dependent on the size of the wastewater system, nature and effect of the wastewater, reclaimed water, and wastewater sludge use and disposal practices. At a minimum, the frequency shall be as required by §§11-62-26(a), 11-62-26(c), 11-62-28(a), and subchapter 4.

b. Representative sampling. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activities listed in §§11-62-26(a), 11-62-26(c), 11-62-28(a), and subchapter 4.

As used in this section, a representative sample means that the content of the sample shall (1) be identical to the content of the substance sampled at the time of the sampling; (2) accurately represent the monitored item (for example, sampling to monitor final effluent quality shall accurately represent that quality, even though the sampling is done upstream of the discharge point); and (3) accurately represent the monitored item for the monitored time period (for example, sampling to represent monthly average effluent flows shall be taken at times and on days that cover significant variations). Representative sampling may mean including weekends and storms and may mean taking more samples than the minimum number specified elsewhere in the permit. The burden of proving that sampling or monitoring is representative shall be on the permittee.

c. Record retention. The permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip

chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least five (5) years from the date of the sample, measurement, report or application. This period may be extended by request of the director of health at any time.

d. Records' content. Records of monitoring information shall include:
   (1) The date, exact place, and time of sampling or measurements;
   (2) The name of individual(s) who performed the sampling or measurements;
   (3) The date(s) analyses were performed;
   (4) The name of individual(s) who performed the analyses;
   (5) The analytical techniques or methods used and if available, references and written procedures for these techniques or methods; and
   (6) The results of such analyses, including bench sheets, instrument readouts, etc., used to determine these results.

e. Monitoring procedures. Unless other procedures have been specified in this permit, monitoring shall be conducted according to test procedures approved under 40 CFR Part 136 or, in the case of sludge use or disposal, approved under 40 CFR Part 503.

17. Notice requirements.

a. Planned changes. The permittee shall give notice to the director as soon as possible of any planned physical alterations or additions to the permitted facility, or significant changes planned in the

permittee's sludge use or disposal practice, where such alterations, additions, or changes may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan.

b. Anticipated noncompliance. The permittee shall give advance notice to the director of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.

c. Transfers. This permit is not transferable to any person except after notice to the director. The director may require modification or revocation and reissuance of the permit to change the name of the permittee and incorporate such other requirements as may be necessary under the CWA.

d. Other noncompliance reporting. The permittee shall report all instances of noncompliance. Reports of noncompliance shall if applicable follow the spill protocol of appendix C otherwise shall be submitted with the permittee's next self monitoring report or earlier if requested by the director or if required by an applicable standard for wastewater sludge use or disposal or condition of this permit.

e. Other information. Where the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the

director, it shall promptly submit such facts or information.

18. Reopener clause.

a. If the standards for wastewater and wastewater sludge applicable to the permittee's use, disposal, or discharge method are promulgated under the Clean Water Act, the Hawaii Revised Statutes, or the Hawaii Administrative Rules before the expiration date of this permit, and those standards are more stringent than the wastewater or wastewater sludge pollutant limits or acceptable management practices authorized in this permit, or controls a pollutant or practice not limited in this permit, this permit may be promptly modified or revoked and reissued to conform to the standards for wastewater or wastewater sludge use, disposal, or discharge by no later than the compliance deadline specified in the regulations establishing those standards, whether or not this permit has been modified or revoked and reissued.

b. This permit shall be modified or revoked and reissued at any time if, on the basis of any new data, the director determines that continued wastewater or wastewater sludge use, disposal, or discharge may cause unreasonable degradation of the environment.

c. The permittee shall comply with new standards for wastewater sludge use or disposal adopted in 40 CFR 503 during the term of the permit, if they are more stringent than the terms of the permit and chapter 11-62, even if this permit has not yet been modified to incorporate the standards.

19. **Transfers by modification.** Except as provided in condition 20 of these standard conditions, a permit may be transferred by the permittee to a new owner or operator only if the permit has been modified or revoked and reissued to identify the new permittee and incorporate such other requirements as may be necessary to assure compliance with the CWA.

20. **Automatic transfers.** As an alternative to transfers under condition 19 of these standard conditions, the director may authorize automatic transfer of any permit issued under this rule to a new permittee if:

    a. The current permittee notifies the director at least 30 days in advance of the proposed transfer date in condition 20.c. of these standard conditions;

    b. The notice includes a written agreement between the existing and new permittee containing a specific date for transfer of permit responsibility, coverage, and liability between them; and

    c. The director does not notify the existing permittee and the proposed new permittee of the director's intent to modify or revoke and reissue the permit. If this notice is not received, the transfer is effective on the date specified in the agreement of condition 20.b of these standard conditions.

21. **Minor modification of permits**. Upon the consent of the permittee, the director may modify a permit to make the corrections or allowances for changes in the permitted activity listed in this section without following the procedures of §11-62-57.02. Any permit modification not processed as a minor modification under this section must be made for cause and with draft permit and

public notice as required. Minor modifications may only:

a. Correct typographical errors;

b. Require more frequent monitoring or reporting by the permittee;

c. Change an interim compliance date in a schedule of compliance, provided the new date is not more than 120 days after the date specified in the existing permit and does not interfere with attainment of the final compliance date requirement; and

d. Allow for a change in ownership or operational control of a facility where the director determines that no other change in the permit is necessary, provided that a written agreement containing a specific date for transfer of permit responsibility, coverage, and liability between the current and new permittee has been submitted to the director.

22. **Modification or revocation and reissuance of permits.** Permittees shall comply with and are subject to §11-62-57.02,except for minor modifications.

23. **Termination of permits.** Permittees are subject to §11-62-57.03 and general permittees are also subject to §11-62-55.03.

24. **Availability of reports.** Except for data determined to be confidential under HRS §342D-14, all reports prepared in accordance with the terms of this permit shall be available for public inspection at the offices of the director. As required by this rule, permit applications, permits, and effluent and wastewater sludge data shall not be considered confidential.

25. **Civil and criminal liability.** Nothing in this permit shall be construed to relieve the permittee from civil or criminal penalties for noncompliance.

26. **State law.** Nothing in this permit shall be constructed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable state law or regulation.

27. **Severability.** The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstance, if held invalid, the application of such provision to other circumstances, and remainder of this permit, shall not be affected thereby.

CHAPTER 11-62 APPENDIX B

RESPONSES FOR WASTEWATER SPILLS, OVERFLOWS, AND DISCHARGES ("SPILLS")

July 1, 2014

Table of contents

CHAPTER 11-62 APPENDIX B

1. Points of contact

Agency	Phone	Fax
Clean Water Branch (CWB)	586-4309	586-4352
Wastewater Branch (WWB)	586-4294	586-4352
Environmental Health Programs (EHP)		
Hawaii District Health Office	933-4371	933-4669
Kauai District Health Office	241-3323	241-3480
Maui District Health Office	984-8234	984-8237
State Hospital Operator (SHO)	247-2191	
Communications Office		586-4444

2. Spills from any facility into state waters, excluding R-1 water from recycled water systems

a. Applicability. Any wastewater spill which enters into state waters from a public or private wastewater system.
   (1) "State waters" has the meaning defined in HRS section 341-D, and includes drainage ditches, whether or not water is always flowing in them.
   (2) Exclusion. Spill of R-1 water covered by Appendix J to HAR chapter 11-5, "NPDES General Permit Authorizing Discharges of R-1 Water from Recycled Water Systems". That general permit does not cover spills from treatment works.

b. Immediate notice to DOH. If a spill occurs during working hours:
   (1) The wastewater system owner or its agent (owner/agent) shall immediately notify the CWB of any spill into state waters; and
   (2) If a spill occurs on the neighbor islands, the owner/agent shall also immediately notify their respective

district environmental health program chief.

If a spill occurs during non-working hours:
(1) Contact the state hospital operator; and
(2) The next working day notify the CWB and the respective district EHP chief with a follow-up call.

c. Press Release. The owner/agent shall immediately send out a press release for spills of a thousand gallons or more and for lesser spills if they present a substantial threat to public health. A press release shall comply with section 7. A press release is not required if the owner/agent demonstrates that the spill was of R-1 water and that BMPs as approved by the director were implemented.

d. Disinfection. The owner/agent shall disinfect wastewater which is continuously being spilled into nearshore waters if sufficient disinfection contact time is available. Best judgment should be used in determining the amount of chlorine added to the discharge if chlorine is used as a disinfectant. Disinfection is not required if the owner/agent demonstrates that the spill was either R-1 or R-2 water and that BMPs as approved by the director were implemented.

e. Warning signs. The owner/agent shall immediately post warning signs in the area(s) likely to be affected by the spill and where public access is possible. Posting of warning signs is not required if the owner/agent demonstrates that the spill was of R-1 water and that BMPs as approved by the director were implemented.

The director shall also assure that a sufficient number of warning signs have been posted and the locations are adequate. Authorization to remove the signs shall also come from the director.

f. Monitoring. The owner/agent shall conduct bacterial monitoring for any spill greater than 100 gallons or when public health may be threatened in accordance with section 8. Monitoring is not required if the owner/agent demonstrates that the spill was R-1 water and that BMPs as approved by the director were implemented.

g. Reporting. The owner/agent shall report to the CWB under section 9.a.

3. Spills into state waters of R-1 water from recycled water systems

a. Applicability. Any spills of R-1 water covered by Appendix J to HAR chapter 11-55, "NPDES General Permit Authorizing Discharges of R-1 Water from Recycled Water Systems."
   (1) "State waters" has the same meaning defined in HRS section 342D-1, and includes drainage ditches, whether or not water is always flowing in them.
   (2) Exclusion. The general permit does not cover spills from treatment works.

b. Requirements. Among other things, the general permit requires filing a Notice of Intent before any discharge, compliance with standard conditions in appendix A of chapter 11-55, implementation of best management practices (BMPs), monitoring of discharges, avoiding violations of water quality criteria, and specified reporting. The full

statement of requirements appears in the general permit.

4. Spills to ground only - with public access

a. Applicability. Any wastewater spill from a wastewater system onto the ground and that does not enter state waters but is in an area which is or may be accessible to the public.

(1) In this appendix, the public includes hotel, apartment, and condominium residents and guests, or condominium apartment owners at their own condominium, and management personnel and building or facility staff, unless the person is specifically an operator of the wastewater system or a manager of the property.

(2) In this appendix, areas inaccessible to the public include areas:

(a) Confined within a fenced or walled (six foot high with locked gate or door) area; and

(b) Contact with the spill is limited to wastewater system operating personnel and management personnel for the property owner or lessee.

(3) Exclusion. Spills of R-1 water provided the owner/agent demonstrates that the spill was of R-1 water and that BMPs as approved by the director were implemented.

b. Immediate notice to DOH. If a spill of a thousand gallons or more occurs during working hours:

(1) On Oahu, the wastewater system owner/agent shall immediately notify the WWB; or
(2) On the neighbor islands, the owner/agent shall immediately notify their respective district EHP chief.

If a spill of a thousand gallons or more occurs during non-working hours:
(1) Contact the state hospital operator; and
(2) The next working day notify the WWB or on the neighbor islands, the respective district EHP chief with a follow-up call.

c. Press release. The owner/agent shall immediately send out a press release for spills of a thousand gallons or more, and for lesser spills if they present a substantial threat to public health. A press release shall comply with section 7.

d. Disinfection. The owner/agent shall disinfect the wastewater that is spilled onto the ground if the wastewater remains ponded on the ground for any sufficient length of time or if the discharge continues for any significant duration. Disinfection is not required if the owner/agent demonstrates that the spill was R-2 water and that BMPs as approved by the director were implemented.

e. Warning signs. The owner/agent shall immediately post warning signs in the vicinity of the spill area.

f. Clean up. All spill sites shall be cleared of all debris and standing wastewater, and disinfected pursuant to section 4.d.

In areas containing standing wastewater which cannot be removed, the owner/agent shall limit public access by having barricades or other means.

g. Reporting. The owner/agent of a public or private wastewater system shall report to the WWB as follows:
   (1) For spills of a thousand gallons or more, the owner/agent shall report to the WWB under section 9.a.
   (2) For spills less than a thousand gallons, immediate notice and reporting are not required. A tabulated summary of all spills less than a thousand gallons each shall be submitted to the WWB on a quarterly basis in accordance with section 9.b.
   (3) Exfiltration. Reporting of leaks or breaks in pipelines discovered during inflow/infiltration repair work is not required. These situations are considered exfiltration.

5. Spills to ground only - with no public access

a. Applicability. All wastewater spills from any public or private wastewater system that does not enter state waters and are in areas inaccessible to the public.
   (1) The public and inaccessibility are described in section 4.a.
   (2) Exclusion. Spills of R-1 water provided the owner/agent demonstrates the spill was of R-1 water and that BMPs as approved by the director were implemented.

b. Immediate notice to DOH. If a spill of a thousand gallons or more, and for spills occurring more than twice within a 12 month

period within the confines or fence line of a wastewater system, the owner/agent shall notify the WWB within 24 hours.

c. Reporting. For spills of a thousand gallons or more, and for spills occurring more than twice within a 12 month period within the confines or fence line of a wastewater system, the owner/agent shall report to the WWB under section 9.a.

d. Recording. The owner/agent shall record and tabulate the date and time of the spill, the amount released, the cause(s) for the spill, clean up efforts, and remedial actions taken to prevent future spills for all spills greater than 50 gallons as they happen. The owner/agent shall keep the records and tabulations on site and make the records and tabulation available to the director for inspection and copying.

6. Spills to ground only - R-1 and RO water only

a. Applicability. Spills of R-1 or RO water provided the owner/agent demonstrates the spill was of R-1 or RO water and that BMPs as approved by the director were implemented.

b. Notice to DOH.
   (1) For spills of a thousand gallons or more occurs, the wastewater system owner/agent shall notify the WWB at least by phone by the end of the next working day. The notice shall provide the information required by section 6.d(1), below.
   (2) For spills of less than a thousand gallons, but more than fifty gallons, next day notice is not required, but the wastewater system owner/agent shall record the information and report as required by section 6.d.

c. Warning signs. For spills greater than fifty gallons, the owner/agent shall immediately post warning signs in the vicinity of the spill area.

d. Reporting. The owner/agent of a wastewater system shall report in writing to the WWB as follows:
   (1) Information of each spill shall include at least the spill's date, time, location, quantity, the reason for the spill, and any corrective action.
   (2) For spills more than fifty gallons, a tabulated summary shall be submitted to the WWB each year with the summary report required by section 11-62-28.

7. Press release

The press release shall describe the location of the spill, the amount of wastewater released, what caused the spill, and what is being done to correct the situation. Also, include a contact person and telephone number (including an after hours/weekend contact). At a minimum, the press release shall be faxed or telephoned to the following:

a. Associated Press (for radio dissemination);
b. Major statewide and island newspapers;
c. Major television news stations;
d. Department of Health, Communications Office, Oahu
e. CWB if into state waters, otherwise WWB; and
f. For neighbor island spills, also include faxing the press release to the respective island DHOs.

8. Monitoring of state waters

Monitoring shall begin as soon as possible and be conducted in the receiving water area affected by the spill. Bacterial monitoring is not required if the owner/agent demonstrates that the spill was of R-1 water and that BMPs as approved by the director were implemented.

For spills entering fresh or brackish waters, the bacterial monitoring shall consist of sampling for the following indicator organisms:

a. Enterococci; and
b. Clostridium perfringens.

For spills entering marine waters, the bacterial monitoring shall consist of sampling for the following indicator organisms:

a. Enterococci; and
b. Clostridium perfringens.

Results of the bacterial monitoring shall be submitted to the director in care of the CWB immediately. Monitoring shall continue until notification to stop is received from the director. With the approval of the director, on a case by case situation, some protocol requirements such as sampling or sign posting may be waived.

The director shall also be informed of the sampling stations and may modify the number of stations and site selection.

The director may require additional bacterial monitoring by the owner/agent to supplement their existing monitoring program, as may be necessary or appropriate.

9. Reporting

a. When required above, the owner/agent shall submit a written report of the details of the spill within five (5) calendar days of the incident to the director in care of the CWB or WWB as applicable. The director may waive the five day written reporting requirement on a case by case basis provided that the director receives a request for waiver prior to the due date of the report.

The report shall include the date and time of the spill, the amount released, the cause(s) of the spill, location where the spill entered state waters (storm drains, ditches, streams, etc.), clean up efforts, remedial actions to prevent future spills, a summary of the monitoring data, a map of the

sampling locations and public notification procedures if applicable.

b. For spills not reported under section 9.a. and when required above, the owner/agent shall tabulate the following information: the date and time of the spill, the amount released, the cause(s) for the spill, clean up efforts, and remedial actions taken to prevent future spills. The owner/agent shall submit each quarter's tabulation to the WWB within 30 days after the quarter.

10. Modifications by the director

With the approval or under the direction of the director, response requirements may be increased, changed, reduced, or eliminated. For example, the director may require the owner/agent to post additional Warning Signs as needed or may assist in the removal of warning signs.

CHAPTER 11-62 APPENDIX C

FALLING HEAD TEST PROCEDURE

July 1, 2014

A. Preparing Percolation Test Hole(s)
   1. Dig or bore a hole, four to twelve inches in diameter with vertical walls to the approximate depth of the soil absorption system (bottom of trench or bed).
   2. Scratch the side wall and bottom to remove any smeared soil and remove loose material.
   3. Place one inch of coarse sand or gravel on bottom to protect bottom from scouring action when the water is added.

B. Determine Percolation Rate
   1. If soil is mostly clay, go to step D.
   2. Place twelve inches of water in hole and determine time to seep away. Record this time on the site evaluation form.
   3. Repeat step B.2. above. Also record this time on the site evaluation form.
   4. If the time of the second test is less than ten minutes go to step C, if not skip to step D.

C. Sandy (granular) Soils
   1. Establish a fixed reference point, add water to six inches above gravel and measure water level drops every ten minutes for 1 hour.
   2. Use a shorter time interval if first six inches seeps away in ten minutes or less.
   3. After each measurement, the water level is readjusted to the six inch level. At no time during the test is the water level allowed to rise more than the six inches above the gravel.
   4. Record time intervals and water drops on site evaluation form.
   5. Use final water level drop interval to calculate percolation rate. (step F)

D. Other soils (non-granular, e.g. silt, loams and clays)
   1. Maintain at least twelve inches of water in the hole for at least four hours to presoak soil.
   2. Do not remove water remaining after four hours.
   3. Permit soil to swell at least twelve hours. (Dry clayey soils should be soaked and permitted to swell for longer periods to obtain stabilized percolation rates).
   4. After swelling, remove loose material on top of gravel.
   5. Use fixed reference point, adjust water level to six inches above gravel and measure water level drop.
   6. If the first six inches of water seeps away in less than thirty minutes, measure water level drops every ten-minutes and run for one hour.
   7. If the first six inches of water takes longer than thirty minutes to seeps away, use thirty minute time intervals for four hours or until two successive drops do not vary by more than one-sixteenth inch (stabilized rate).
   8. After each measurement, the water level is readjusted to the six inch level. At no time during the test is the water level allowed to rise more than the six inches above the gravel.
   9. Record time intervals and water drops on site evaluation form.
   10. Use final water level drop interval to calculate percolation rate. (step F)

F. Use final drop interval to calculate percolation rate and record on site evaluation form:

$$\frac{\text{Time Interval}}{\text{Water Level Drop}} = \text{Perc rate}$$

CHAPTER 11-62 APPENDIX D - TABLES

TABLE I
July 1, 2014

Type of Establishment	Gallons Per Person Per Day (Unless Otherwise Noted)
Airports (per passenger)	5
Camps:	
Campground with central comfort stations	32
With flush toilets, no showers	25
Construction camps (semi-permanent)	50
Day camps (no meals served)	15
Resort camps (night and day) with limited plumbing	50
Luxury camps	100
Church	
With kitchen	10
Without kitchen	5
Cottages and small dwellings with seasonal occupancy (2 persons per bedroom minimum)	100
Country clubs (per resident member)	100
Country clubs (per non-resident member present)	25
Dentist per chair	200
Doctor per patient	5
Dwelling (2 persons per bedroom minimum)	100
Factories (gallons per person, per shift, exclusive of industrial waste)	35
Hair salons and barber shops,	
Barber shops (per chair)	50
Beauty salons (per chair)	125
Hospitals (per bed space)	250
Hotels with private baths (2 person per bedroom minimum)	100
Institutions other than hospitals (per bed space)	125
Laundries, self-service (per machine)	300
Mobile home parks (per space)	250
Motels with bath, toilet, and kitchen waste (per bed space)	60
Picnic parks (toilets wastes only) (per picnicker)	5
Picnic parks with bathhouses, showers, and flush toilets	50
Restaurants	
Per day per seat	50
Per meal without public restrooms	5
Per meal served with toilets	10
Additional kitchen wastes per take out meals	3
Additional for bars and cocktail lounges, per seat	15
Schools:	
Boarding	100
Day, without gyms, cafeteria, or showers	15
Day, with gyms, cafeteria, and showers	25
Day, with cafeteria, but without gyms or showers	20
Service station (per vehicle served)	10
Swimming pools and bathhouses	10
Theaters:	
Movie (per auditorium seat)	5
Drive-in (per car space)	5
Workers (in addition to above):	
Construction (at semi-permanent camps)	50
Day, at schools and offices (per shift)	20
Employee (per shift)	20

CHAPTER 11-62 APPENDIX D - TABLES

TABLE II
July 1, 2014

Minimum Horizontal Distance From	Cesspool (ft)	Treatment Unit (ft)	Seepage Pit (ft)	Soil Absorption System (ft)
Wall line of any structure or building	5	5	5	5
Property line	9	5	9	5
Stream, the ocean at the shoreline certification, pond, lake, or other surface water body	50	50	50	50
Large trees	10	5	10	10
Treatment unit	5	5	5	5
Seepage pit	18	5	12	5
Cesspool	18	5	18	5
Soil absorption system	5	5	5	5
Potable water sources serving public water systems	1000	500	1000	1000

CHAPTER 11-62 APPENDIX D - TABLES

TABLE III
July 1, 2014

Percolation Rate (min/inch) Less than or equal to	Required Absorption Area (ft2/bedroom or 200 gallons)	Percolation Rate (min/inch) Less than or equal to	Required Absorption Area (ft2/bedroom or 200 gallons)
1	70	31	253
2	85	32	257
3	100	33	260
4	115	34	263
5	125	35	267
6	133	36	270
7	141	37	273
8	149	38	277
9	157	39	280
10	165	40	283
11	170	41	287
12	175	42	290
13	180	43	293
14	185	44	297
15	190	45	300
16	194	46	302
17	198	47	304
18	202	48	306
19	206	49	308
20	210	50	310
21	214	51	312
22	218	52	314
23	222	53	316
24	226	54	318
25	230	55	320
26	234	56	322
27	238	57	324
28	242	58	326
29	246	59	328
30	250	60	330

TABLE IV
July 1, 2014

Pollutant	Pollutant Ceiling Concentration Limit (dry weight basis, mg/kg)
Arsenic	20
Cadmium	15
Chromium	200
Copper	1500
Lead	300
Mercury	10
Molybdenum	25
Nickel	100
Selenium	25
Zinc	2000

TABLE V
July 1, 2014

Amount of Wastewater Sludge (Metric Ton per 365 day period, dry weight basis)	Frequency
Greater than zero but less than 290	Once per year
Equal to or greater than 290 but less than 1500	Once per quarter
Equal to or greater than 1500 but less than 15,000	Once per 60 days
Equal to or greater than 15,000	Once per month
Amount of Wastewater Sludge (English Ton per 365 day period, dry weight basis)	Frequency
Greater than zero but less than 320	Once per year
Equal to or greater than 320 but less than 1650	Once per quarter
Equal to or greater than 1650 but less than 16,500	Once per 60 days
Equal to or greater than 16,500	Once per month

TABLE VI
July 1, 2014

Horizontal Distance From	Feet
Waters of the United States, state waters, the ocean at the vegetation line, or any other surface water body	50
Property line	50
Occupied building or dwelling	500
Potable water source serving public water systems	1000

TABLE VII
July 1, 2014

Pollutant	Pollutant Ceiling Concentration Limit (dry weight basis, mg/kg)
Arsenic	20
Chromium	200
Nickel	100

CHAPTER 11-62 APPENDIX E

CHAPTER 11-62 FORM A
CERTIFICATION FORM - LAND APPLICATION
July 1, 2014

Instructions:

1. Each form must be signed and dated to be valid.
2. The certifier shall print or type his name below the signature line and print or type the certifier's title, if any, where indicated.
3. When the certifier checks a box or fills in a line other than the signature or date lines, the certifier shall initial below the check or the line, unless the certifier uses preprinted versions of the form which delete the boxes and lines which must be initialed.

[ ] For preparers only, I certify, under penalty of law, that:

[ ] 1. The pollutant concentration ceiling limits in Table IV of chapter 11-62, HAR have been met.

[ ] 2. The following pathogen requirements have been met:

[ ] a. The Class A pathogen requirements of §11-62-46(a), HAR, specifically §11-62-46(a) (_____); or

[ ] b. The Class B pathogen requirements of 40 CFR §503.32 (b),specifically §503.32(b) (_____) and notification each land owner and land applier of wastewater sludge which I have prepared, of the spacing and site restrictions in §11-62-43(g), HAR; and the

management requirements in §11-62-43(h), HAR.

[ ] 3. Vector attraction reduction:

[ ] a. One of the vector attraction reduction requirements in 40 CFR §503.33(b) (1) through (8), has been met, specifically §503.33(b) (____); or

[ ] b. I have not met the one of the requirements of 40 CFR §503.33(b) (1) through (b) (8), and I informed the land applier and the owner of the land application site that one of the vector attraction reduction requirements in 40 CFR §503.33(b) (9) or (b) (10) must be met;

[ ] For appliers of wastewater sludge only, I certify, under penalty of law, that:

[ ] 4. One of the vector attraction reduction requirements in 40 CFR §503.33(b) (9) or (b) (10) has been met, specifically §503.33(b) (____);

[ ] 5. The spacing and site restrictions in §11-62-43(g) have been met; and

[ ] 6. The management requirements in §11-62-43(h), HAR have been met.

[ ] For appliers of septage only, I certify, under penalty of law, that:

[ ] 7. One of the pathogen requirements in 40 CFR §503.32(c) (1) or (c) (2) has been met, specifically §503.32(c) (____);

[ ] 8. One of the vector attraction reduction requirements in 40 CFR §503.33(b) (9), (b) (10), or (b) (12) has been met, specifically §503.33(b) (____);

[ ] 9. The spacing and site restrictions in §11-62-44(g), HAR have been met; and

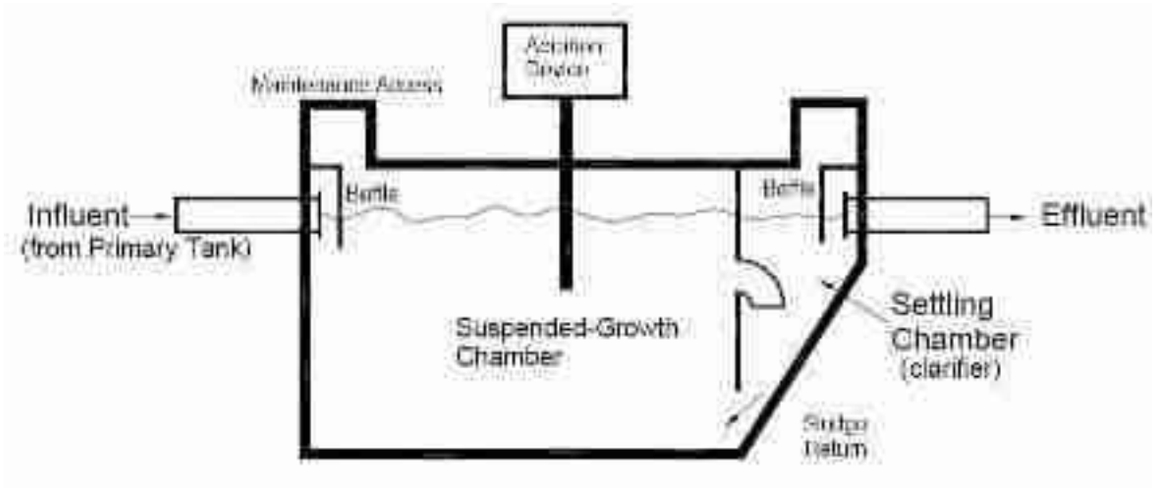
[ ] 10. The management requirements in §11-62-44(h), HAR have been met.

I certify, under penalty of law, that the information that will be used to determine compliance with the foregoing requirements was prepared under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate this information. I am aware that there are significant penalties for false certification including the possibility of fine and imprisonment.

_____ _____

Date Name

Title: _____



AEROBIC Septic System Costs & Aerobic Septic Failure Rates

- POST a QUESTION or READ FAQs about failures & problems in aerobic septic systems

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Aerobic septic system or aerobic treatment unit (ATU) failure rates & repair costs: this article discusses Aerobic Septic System Failure Rates & Costs.

We also provide a MASTER INDEX to this topic, or you can try the page top or bottom SEARCH BOX as a quick way to find information you need.

This website provides designs and products for aerobic septic treatment units (ATUs) for onsite waste disposal, also called fine bubble aeration systems. We address aerobic septic system design, features, inspection, repair, and maintenance. Product sources are also listed.

Aerobic Treatment Unit Failure Rates and ATU Installation & Costs

Failure Rates for Aerobic Septic Systems

Some readers have written expressing concern that they've heard that ATU's have a high failure rate, "as high as 95%".

That number doesn't mean much to me without more specific data, in particular, one would need to know what was meant by "failure" and what was the cause of specific failures of ATUs. Important septic system failures are the failure to adequately treat wastewater or the failure to successfully dispose of it.

ATU Failures due to lack of maintenance: In the study discussed below, while a high failure rate was reported for ATUs (where failure here means the aerobic treatment system was not treating the effluent satisfactorily), the failures were specifically linked to a lack of proper maintenance.

***Every* type of septic treatment system requires periodic maintenance and repair**, and I expect that every septic system eventually fails and needs extensive repair or replacement. So we could put the septic system failure rate at 100%.

What would be more useful would be a statement of the typical operating cost for various alternative septic treatment systems, the typical component life, and the amount and cost of ongoing maintenance that are required.

NESC, in an issue of their Pipelines magazine (Note 1), cited a 1998 survey conducted in West Virginia which looked at Aerobic Treatment Units to evaluate the quality of their effluent discharge. 419 ATUs were tested for TSS (total suspended solids) and BOD5 (5-day biochemical oxygen demand), and 92 percent of the systems were determined to be producing unacceptable effluent discharge.

The main cause of these aerobic septic system treatment unit failures was attributed to poor or improper ATU maintenance. I suspect that homeowners, accustomed to the tradition of inattention to septic systems until they are visibly failed, simply were performing no maintenance at all.

However with proper inspection and maintenance, ATU's can continue to provide effluent which has been treated better than by a conventional septic tank and drainfield.

For example, of the 419 units, only 85 were selected for chemical tests.

Of the 419 units inspected, field inspectors found (by visual inspection) deficiencies in 272 units (65%). 71% of the 85 units selected for testing were found to have deficiencies.

What was particularly remarkable, while 93% of the ATU's with a visually detectable deficiency were producing unacceptable effluent output, more stunning, another 80% of the ATU's with *no apparent deficiencies* by visual inspection, were producing unacceptable effluent discharge! (Op. Cit., p. 43).

Here is a description of the study: "Of the 419 ATUs examined, 85 were sampled for additional laboratory analyses, which included BOD TSS, and fecal coliforms (FC).

Approximately 150 units were tested for chlorine residual and turbidity. The survey was performed by the Environmental Services and Training Division and the Environmental Microbiology Laboratory, both at West Virginia University (WVU), and six county health departments, and with assistance from the West Virginia Bureau of Public Health. The project objectives were to survey existing ATUs for proper operation and maintenance and to determine the chemical and microbiological quality of their effluents."

Installation & Operating Costs for Aerobic Treatment Units ATUs

The NESC cites several obvious components in ATU installation and operating costs. Installation costs for an ATU include the cost of th ATU installation, including excavation and electrical wiring, the cost of construction of the post processing facility such as raised bed or sand bed.

See AEROBIC SEPTIC SYSTEM MAINTENANCE COSTS for details about the actual maintenance or operation costs of aerobic treatment units or ATUs.

Operating costs for aerobic septic systems include electricity for the ATU compressor or air pump, annual inspection and maintenance, usually by contract with the installer, and cost of effluent disinfection if that step is used. One website, www.toolbase.org which has some nice simple summaries of types of septic systems, cites a cost of $3200. to $5000. to install an aerobic treatment unit.

This number cannot possibly be correct for a complete system installation. More likely it is referring to the aerobic treatment unit itself, the tank and aeration system. Add to these the cost of excavation and piping for the sewer line from the building, from the ATU to the absorption system, and the installation of the wastewater absorption system, and you're probably looking at two to three times that number.

It is a bit tricky trying to compare alternative septic system costs.

After all, we choose a particular system because it best fits the limitations of the site. A very limited site that requires installation of an ATU and a raised bed or septic mound system to handle the effluent, such as in a rocky building site in the Northeastern U.S., may involve a total installed cost of $25,000.

This troubling number cannot be compared with the probably lower cost of a conventional septic tank and drain field ($10,000) because the latter simply won't work on the site in question.

What we can say about ATUs is that if regular inspection and maintenance are not performed, the system has a good chance of not working properly.

The cost of electricity to operate the septic aeration system is likely to be trivial, perhaps $4./month. We can also say that the trash tank or primary treatment tank will require more frequent pumping than a conventional septic tank. I expect that septic tank cleaning or tank pumping cost, often $125. to $250. per pumpout depending on location and tank size and effort to access the tank, probably is more significant than the operating cost to supply electrical power to the equipment.

Failures & operating or maintenance difficulties with Aerobic Septic Systems or ATUs

Reader Question: Having an ATU installed, worried.

I am having an ATU unit installed tomorrow. Against my better judgment, but due to wonderful regulations, that was the plan the engineer said we HAVE to have. Total install for a 500 gallon trash tank, 1000 gallon septic tank, ATU, 176 feet of drainfield piping with Q36 equalizer is $18,519. Just in case anyone was wondering. - Steve Woodward 10/4/2011

Reader Question: ATU performance query

Steve, how is your ATU unit working so far? Was this a replacement for a failed system? How many people in household for that size. I'm guessing 5 to 6? Are you in the North and if so did you insulate the unit for winter? How big is your lot? Lastly, did you also have a well?
Thanks,
Dawn2nd 1/14/2012

Reader Question: has trouble getting maintenance on Aerobic Treatment Unit ATU

I HAVE LIVED IN MY HOUSE ONLY ONE AND A HALF YEARS AND I HAVE HAD NOTHING BUT TROUBLE MAINTANCE PEOPLE OUT MONTHLY COSTING ALOT OG MONEY I DO NOT HAVE I THINK THIS THIS THING IS STUPID! - Michelle 4/16/2012

Reply:

Michele, I'm so sorry to read about your difficulty with an aerobic septic system. In fact aerobic treatment units can function to a very hig level of treatment of sewage, but indeed independent research about various types of septic system failures confirms that most often, when there are failures in advanced systems and designs, it's because of lack of or improper maintenance.

We could argue that the problem is you haven't found the right maintenance contractor, and certainly that's what needs your attention.

But it is fair to say that an innate problem with the design of some systems in just about any field (computers to zone valves) is that some designs, by their complexity, have trouble finding people who will install and maintain them properly - it could be lodged as a complaint against the designer as well.

Good design of any system includes making it easy to maintain it.

Reader Question: complaints about ATUs & ATU Aerator pump problems, costs, frequency

Stay away from these units with a 10 foot pole, they may work fine if you have 3 people or less in your household, however, that is not guaranteed. They are not designed for family usage. This is the greatest nightmare of my home purchase from 2006, worse than being underwater on your mortgage.

When it rains your toilets don't flush. You have to have it pumped once or twice a year at at rate of $250.00 each time, also, in Florida, you are required to pay a septic maintenance company $200.00 every year, plus $100.00 for a two year permit from the Health Department. Sooner or later everyone will have to acknowledge these systems are a failure.

Charlotte County, Florida got rid of their mandate that all new residences install these units for a reason.

They were also installing these systems on properties without enough room for a big enough drain field during the housing boom.

Do yourself a favor and stay away from these things.

Concerning the above stating the failure is only due to improper maintenance is simply not true, with all respect! I have lived in my home with an ATU since 2006, it has been a pure nightmare, waiting for my county to sewer up my street, slowly they will get to me.

Older septic systems last much longer and do not require so much $$ in maintenance. Either have a sewer or an older septic system, but not an ATU. This was confirmed by the very owner of the septic company that installed my system. She told me they are a life changing headache! - guest 6/27/2012

The aerator pump in my ATU causes so much turbulence in the tank that it stirs the contents in each baffled chamber in the tank and thi causes solid particles to flow into the drain field array. This has caused blockages and back ups which require Roto-Rooter style cleaning at the cost of $535.00 per visit.

Three times in 5 years. ATUs are a design nightmare and any county or municipality which requires them should be investigated.

In my opinion there is not enough bang for your buck here when you consider the prohibitive cost. As far as the purity the ATU is supposed to give, it is way over-rated and is overkill.

The old style systems have been working fine for years. When was the last time that a cholera or dysentery epidemic occurred because of a non-ATU style system? - George Kachmar 6/27/2012

Reply:

Guest, and George, thanks for sharing your views about Aerobic septic treatment units. Reports of actual user experience are very very valuable as they bring "real world" considerations and experience in to balance with "theory".

Aerobic treatment units are very widely used in some areas, such as parts of Texas. I imagine that perhaps where there are many users there are more competent experienced service companies and people's use experience may be better.

Our own research finds that studies show that ATU systems can work to a high level of treatment - in the 90% range compared with 40% treatment in a conventional septic tank; but frequent failures of the system occur, usually traced to lack of proper maintenance.

My OPINION is that any product or system that relies on installers or users to do something that most people are not going to do is, at the end of the day, not the best design. We have to design buildings and mechanical systems for what people are going to do (or not do), not what they should do.

Reader Question: Trouble with Clearstream ATU installed in Florida

I built my home in 2007 . I too have the nightmare known as ATU . The builders advice was to get a Clearstream ATU . One of the WORST mistakes I have ever made in my life . The pump only lasted 3 years .

I have already had a circuit board go bad and now the filter housing is cracked . We also have to pay a permit fee with the state and a maintenance contract which also is expensive . Along with that is the hassle of dealing with the Health Department SURPRISE inspections .

THIS IS NOTHING BUT A DISASTER . PLEASE STAY AWAY FROM THESE SYSTEMS AT ALL COST ! - Alan 3/21/2013

Reply:

Alan, thank you for the report of your experience with Clearstream ATUs. Indeed surveys of septic system failures that focused on aerobic treatment units found a high failure rate, but asserted that the problem was lack of maintenance or owners not following the manufacturer's instructions.

Of course if a product is designed to require maintenance that people are going to find burdensome or costly that design might be itself questioned.

Given that Clearstream will perform inspection and basic maintenance for the first two years at no charge, there wouldn't be much excuse for not having had maintenance performed and in turn I'd speculate that therefore the warranty should apply.

In the Clearstream ATU instance, can you tell us what was your experience when you went to the company to ask for assistance or advice?

If you have not done so, you can contact Clearstream, a Texas company, by calling them direct at 800-586-3656 or by writing to Clearstream at Clearstream Wastewater Systems, Inc.
4899 US Hwy 69 South
Lumberton, Texas 77657.

At AEROBIC ATU SEPTIC MAINTENANCE PROCEDURES we quote Clearstream's List of Aerobic Treatment Unit ATU Maintenance Requirements & Schedule. Can you give us any details on how working on each of these was easy or difficult?

Also see AEROBIC SEPTIC SYSTEM MAINTENANCE COSTS

Reader Question: I have been told I need an expensive aerobic septic system. Can I build my own for less cost?

I have a question about aerobic system. I've purchased land and now I have learned that I need aerobic system. I found out this system is very expensive. I am handy and can do some work on my own... I wander if there is anyway I can have alternative system like that fo less?
Rob 7/15/11

(June 5, 2014) Ryan said:

I am exploring A.T.U. septic systems. Currently I have a design for a raised bed system and would like to eliminate or significantly reduc the field size by implementing an alternative. This project is new construction and has been determined to have bedrock at 17" (site#1) and 23" (site#2).

Reply:

The cost of installing an aerobic system may be at least as much in the excavation as in the equipment itself; While I agree that there ar septic system "add-ons" that add an aeration feature to an existing septic tank to increase the treatment level, but unless it's a multi compartment tank that can handle the increased agitation of sewage in the main tank (caused by the aerator) I think your results may not be nearly as good as you'd hope, and without some extra steps (filtration, settling chambers) you risk ruining the drainfield.

Furthermore, if you are being told that you already need a new system, chances are your drainfield is already shot; I'm not clear where you would save by a system that went only part-way to what you are being told is needed.

Reader Question: repeated pump-outs of our aerobic system and still it's not working

(Aug 23, 2014) Anonymous said:
Our aerobic system has been pumped out twice in the last four months at acost of over a thousand dollars.

It has filled up again after only two weeks

Between a service contract costing a thousand dollars a year and biannual permit of three hundred plu and service calls we are at our wits end

we cannot afford this system it has milked us dry and is still not functioning why are we having somuch trouble with it

Reply: bad septic systems versus bad septic system maintenance: an important distinction

Anon: what's milking you dry is not the concept of an aerobic septic system it's improper maintenance.

Anon

Pumping a septic tank so frequently tells me that most likely your effluent disposal system is not working, you're seeing slow drains or sewage backups and are making the mistake of thinking that pumping the tank is fixing something. It's not fixing anything except helping your septic pumping company's owner pay for his son's bar-mitzvah.

You need an aerobic septic system designer, engineer, or installation contractor - one who actually understands how your type of aerob system is designed and works - to inspect and diagnose what's wrong. I can't guess if it's a problem with an aerator pump, spray dispersant of effluent, or something else.

A septic tank is normally always "full" of sewage or wastewater; clarified effluent leaves the tank to go to a disposal field or for some aerobic systems to a spray system that distributes treated effluent as a surface spray to irrigate a lawn or grassy area.

Pumping at regular intervals is needed to remove built-up sludge.

See SEPTIC TANK PUMPING SCHEDULE

But pumping a septic tank won't fix a failed drainfield, failed effluent pumping or spraying system nor will it fix an aerator that is not aerating or treating the sewage in your septic tank.

Contact your septic system manufacturer to get the right instuctions for the maintenance of the system and compare those with what your service company has been doing.

Question: aerobic septic system motor runs constantaly

(Feb 2, 2014) Brian said:
Should my motor constantly be running and never shut off?

Reply:

Brian, I'm not sure what to answer, as we don't know what equipment you have installed.

But indeed, there are aerobic septic system designs in which the aerator pump is intended to run constantly.

Question: can I move the aerobic septic system?

(Feb 19, 2014) Jeniffer said:
Can an aerobic treatment system be moved once it is installed on my property? I own a 3 bd rm mobile home and the ceptic company placed it right in back of the house. I hate it there. when you go out the back sliding glass door it is about 6 ft from the house.

The company also broke their back hoe digging the hole so they used my calechie for my driveway to just cover up the ceptic creating a small hill. What are my options?

Reply:

Jennifer, with apology for sounding a bit glib, you can do anything in construction - the question is what will that cost and is it worth it. If you are bothered only by appearance, some grading, seeding, etc. may be what's needed. If the system was not properly installed, then the installer should be on the hook to fix it. Have you asked for an inspection by your local health department?

Question: space required for an aerobic septic system

(Sept 20, 2014) Joe said:
How much land is needed to install? We have a 45' x 100' lot with lots of trees.

Reply:

Joe the answer to amount of land necessary for a septic leach field depends on the type of septic design, soil properties including

percolation rate, terrain shape, wastewater load volume, and local property setback requirements as well as other required clearance distances. So a single answer wouldiim sorry to say, not mean much.

Question: convert aerobic to conventional septic system to avoid pumpouts

(Dec 25, 2014) Frank said:
My aerobic system is full of problems. It has to be pumped out every two years. If a septic system has to be pumped out, then it doesn't work.

I've had traditional systems for 20 years that HAVE NEVER HAD TO BE PUMPED OUT. I am planning on converting my aerobic system to a conventional system and just use the existing aerobic tank. Does anyone know if this is possible?

Reply:

Frank all types of septic systems need periodic cleaning;

See SEPTIC TANK PUMPING REASONS

and

see SEPTIC TANK PUMPING SCHEDULE

It is unlikely that you could simply turn off your aerator on an aerobic system and treat it as a conventional septic: the level of treatment and disposal of effluent would be inadequate.

...

Continue reading at AEROBIC ATU FINAL TREATMENT or select a topic from closely-related articles below, or see our complete INDEX to RELATED ARTICLES below.

Or see AEROBIC SEPTIC SYSTEMS, ATUs - home page for Aerobic Septic Systems

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(Dec 3, 2018) **Sean McDonnell** said:

I would like to share my multi-flo ATU. nightmare with everyone. I bought a 3780 sq. ft. 5 bedroom 3.5 bath home in 2016. The home has a multi-flo ATU septic system. I was told this was a great system and such by the inspector and I even paid a company to educate me somewhat on maintaining the system.

After moving into our home we had multiple system failures within weeks mainly because nothing can go into this system other then tp and such without causing problems.
The system we have has only 2 compartments and no trash tank to hold any debris that cannot be processed. I learned this very quickly after pulling baby wipes out of the aerator pump every week for months.

These baby wipes caused the aerator to fail. The replacement aerator was over $500! Then due to the pump failure the filter socks needed to be cleaned twice which is an absolutely foul task. To make matters worse the effluent pump failed within weeks of the aerator pump to the tune of $700. The filter socks have needed cleaning 3 times since buying our home. This system should never have been installed without a trash tank for one. And I’m also told the system isnt big enough for the size of our family. Are you freaking serious! This is a 5 bedroom house! The system is designed for a family of 3-4 at best. There should be legislation in place requiring these companies to install systems based on the size of the home because doing anything less is insane. I would advise anyone looking to buy a new home to run as fast as you can away from any home with a multi flo septic system. They are nothing but

trouble and will cost you a fortune financially and add an amazing amount of unwanted stress to your life.

I wish I'd never heard of a multi-flo ATU.
I tell every person I know or meet about these horrible problems I have had with this system, and will continue doing so until I die.
So very sincerely, Sean Mcdonnell
From: Peculiar, MO

(Aug 14, 2018) **danjoefriedman (mod)** said:

Sylvio,

I'm both disappointed to hear the expense and trouble you've had with ClearStream aerobic and also grateful for your field-experience report.

Several of the references we've cited in this article series point out that there is often a high failure rate in alternative septic designs (of which aerobic is one) for which the experts often blame lack of maintenance according to the manufacturer's schedule.

As you report spending $700-$900 a year for maintenance, what were you getting for that? Was the maintenance company in any way certified by ClearStream? Did they appear to know what they were doing? What has your paid maintenance company said about the system breakdowns? What causes were cited?

Those details would also be useful to everyone concerned.

(Aug 14, 2018) **Sylvio** said:

We have a clearstream unit installed in 2008. The system components were constantly breaking. Pumps diaphragm replacement every two to three years at a 300$ rate per repair. 200$ maintenance contract a year. 500$ repair for a sump pump that was installed to pump the effluent in the field. 40$ of electricity a month. It costs about 700$ to 900$ a year to maintain. When you are away on vacation, the alarm starts sounding until your neighbour calls you ir sends you email during your vacation. Breaks down in the middle of the night with this horrible alarm sounding and red light turning on. Finally, 9 years and six months later, the main lid collapsed at the bottom of the tank, pulling all systems with it. I am now facing a 12,000$ repair quote (the lowest ine received) with nobody giving me answers of why this happened. It just decided to collapsed during march while my backyard was full of snow. My 50 year old tank is connected to the system, working like a charm. Somebody decided to invent a system where they can suck more money out of consumers...I compare these systems to ink jet printers principles...where the printer cost you more money to operate and buy cartridges than to purchase...if you can stay away from these ..:do so...it will suck money out of your retirement funds..

(Nov 29, 2016) **TV** said:

Hello, would anyone know how much it would cost to set up on-site treatment (aerobic/anaerobic) for a brewery which discharges approximately 2000 cubic metres of waste water in a year?

(Nov 29, 2016) **Anonymous** said:

My alarm on my arobi csystem is going off. It says failed air compressor. How expensive to repair

(May 15, 2016) **danjoefriedman (mod)** said:

Matt:

To provide a detailed answer with illustrations and citations we've moved your question and our reply to this article:

BAT MEDIA SEPTIC PLANTS found at inspectapedia.com/septic/BAT_Septic_Media_Systems.php

(May 15, 2016) **danjoefriedman (mod)** said:

Noting for other readers that "Bat" refers to "biologically accelerated treatment"

(May 15, 2016) **danjoefriedman (mod)** said:

Re-posting without link (security)

Matt said:
Sorry, I am referring to the baffles that are on the walls of the aeration tank.

See Jet Inc.'s 1500 Series Bat(R) Media Plants with Model 952 UV Owners' Manual

I am being told if that tank is pumped out those baffles could fall in leaving the company that is pumping tank liable for the repair.

Meaning they would have to dig up tank to repair. I was told this is a defect in the design of this "Jet 1500 Series Bat Media Plant" system. I was trying to research to see if this is true. I have to question if there is truly a design flaw, would there not be information somewhere on what is required to fix it? Would there not be some sort of warranty for a 6 year old system? Or, am I being fooled by the company I called out to pump my system?

(May 14, 2016) **Matt** said:

I have Jet 1500 Series Bat Media Plant. Was told by guy pumping tank that they wont pump tank with aerator because bat's fall in and its a defect in system. Is this true?

(Feb 19, 2016) **danjoefriedman (mod)** said: 1

If you turn off the aerator on an aerobic septic system you will destroy your drainfield, risk sewage backup into the home, and probably violate local regulations. IF the system is not working as designed it is not treating the sewage and thus is contaminating the environment, starting at your own property. Best to leave it on.

(Showing 1 to 10)

Technical Reviewers & References

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Living with an Aerobic Treatment Unit and Spray Field

Bruce J. Lesikar, Diane Bowen, Justin Mechell, and Ryan Gerlich*

If you own an aerobic treatment unit and spray field, you are required by law to make sure that your system is treating wastewater adequately.

To do this, you can either contract with a company to conduct the required system inspections, wastewater tests, and report completion and submittal to local governmental agencies, or you can do the work yourself.

For both options, you'll need to know the components of your wastewater system and understand how they work. Basic information about aerobic systems is given in these Texas AgriLife Extension Service *Onsite Wastewater Treatment Systems* series:

- *Aerobic Treatment Unit*
- *Tablet Chlorination*
- *Liquid Chlorination*
- *Ultraviolet Light Disinfection*
- *Pump Tank*
- *Spray Distribution System*

These publications are available on the Web at https://agrilifebookstore.org/.

You also need to know the basics of aerobic systems inspection and their maintenance. For information on general onsite wastewater treatment systems, see Extension publications *Onsite Wastewater Treatment Systems: Operation and Maintenance* and *Understanding and Maintaining Your Septic System.*

And unless you don't mind repairing and replacing it often or having system backups, you'll need to adopt household practices that will protect and prolong the life of your system.

Performing the work yourself

An advantage of doing the inspecting, testing, and reporting work is saving money. You also can be certain that the work has been done properly and the reports are filed on time. However, if you conduct the work yourself, you will need to:

- Get informed. To maintain an aerobic onsite wastewater treatment system properly, you must have extensive knowledge. This knowledge can help prevent injury to yourself, other people, the system components, and the environment. Obtain the manufacturer's literature describing system components and the particular maintenance practices from the company's Web site. For a list of courses for maintenance providers on maintaining aerobic systems, see the Texas Commission on Environmental Quality (TCEQ) Web site at http://www.tceq.state.tx.us. For a listing of courses offered through the Texas AgriLife Extension Service, see the Wastewater Treatment and Reuse Web site at http://ossf.tamu.edu.

*Extension Agricultural Engineer for Biological and Agricultural Engineering, Editor and Extension Communications Specialist, Extension Program Specialist and Extension Assistant, The Texas A&M University System

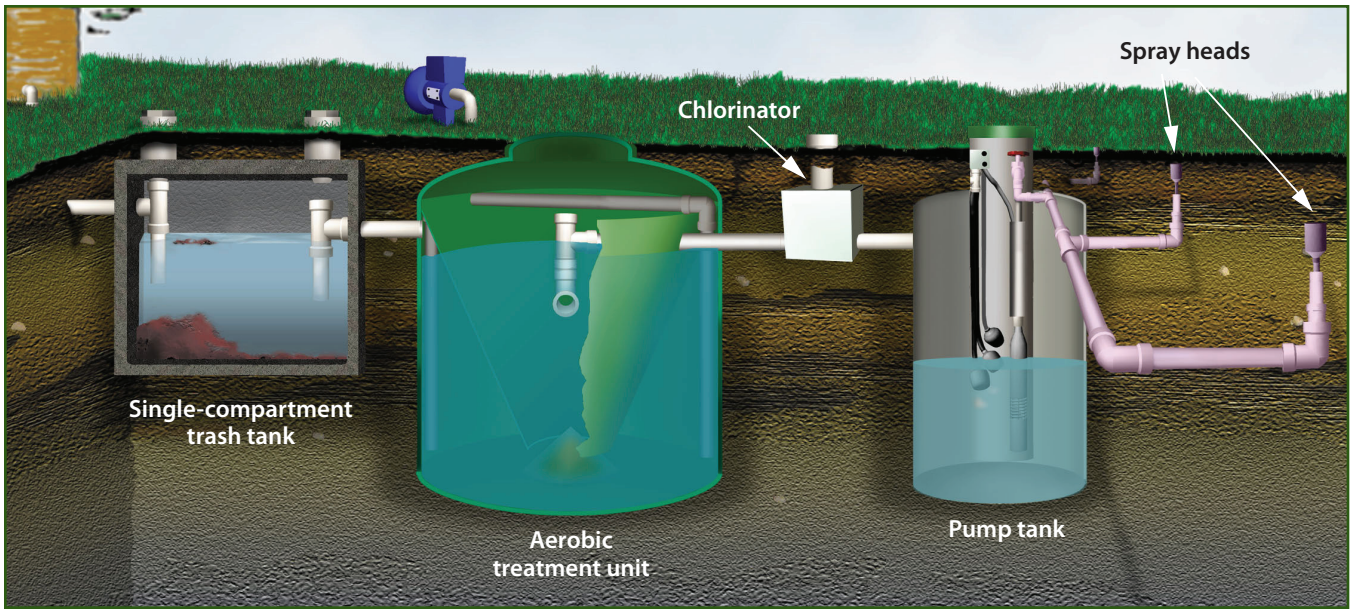

Figure 1. Example treatment train for residential aerobic wastewater treatment with a spray field.

- Know and abide by all state and any local requirements for wastewater quality, testing, and reporting.
- Inspect the system at specified intervals, usually once every 4 months, to check its operation and perform routine maintenance.
- Wear protective clothing—such as rubber gloves, and safety glasses, goggles, or face shields—during the inspection and testing activities.
- Observe stringent personal hygiene practices.
- Be adequately vaccinated against diphtheria, hepatitis B, and tetanus. Also consider protecting yourself from hepatitis A, paratyphoid, polio, and typhoid fever.
- Collect and handle the wastewater samples properly.
- Conduct tests on the wastewater.
- Submit a report on each inspection to the local authorized agent.
- Take measures to avoid illness and accidents. Common hazards associated with onsite wastewater treatment systems include disease-causing microorganisms, electrical shock, insects and animals, poisonous or explosive gases, exposure to sewage through cuts and abrasions, and confined space entry. This work increases your risk of sickness, physical injury, or death.
- Keep records on the system performance and your service activities.
- Recognize the tasks that should be left to professionals to make sure that the job is performed correctly and that you do not subject your family to undue health risks.
- Know local service providers who can handle the tasks you are not trained to perform.
- Acquire sampling and testing equipment such as a chlorine DPD field test kit, profile probe (Sludge Judge®), dissolved oxygen test kit, pressure gauge, and a graduated container for solids sampling tests.
- Keep on hand any manufacturer-required specialty tools and parts.
- Have common hand tools such as a cordless drill and bit set, shovel, and wrenches.
- Keep other supplies, such as the permit/as-built plans/specifications, governmental forms, a calculator, the system owner's manual, a flashlight, insect repellent, and a first aid kit.
- Keep on hand the proper disinfectant, such as wastewater chlorine tablets or liquid bleach, to add to the disinfection component.

If you try to carry out maintenance activities that are beyond the scope of your training, the results could include but are not limited to voided warranties, destroyed components, additional problems with the system, higher repair costs, personal injury, and even death.

If you do not maintain the system properly, you could endanger human and environmental health, impair your wastewater system, and incur legal action.

Human health: Because sewage can contain disease-causing microbes, wastewater is a public health concern.

Environmental protection: The EPA has set national guidelines for management of onsite and wastewater treatment systems. The guidelines are posted on the Web at http://cfpub.epa.gov/owm/septic/home.cfm.

System reliability: All system components from the plumbing fixtures in the home to the spray heads in the yard must be functional within expectations.

Legal action: By law, water that leaves your property, either through runoff or by seepage into the ground, must meet certain quality standards as demonstrated by laboratory tests. If your wastewater treatment system is not maintained properly, the water will not be treated enough, and you may be subject to fines.

Contracting with a maintenance provider

The advantages of contracting with a maintenance provider include saving you time, eliminating the hassle of maintaining the system yourself, and sparing you the cost of replacing a system prematurely because it was not properly maintained. It can also ensure that reports to the government are filed properly and on time.

The disadvantages include the costs and the oversight of activities provided by the maintenance provider.

If you contract with a maintenance provider, you will need to:

- Research local maintenance providers that provide this service.
- Understand the terms used in on-site wastewater system maintenance contracts.
- Know the kinds of contracts available. A basic monitoring contract meets the state's minimum requirement but requires more maintenance activities by the homeowner. Other contracts offer more service and limit the homeowner's involvement in the operation, maintenance, and monitoring of the system.
- Choose the amount of work you want to do, if any, and make sure the contract states clearly who is responsible—you or the maintenance provider—for performing the different tasks.
- Evaluate the maintenance contract. Know exactly what services you are paying for and what is included in the base price of the contract. Basic information on evaluating service contracts is available in the Extension publication, *Onsite Wastewater Treatment Systems: Homeowner's Guide to Evaluating Service Contracts.*
- Pay attention to the work being done to ensure that you're getting what you're paying for.

Understanding your system

All water, including wastewater, is part of the hydrologic cycle (Fig. 2). After the effluent is dispersed from a wastewater system, it eventually joins ground or surface water, both of which are used as sources of drinking water. Because of this cycle, the water must be treated properly to protect human and environmental health.

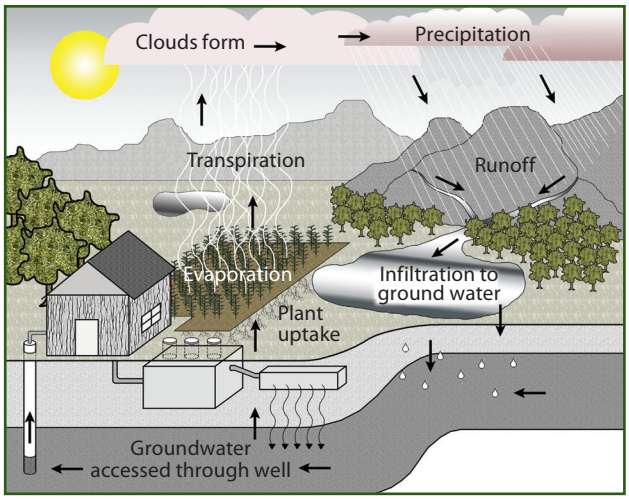

Figure 2. The hydrologic cycle.

Aerobic treatment units can remove substantial amounts of contaminants that are not eliminated by the simple sedimentation that occurs in a septic tank. The aerobic process also breaks down dissolved solids and ammonia and reduces the number of pathogens in the waste.

Aerobic system processes

In onsite wastewater treatment systems, microorganisms convert waste into less harmful substances—water, carbon dioxide, and new cells. Aerobic treatment systems consist of several processes that work together to provide a high-quality effluent:

- **Removal of gross solids (trash):** After the wastewater leaves the house through a pipe, it enters a trash or septic tank, where the solids in the wastewater settle to the bottom or float to the surface.
- **Aeration:** Air is pumped into the aeration chamber of the unit, and the wastewater remains in the chamber long enough to allow the microbes to convert the waste. Aerobic systems must have a continuous supply of oxygen to keep the microbes healthy.
- **Clarification:** The clarifier removes the microbial cells, cell waste, and dead cells from the wastewater.
- **Sludge return:** The solids that settle in the clarifier are returned to a previous component to be treated further.
- **Disinfection:** Systems using spray distribution of effluent include a disinfection unit as part of the treatment system. In the disinfection process, disease-causing organisms are destroyed or inactivated. However, the wastewater is only disinfected, not sterilized (free of all life). The main disinfectants used in aerobic systems are chlorine and ultraviolet light.
  - **Chlorination** is the most common form of disinfection for aerobic systems. In this process, chlorine is added to the wastewater to reduce the number of pathogens in it. The chlorine oxidizes and destroys the cell enzymes of the pathogens. There are two types of chlorinators—tablet chlorinators and liquid chlorinators. Chlorine tablets release chlorine gas. Do not store chlorine tablets in the house, garage or storage areas with metal tools.
  - **Ultraviolet (UV) light** is another disinfectant for wastewater. In this process, a lamp emits UV light into a chamber or zone as wastewater passes through the chamber. The UV light destroys the microorganisms in the effluent by altering their genetic material and retarding their ability to reproduce.

Spray fields

In the final stages of treatment and dispersal, the water is dispersed into the soil. Systems that spray the effluent onto lawns are called spray fields (Fig. 3). For these systems, the effluent must be disinfected to reduce the risk of human exposure to pathogens.

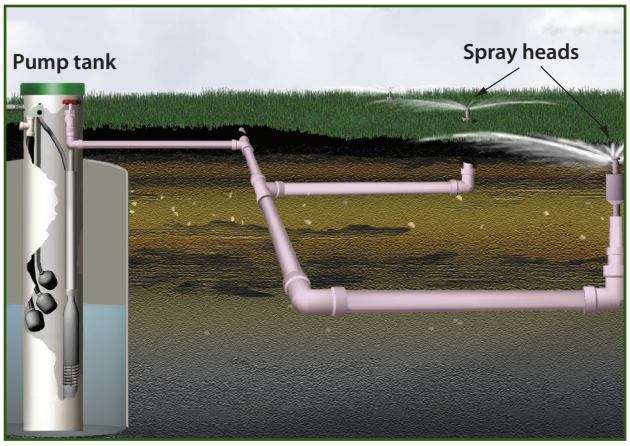

Figure 3. Spray field components.

Although a spray field is like a lawn sprinkler, it should be viewed very differently. The water being distributed is treated wastewater—not drinking water. Residents and pets should avoid contact with it. Texas regulations specifically prohibit effluent from being applied to vegetable gardens because some pathogens are resistant to disinfection.

Selecting an aerobic system size

Each aerobic treatment unit is sized to treat a specific amount of wastewater. Aerobic treatment units are available in a range of sizes, including those able to treat 500, 600, 750, 1,000, and 1,500 gallons per day.

Table 1. Sizing of wastewater aerobic treatment units for single-family residence of various sizes.

Number of bedrooms	Square footage of house	Texas minimum unit capacity (gal/day)	Traditional unit capacity (gal/day)
1 or 2	Less than 1,501	400	450
3	Less than 2,501	400	600
4	Less than 3,501	480	750
5	Less than 4,501	600	900
6	Less than 5,501	720	1,050
7	Less than 7,001	840	1,200
8	Less than 8,501	960	1,350
9	Less than 10,001	1,080	1,500

To select an aerobic unit, first determine the amount of daily wastewater flow from your home or small business.

The rate of daily wastewater flow is based on the home's square footage or number of bedrooms, whichever is larger (Table 1). Then choose a Class I aerobic treatment unit that can handle that amount of flow. The TCEQ maintains a list of Class I aerobic treatment units approved for sale in Texas. These units are listed by company, model number, rated treatment capacity, and requirement for a trash tank in the treatment system.

Water-conserving fixtures can make the wastewater too strong for a system to treat adequately. Therefore, many treatment systems are overloaded organically (too much waste), which requires that the sludge be removed from the systems more often than normal.

Most residential aerobic systems can treat 500 gallons a day or 60 gallons per hour. This assumes that the wastewater contains an amount of organic matter common for homes; it is typically inadequate for businesses.

Protecting and prolonging the life of your system

An onsite wastewater treatment system is designed to treat domestic sewage from a home or similar facility. The wastewater stream should contain only the products of normal activities of a home. If other substances enter the wastewater stream, they may disrupt the system's performance.

The system's ability to treat wastewater is affected by several factors, including the system's capacity, the amount and strength of the wastewater, the timing of the wastewater entering the system, and the types of materials it receives.

Sometimes an aerobic treatment system can meet the minimum state requirement for gallons of wastewater treated per day, but its capacity per hour may be too small for a family's normal activities.

For instance, if a 500-gallon-per-day system can handle only 60 gallons per hour (1 gallon per minute), and a normal clothes washer uses 30 to 40 gallons at a time, the residents may have to curtail other water-using activities when doing laundry.

To alleviate that problem, a flow equalization tank may be placed between the trash tank and the aeration chamber. The tank will hold the wastewater and send it to the aerobic treatment unit at a rate it could handle.

Know your system's capacity. This information should be on the permit or the control panel label for the aerobic treatment unit. If more wastewater enters the system than it was designed to handle, it will not operate as intended.

In addition to the amount of wastewater that the system can treat, the strength of the wastewater the

treatment train can handle is limited. If the wastewater is too strong, it can overload the system, making it unable to meet wastewater quality regulations. Similarly, if the wastewater contains constituents that are toxic to the microorganisms, treatment will be affected.

Recognizing treatment interferences

An aerobic treatment unit needs a regular supply of wastewater. To treat wastewater effectively, the unit needs to maintain a stable population of microbes. Any extreme influxes of wastewater flow or strength will impair the unit's performance.

Your system can be affected by the amount, strength, and timing of the wastewater entering it. These household devices, practices, and products can alter an aerobic system's performance:

- **Water-saving devices** reduce the amount of wastewater, but they also make it stronger, which can prevent the system from meeting the required effluent standards.
- **Whirlpool or jacuzzi tubs** (inside) typically use large amounts of water. Their use will affect the wastewater treatment system by exceeding the hourly flow limit of the treatment unit.
- **Multi-head showers or multiple showers used at the same time** can introduce large volumes of water into the wastewater treatment system. A flow equalization tank and additional treatment capacity are needed to handle the increased amount of wastewater.
- **Water-treatment devices with automatic back flushing** add extra water into the system that can be avoided.
- Some **water-conditioning units** add chemicals into the effluent that can reduce the effectiveness of the biological and physical processes in an aerobic treatment unit. This wastewater stream may need to be plumbed around the treatment tanks to the pump tank.
- **Condensate from air conditioning units** is not sewage. Route it around the system.
- **Commercial ice machines** can also add large amounts of clear water.
- **Laundry** activities greatly affect your wastewater system:
  - **Powdered detergent** can plug cast-iron piping, and some soap contains forms of benzoate as filler. Keep these out of the system to improve its long-term performance.
  - **Bleach additives** can affect the biology of the septic tank and the rest of the system. Do not overuse bleach.
  - The **amount of laundry** done each day is also important. Spread out the loads over time to help the system perform at its best.
- **In-home businesses** can directly affect the system. Use for daycare increases the overall flow and can increase the use of antibacterial soaps. The system can also be affected by other small businesses that use chemicals, such as antique refinishing services, beauty shops, lawn care services, photo labs, dog grooming services, and taxidermy shops. Barbershops typically discharge large amounts of hair.
- **Prescription antibiotics and drugs** are extremely hard on the microbes in the system. Flushing them into the wastewater system increases the maintenance.
- **Heavy use of bath and body oils** can raise the fats, oils, and grease (FOG) values in the system. Removal or reduction of these can improve the performance of the system.
- A **garbage disposal** adds to the overall loading of the system in four ways:
  - More waste enters the treatment system.
  - Because the organic matter has not been digested, it takes longer to break down.
  - More water is used to rinse out the sink.
  - Smaller particles take longer to settle.

  Therefore, people who use garbage disposals at home need a larger system to treat the wastewater and more maintenance activities are required.
- **Toxic drain cleaners** kill the bacteria, resulting in a limited microbial activity in the tank and poor separating characteristics.
- **Antibacterial soap** also affects the biology of the tank.
- **Liquid soap** tends to be easily overused and may create problems in the system.
- **Automatic cleaners (for toilets and showers)** continually send chemicals into the system, which can cause long-term problems.

- **Other cleaning products** may also alter the treatment process. When choosing a cleaning product, first read the label:
  - **Danger** means that the chemical will kill the microbes; use it rarely or never.
  - **Warning** means that limited use should not affect the system much.
  - **Caution** typically means that the product will have little effect on the system.
- **Excessive amounts of toilet paper** cause sludge to build up faster.
- **Treated toilet paper,** such as the type that contains lotion, does not settle well and forms a thick layer of scum at the top of the tank.
- **Other paper products,** such as wet wipes, should not enter the system.
- **Flushable cleaning products,** many wipes and toilet cleaning materials are labeled as "septic safe." This statement typically refers to their ability to flow through the piping. These items will collect in the treatment system and increase the need for maintenance.
- **Trash and nondigestible material** increase the amount of maintenance required and may even shorten the life of the components. Examples are rags, toys, diapers, condoms, cat litter, plastic bags, coffee grounds, cigarette filters, and feminine hygiene products. Many of these items have neutral buoyancy and will pass through the treatment components. Cat litter and coffee grounds add to the sludge that must be pumped out during maintenance. Diapers must be removed individually.

Make a list of the cleaning and antibacterial products used in your home. When using these products, keep in mind that they can have a cumulative effect on the treatment system. If something will harm the microbes in the system, do not send it down the drain.

Returning after vacation

A vacation or extended absence develops a condition of limited food supply in the wastewater treatment system. The microbial population is reduced, which also reduces treatment once the vacationer returns and wastewater addition resumes. Therefore, the wastewater loading should be increased gradually for the first couple of days, which allows the microbial population to grow. Avoid greater than average water usage such as excessive laundry, which can result in lower quality water passing through the system.

Preventing rainwater from overloading the system

An onsite wastewater treatment system is designed to handle a specific volume of wastewater. If rainwater
enters the system, the proper operation can be disrupted.

Water collecting over the components can leak into them. Also, the tanks are installed in an excavation that is backfilled with material that can collect water. If the system is not watertight, the collected water can enter the system and flush sewage through the treatment system and into the yard.

Evaluate these conditions to determine whether rainfall may be affecting the system:

- Look at the ground over the tanks to see if a depression has developed where rainwater could accumulate. Rainwater infiltrating the system can overload the treatment components.
- Evaluate the color and growth of grass around the tank. Excessive growth and darker green color than the other grass in the yard indicates that the tank or piping is broken.
- If the tank has a riser, verify that it is in good condition and properly sealed to prevent infiltration.
- Check the inside of the riser/tank seams for stains that would indicate that groundwater or surface water is entering the tank.
- Evaluate the system performance during rainy periods: Rainwater may be infiltrating the system if there is an unexplained number of dosing cycles or water flow and/or if the spray distribution system is spraying during a rain shower.

Protecting your family and pets

An onsite wastewater treatment system is treating sewage using containers to hold the wastewater, microbes to remove contaminants, electrical components to move air and water and sense water levels, electricity to power the electrical components, and chlorine/UV radiation to disinfect the wastewater. By their nature, these parts and components pose a risk to public health, environmental health, public

safety, and pet safety. If the system components are in areas often visited by your pets and family, greater attention is needed when selecting treatment system components, implementing component safeguards, keeping chlorine disinfectant in the unit, and keeping the components functioning properly, which may include upgrading existing systems.

Reduce these risks by limiting access to these components. Safety practices include installing fencing for components, risers with heavy concrete lids, lighter lids with safety screws, lighter lids with locking mechanisms, lighter lids with internal restrictions to access, and control panels with screws and/or locks.

Use products only in accordance with the instructions on their labels. As the system owner, you are responsible for following these safety practices.

Troubleshooting

Troubleshooting involves identifying and correcting sources of system breakdown. If a component is found to be inoperable during an inspection, troubleshooting is often required to bring it back to into operation. Contact a trained professional maintenance provider to identify and fix the problem.

For more information

A comprehensive guide for homeowners, *Checking My Aerobic System: General Guidance for Monitoring Aerobic Treatment Units, Disinfection Units, and Spray Fields in Texas,* is available at the Texas AgriLife Extension Service Bookstore at https://agrilifebookstore.org. Also available at that site is *Onsite Wastewater Treatment Systems: Responding to Power Outages and Floods.*

Texas Water Resources Institute
make every drop count

This publication was funded, in part, by the Rio Grande Basin Initiative administered by the Texas Water Resources Institute of Texas AgriLife Extension Service, with funds provided through a grant from the National Institute of Food and Agriculture, U.S. Department of Agriculture, under Agreement No. 2009-45049-05492.

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Department of Health, Wastewater Branch
Response to Public Comments on Hawaii Administrative Rule Amendment
Hawaii Administrative Rules, Chapter 11-62, Wastewater Systems,
Published on September 1, 2014

The Hawaii Department of Health (DOH) has proposed changes to its Wastewater Systems rules, Hawaii Administrative Rules (HAR) chapter 11-62. DOH published a notice of opportunity to submit public comments for 30 days beginning on September 1, 2014 (until October 2, 2014), and notice of a public hearing on October 2 at 10:30 a.m. in Honolulu, with videoconferencing connections to the hearing in Lihue, Kauai, Wailuku, Maui, and Hilo, Hawaii Island. DOH received requests for additional time to present comments and so extended the comment period an extra fifteen days until October 17, 2014. In addition, DOH received requests for face-to-face hearings on the neighbor islands. Also, a temporary interruption of the video connection during the October 2, 2014, may have deterred some individuals from the Wailuku and Hilo locations from testifying. In order to ensure that everyone had an opportunity to testify, DOH had five additional face-to-face public meetings and hearings on the neighbor islands: in Lihue, Kauai on October 6, 2014, Kailua-Kona, Hawaii Island on October 9, 2014, Kaunakakai, Molokai on October 10, 2014, Wailuku, Maui on October 15, 2014, and Hilo, Hawaii Island on October 16, 2014. There were a total of 177 individuals that attended the Public Hearings.

The DOH received 248 comments during the comment period, 172 written public comments and 76 oral comments at hearings. In preparing the response to comments, the DOH reviewed and considered all oral and written comments that were received as part of the official public record. Because of the large number of comments and the similar nature of the concerns expressed in many of them, DOH is not providing a detailed response to every comment submitted. Instead, this document attempts to respond first to the issues and concerns raised by the most commenters and then to comments raised by one or more individuals. The DOH's response to comments, copies of all written testimonies, and summarized comments from each of the three (3) public hearings are posted online at the Wastewater Branch website at http://health.hawaii.gov/wwb/. Video recordings of the three (3) public hearings are also available at the Wastewater Branch.

The DOH reached out to various stakeholders during the rule change process. The DOH provided notifications and invitations to meet with State Senators and Representatives, Mayors and Council Members of the various Neighbor Island Counties, and provided informational meetings and public hearings. DOH staff met with Senator Russell E. Ruderman, Hawaii State Senate, 2nd District on September 19, 2014 to discuss concerns of the proposed changes to the residents of the Puna and Ka`u communities that he represents.

The DOH staff met with Maui Mayor Alan Arakawa, Council Chair Gladys Baisa, and other Maui County Department Directors on September 23, 2014, to hear and discuss their concerns about the proposed changes. The DOH staff met with Kauai Mayor Bernard Carvalho, County Engineer Larry Dill, Council Chair Jay Furfaro, and Vice Chair Mason Chock on September 25, 2014, to discuss the County of Kauai concerns and issues. Lastly, DOH staff met with the Hawaii County Managing Director Wally Lau and other Hawaii County Directors on the proposed rule changes on September 26, 2014.

In summary, there were 159 individuals that opposed or expressed concerns about some aspect of the proposed rules, 28 that expressed support and 12 that took no position on the proposed changes. Of the 159 individuals that opposed or expressed concerns about the proposed rules, 131 individuals opposed or expressed concerns about the proposed requirement of upgrading a cesspool upon the sale of a property. Many individuals that provided written and oral testimony were homeowners that felt that their cesspools did not impact the environment because their cesspools were located far above the groundwater table and far from a stream and/or water body. Many of these homeowners felt that they should be exempt from the proposed rules. Provided below is summary of concerns that individuals had regarding this proposal:

1. Cost to upgrade would be a financial hardship for them;
2. The definition of a sale was unclear;
3. There could be potential problems with lenders and financing issues due to the 180 days requirement;
4. The 180 days was too short of a time frame to install a septic tank system; and
5. They had land constraints (small lot, steep slope, no access, blue rock, etc,) with their property that it would make it physically impossible to install a septic tank system. Many requested to be exempt from the proposed rule based on their land constraints.

Another concern that was raised during the public comment period involved the proposal of reducing the number of lots in a subdivision that may use individual wastewater systems (IWSs), as opposed to centralized treatment. DOH proposed to reduce from no more than 50 lots to no more than 15 lots the subdivisions that may use individual wastewater systems instead of centralized treatment (usually a package treatment plant.) There were 35 individuals that opposed or expressed concerns about this proposal. DOH also proposed to eliminate the exemption allowing IWSs (as opposed to centralized treatment) for subdivisions that have more than one acre per lot, which numerous commenters also opposed or expressed concerns about.

The DOH evaluated the comments and decided that some changes should be made to address the concerns from the public. The two main changes DOH

now proposes are to HAR sections 11-62-06(r) and 11-62-31.1(a)(1)(B), respectively, provided below:

Proposed changes to HAR §11-62-06(r):

Cesspool Upgrades

The proposed requirement for upgrading all cesspools with a sewer connection or septic installation within 180 days after home sale:

1. **Comment:** The upgrade requirement is not sufficiently targeted to the cesspools that most affect water quality; cesspools that are far away from the shoreline, streams, and drinking water sources should not have to upgrade. Many cesspools in areas such as inland Puna and upcountry Maui are far from the shoreline, streams, and drinking water sources and should not have to upgrade.

   DOH Response: *DOH is proposing to* ***target the cesspools locations that most affect human health and water quality****: those near a public drinking water well, and those within 750 feet of the shoreline, a perennial stream or a marsh. 750 feet is appropriate given the data on average groundwater time of travel and die-off of longer lived pathogens such as salmonella and fecal strep. DOH data indicate that there are approximately 2,551 cesspools in a Zone B contribution area near a public drinking water well, 6,896 within 750 feet of the shoreline, 11,536 within 750 feet of a perennial stream, and 657 within 750 feet of a marsh, for a* ***total of 19,793 cesspools*** *that would need to upgrade after sale.*

   This represents a ***78% reduction*** *from the original proposed requirement that all of the approximately 88,000 cesspools statewide must upgrade on sale.*

2. **Comment:** The upgrade requirement would present a financial hardship to many homeowners.

   DOH Response: *As noted above, DOH is substantially reducing the number of cesspools that would have to upgrade. In addition, DOH will make available a direct loan and grant program to offer zero interest loans and grants through its Drinking Water State Revolving Fund (for cesspools in the Zone B near a public drinking water well) and Water Pollution Control Revolving Fund (for cesspools near waters or shoreline) to assist homeowners having*

to upgrade their cesspools. The DOH anticipates that it will take approximately six to eight months to establish a direct loan program to assist homeowners who have to upgrade their cesspools.

3. **Comment:** Upgrading is infeasible for many owners because of the lot size (limited space), typography (steep slope), soils (blue rock) and access issues (difficulty getting in equipment).

   DOH Response: *DOH will, at the director's discretion, allow exemptions for homeowners who present documentation showing that it is not feasible to upgrade for legitimate reasons.*

4. **Comment:** The requirement to upgrade within 180 days is too short; obtaining a permit for a sewer connection or installing an approved septic system may not be feasible in six months.

   DOH Response: *DOH will revise the proposed rule to allow one year from sale for upgrading the cesspool.*

5. **Comment:** DOH should clarify that cesspool upgrades do not apply to transfers as opposed to sales, particularly where there is no money exchanged for transfers intra-family and for kuleana properties.

   DOH Response: *DOH is clarifying that cesspool upgrades do not apply to transfers as opposed to sales, particularly where there is no money exchanged for transfers intra-family or for kuleana properties.*

HAR § 11- 62- 06(r) will be revised to read as follows:

(r) Upon sale of any building served by an existing cesspool that, as designated by DOH, is within the Zone B (two-year groundwater capture area) for a public drinking water well, or within 750 feet of the shoreline, a perennial stream or a marsh, the building, no later than 365 days after ownership transfer, shall be connected to a sewer or, where a sewer connection is not feasible, the cesspool shall be replaced with a new wastewater system, other than a cesspool, that meets the applicable requirements of Subchapter 3 of this rule. The director may, in the sole exercise of her discretion, grant exemptions from the upgrade requirement for homeowners who present documentation showing that, for legitimate reasons such as no proximate sewer and a small lot, steep topography, or no equipment access, it is not feasible to upgrade.

HAR § 11-62-31.1(a)(1)(B):

DOH proposed to reduce from no more than 50 lots to no more than15 lots the exemption allowing subdivisions to use IWSs instead of centralized wastewater treatment plant (usually a package treatment plant.) DOH also proposed to eliminate the exemption for subdivisions that have more than one acre per lot to allow the use of IWSs. The proposed rule would require a subdivision with more than 15 lots greater than an acre in size to install a package treatment plant, even if the average lot is greater than an acre in size.

Comment: Requiring smaller subdivisions to install centralized treatment presents a financial hardship, would be bad for the real estate market and affordable housing in rural areas, and may not be good environmentally.

DOH Response: *DOH will not change the proposal to reduce from no more than 50 lots to 15 lots for new proposed subdivisions to use individual wastewater systems, which is consistent with the existing 15,000 gallons per day limit for commercial projects. Data show upfront costs are not substantially higher for the installation of package wastewater treatment systems than for installing IWSs to serve all of the lots.*

DOH will, however, withdraw the proposed change to the other exemption retaining the greater than one acre exemption that is in the existing rules, since larger lots have less concentrated waste impact and higher piping costs.

Provided below are DOH's responses to other comments that were received during the public comment period.

Rationale for Proposed Revisions for HAR §11- 62:

Comment: Not evident in the revised document is the reference to HAR §11- 62-03 on page 7 proposing to clarify the definition of Individual Wastewater Systems by listing the common types of systems and noting the possibility of a variance for an individual wastewater system designed to receive and dispose of more than one thousand gallons per day of domestic water.

DOH Response: *The DOH acknowledges that the rationale did not correctly describe the proposed change. The statement referring to the variance will be omitted from the proposed rationale.*

The definition of an individual wastewater system was revised to clarify the common types of systems that may be used. The current definition of an individual wastewater system is ambiguous and required additional clarification.

HAR § 11- 62-03 – Definitions:

1. **Comment:** The definition of "aerobic treatment unit" should be included in this section.

   DOH response: *The DOH acknowledges your comment and intends to propose including the definition of an "aerobic treatment unit" in our next proposed revision to chapter 11-62.*

2. **Comment:** Proposed Section 11-62-03, definition of individual wastewater system – Item (2) under this definition should read "Greater than one thousand gallons per day of domestic wastewater from buildings with highly variable flows."

   DOH Response*: The DOH concurs with the comment and will incorporate the proposed recommended change.*

HAR § 11-62-03 Definitions -"Seepage Pit" and " Subsurface Disposal System":

1. **Comment:** As "gradual" is undefined, recommend that wording be revised similar to §11-62-34(d)(1)(B) to the following: " that allows gradual seepage of effluent into the ground which does not result in contamination of water-bearing formations or surface water."

   DOH Response: *The DOH concurs with comment and will incorporate the proposed recommended change.*

2. **Comment:** Delete "injection well" from " Subsurface Disposal System" as there are existing deep injection wells which discharge directly into groundwater which would not meet the criteria of" gradual seepage" into the ground.

   DOH Response: *The DOH concurs with comment and will incorporate the proposed recommended change and revise §11-62-25(d) to include injection wells because it would have been excluded due to the change made to the definition of "Surface Disposal System."*

HAR §11-62-05:

Comment: We also urge you to reconsider your proposed change to Section 11-62-05 which states that all areas of the State to be critical wastewater disposal areas. The definition given for Critical Wastewater Disposal Area is Critical Water Disposal Area (CWDA) "means an area where the disposal of wastewater has or may cause adverse effects on human health or the environment due to existing hydro-geological conditions".

DOH Response: *The DOH believes that the entire State of Hawaii should be considered CWDA. In 1991, CWDA committees were formed in all four counties. In 1991, the Counties of Kauai and Oahu declared themselves as CWDA. The other Counties all agreed that the entire state, including the County of Hawaii would be declared as a CWDA by 2000. Cesspools are detrimental to public health and the environment. The County of Hawaii has nearly 50,000 cesspools today. Approximately 800 new cesspools are added each year. To protect public health and the environment, the practice of allowing the construction of new cesspools needs to stop. Public comments in the comment period supported banning the construction of new cesspools.*

HAR §11- 62- 06(d), Operation and Maintenance:

1. **Comment:** Delete "Effluent testing shall be performed by an independent laboratory." as most counties have laboratories which perform testing of wastewater. Possible revision would be "Effluent testing shall be performed by qualified personnel."

2. **Comment:** Revise 11-62-06(d) as follows: Effluent testing for private wastewater systems shall be performed by an independent laboratory.

3. **Comment:** Finally, the County recommends that the proposed provision of Section 11 -62 - 06 (d) that requires "Effluent testing shall be performed by an independent laboratory." should either be eliminated or modified to reflect that County wastewater laboratories may provide effluent testing for constituents approved by the Director. The County typically uses contracted laboratories for most of our effluent testing programs, however there are several constituents, including BOD, TSS, coliform and other constituents that are far more practical to test in-house, and County wastewater laboratories are subject to periodic audit by the Department of Health for quality assurance purposes. Particularly on Kauai where

there are no independent laboratories, a requirement to use an independent laboratory would create logistical and quality control problems for constituents that require rapid analysis.

DOH Response: *The DOH agrees that County and Federal government agencies have qualified laboratory staff to perform effluent testing analysis. Therefore, the DOH will revise HAR § 11-62- 06(d) to read as follows:*

Effluent testing for private wastewater treatment plants shall be performed by an independent laboratory.

HAR § 11- 62- 06(h):

Comment: Recently, my parent had issues with their septic tank system and realized that the system was not constructed correctly per the Department of Health approved plans. The contractor should be held liable for not constructing wastewater systems in accordance with the plans. The rule should not change and the initiation of enforcement action should apply to other persons such a contractor.

DOH Response: *The DOH concurs with your comment and will retain the prior rule except to add after "In case of a violation of this chapter, the director" the words "at the director's discretion …."*

HAR § 11- 62- 06(l):

Comment: 11-62-06(m): Suggest consistency with local building code.

DOH Response: *The section should be 11-62-06(l) instead of 11-62-06(m) as noted in the comment. The DOH concurs with the comment and has decided to withdraw the proposed change and retain the current language.*

HAR § 11- 62- 06(m):

1. **Comment:** 11-62-06(n): Provide additional rationale and/or complete proposed section for "when a wastewater system should be upgraded." All deficiencies currently identified to be satisfactorily addressed or will new language be inserted?

   DOH Response: *The section should be 11-62-06(m) instead of 11-62-06(n) as noted in the comment. The DOH believes that the language provided is adequate. The DOH has found that*

wastewater characteristics vary based on proposed use. It would be difficult to categorize wastewater treatment design requirements in a one size fits all scenario. It would be difficult to determine what type of treatment will be required until the wastewater is properly identified and characterized. Therefore, the DOH will evaluate each system on a case-by-case basis.

2. **Comment:** Requiring the owner of a commercial or shopping center to upgrade their wastewater system when they have a new tenant that opens a restaurant.

   DOH Response: *The DOH may require an upgrade if it is determined that the wastewater characteristics and flow will change with the proposed use. Restaurants typically generate high fats, oil and grease and high volume of wastewater flows. The DOH has seen failures of wastewater systems because the existing systems could not adequately treat the wastewater due to its high organic and hydraulic loading to the system. This new requirement to upgrade may prevent future failures and eliminate wastewater spills that affect public health and safety and the environment, and so DOH will not revise this proposal.*

3. **Comment:** Section 11-62-06(m, proposed lettering) – The modifications to this section are overreaching and provide the Director power that is too broad regarding upgrading all types of wastewater systems. Language should be inserted that qualifies when an upgrade is required or not required based on analysis submitted by a qualified licensed engineer.

   DOH Response: *The DOH believes that the language provided is adequate. The Director currently has the authority to approve the use of all wastewater systems. The Director should also have the authority to require an upgrade when it is necessary based on the change of wastewater characteristics and hydraulic flow. The DOH will evaluate each wastewater system on a case by case basis and may take the recommendation from a qualified licensed engineer into consideration when making the decision for requiring an upgrade, but the Director should not be bound by an engineer's recommendation.*

4. **Comment:** Imposing wastewater upgrade requirements at the discretion of the Director as conditions of building modification permits may be overly broad. It would be reasonable to require a wastewater upgrade if the proposed new use and that requires the building modification permit substantially increases the cumulative development's wastewater production or degrades the quality of the

wastewater. As worded, a building modification that results in the same or reduced wastewater production may still, at the Director's discretion require an upgrade. Triggers identified in Section 11-62-06(m)(1)(2)(3) and (4) give reasonable and clear justifications as to why a wastewater upgrade would be necessary as condition of a building permit.

DOH response: *The DOH believes that the language provided is adequate. The DOH will evaluate each system on a case-by-case basis. The DOH has found that wastewater characteristic varies based on a proposed use. It would be difficult to categorize wastewater treatment design requirements in a one size fits all scenario. It would be difficult to determine what type of treatment will be required until the wastewater is properly identified and characterized with the intended use.*

HAR § 11-62-07.1(d);

Comment: This section currently reads, "In determining treatment requirements for the non-domestic wastewater shall use requirements for non-domestic wastewater, the director as set forth by EPA, 40 CFR 257, subchapter 4, the Reuse Guidelines, and the Animal Waste Guidelines." There appears to be a typographical error in the re-drafting of this provision, as it is not coherent as written.

DOH Response: *The DOH concurs with the comment and will revise as follows:*

In determining treatment requirements for the non-domestic wastewater, the director shall consider requirements for non-domestic wastewater, as set forth by EPA, 40 CFR 257, the Reuse Guidelines, and the Animal Waste Guidelines.

HAR § 11- 62- 08(d)(1):

1. **Comment:** Revise 11-62-08(d)(1) as follows:

   Fencing or other secured enclosures at least six feet in height with no more than three and a half inch clear openings or spaces for treatment units, or equivalent acceptable security, with exposed water surfaces or equipment;

   DOH Response: *The DOH does not agree with this comment because the proposed language is too broad and not specific. DOH will not change its proposal.*

2. **Comment:** Your rationale states “Would require public access to info on applications for approval to use IWS so public can know when and where use is sought.” What does this mean?

DOH Response: *This statement was mistakenly included in the rationale. The rationale will be revised without this statement.*

HAR § 11-62-23. 1, One year Certification:

Comment: Replace "owner's engineer" with "Engineer of Record" as municipalities would typically have engineers and the intent is for the design engineer to provide the evaluation and to determine corrective actions required.

DOH Response: *The DOH will not make this change in these proposed rules, but intends to consider revising this in the next proposed rule revision. There are other areas in the rules that refer to the “owner’s engineer”.*

HAR § 11-62-25(b):

Comment: What restrictions on the use of seepage pits are proposed?

DOH Response: *Seepage pits should only be used for individual waste systems that receive flows of less than 1,000 gallons per day. Seepage pits that receive flows greater than 1,000 gallons per day instead should be considered for permitting under the Underground Injection Control Program as an injection well as defined in chapter 11-23.*

HAR § 11-62-25(d):

Comment: Delete "injection well" from " Subsurface Disposal System" as there are existing deep injection wells which discharge directly into groundwater which would not meet the criteria of" gradual seepage" into the ground.

DOH Response: *The DOH concurs with comment and will incorporate the proposed recommended change. and revise §11-62-26(d) to include injection wells because it would have been excluded due to the change made to the definition of “Surface Disposal System.” §11-62-25(d) shall be revised as follows:*

(d) All wastewater subsurface effluent disposal systems and injection wells shall include provisions for purging and chemical “shock loading”.

HAR § 11-62-26:

1. **Comment:** What additional reporting requirements are proposed?

   DOH Response: *Owners or authorized agents shall submit suspended solids and BOD_5 lab data to the director no later than thirty days after the last day of June and December.*

2. **Comment:** The Department proposed to revise HAR Section 11-62-26 to clarify that wastewater effluent requirements, recycled water quality, and monitoring and reporting requirements are applicable to treatment works treating all wastewater regulated under the rule, not just domestic wastewater. The effluent standards outlined in this section are based on secondary wastewater treatment standards for wastewater discharges and are neither appropriate for, nor achieveable by, non-domestic wastewater irrigation systems such as those utilized by farms and farm product processing facilities. Such systems are currently required under Section 11-62-06(d) to meeting specific requirements of the chapter as determined, on a case-by-case basis, to be applicable by the director, and would continue to be subjected to these same requirements under the proposed new Section 11-62-07.

   DOH Response: *The DOH has decided to retain the existing reference to only domestic wastewater for this section. This section will not apply to non-domestic wastewater.*

HAR § 11- 62- 26(b)(1) and § 11- 62-26(b)(2), BOD5 and TSS:

Comment: Replace "actual" with "Average Daily Flow" as Peak Flows during wet weather event could result in "actual" flows exceeding the 100,000 gpd threshold although the facility may have " Average Daily Flows" much less than the threshold.

DOH Response: *The DOH concurs with comment and will incorporate the proposed recommended change.*

HAR § 11- 62- 26(b)(3):

Comment: Proposal: Revise 11-62-26(b)(3) as follows:

Owner or authorized agents shall submit suspended solids and BOD_5 lab data to the director no later than thirty days after the last day of June and December, unless the data is already being submitted to the DOH under an NPDES permit by a public agency.

DOH Response: *The DOH concurs with comment and will incorporate the proposed recommended change.*

HAR § 11-62-26(b)(8):

Comment: Revise 11-32-26(b)(8) as follows:
The operator shall maintain [a service log book] preventative maintenance records at the wastewater treatment works.

DOH Response: *The DOH will revise this section to clarify its intent as follows:*

The operator shall maintain a log book or records which shall include but not be limited to: the date and time of operator entry, operating conditions, process control testing performed, and any servicing or preventive maintenance done while at the wastewater treatment works.

HAR §11-62- 31. 1(b):

Comment: What will be the authority and/or disposition of the "State of Hawaii, Department of Health, Guidelines for the Reuse of Gray Water"?

DOH Response: *If the rules are promulgated, it is contemplated that the State Plumbing Code shall be used as the statewide code to design gray water systems. The Guidelines for the Reuse of Gray Water would then no longer apply.*

HAR §11-62-31.1(i);

Comment: Clarify portion to be deleted as the paragraph closes with a "]" but there is no opening

DOH Response: *The DOH acknowledges that this is a typographical error and the "]" will be deleted.*

HAR §11- 62- 33.1(a)(5);

Comment: This section should read "For wastewater flows greater than 1,000 gallons per day or five bedrooms" rather than "…greater

than 1,000 gallons or five bedrooms". There appears to be an error in the formula, as the term "Q" appears on both side of the equation.

DOH Response: *The DOH concurs with the proposed comment and will revise this section as follows:*

(5) For wastewater flows greater than 1,000 gallons per day or five bedrooms, the formula: Minimum capacity (gallons) = 1,000 + (Q-800) x 1.25, where Q = design flow, shall be used.

HAR §11- 62- 33.1(a)(7):

Comment: Suggest access to septic tanks be as directed by manufacturer or IWS engineer. Septic tank access at grade may be unsightly and/or dangerous. Preventing unauthorized entry/opening does not account for environmental degradation or other safety/security concerns.

DOH Response: *When proposing a design of a septic tank system, the engineer should consider the environmental elements that would affect the integrity of the septic tank cover over time. The engineer should also educate the owners of the septic tank systems of the importance of maintaining their systems for safety purposes. Unless steel manhole covers are provided for all individual wastewater systems, the plastic covers will show signs of wear and tear and will require replacement eventually. The owner of the septic tank should be aware and keep up with the maintenance of their system. Septic tank access at grade will help facilitate servicing of the septic tank by sludge pumpers for the periodic removal of accumulated sludge that is required as part of the proper operation and maintenance of the system.*

HAR §11- 62-33. 1(b)(3) and (4):

Comment: What will be the qualifications of certified operators and the minimum contract requirements for the maintenance of an aerobic treatment unit and its disposal system?

DOH Response: *Certified operators shall have a minimum of a Grade 1 Wastewater Operator License in the State of Hawaii*.

The minimum requirements will be: As a minimum, the aerobic treatment unit service contract shall include the term of contract period (start and end dates) and the following requirements:

(A) Inspect all aerobic treatment unit equipment to ensure its proper operation at least every six (6) months;

(B) Provide regular maintenance of equipment as required by the manufacturer;

(C) Verify the aerobic treatment unit is providing adequate mixing and aeration of the microbes;

(D) Measure the depth or volume of sludge in the aerobic treatment unit every six months, and assess whether sludge removal by pumping is necessary. Provide sludge pumping, as needed. If pumping is necessary, record the depth of sludge or percentage of sludge volume in the ATU prior to pumping; and

(E) Maintain a log of all service provided.

HAR §11- 62-33. 1(b)(6):

1. **Comment:** Recommend wording be revised to " In areas below (makai of) the Underground Injection Control Line established pursuant to chapter 11- 23, where the vertical separation distance from the discharge to the seasonal high groundwater table is less than three feet, a new household aerobic unit may discharge its effluent into an elevated mound to achieve the required vertical separation or drip irrigation system or, with a variance approved by the director and if the effluent is disinfected, to a seepage pit. Where water bearing formations are in danger of contamination, greater vertical separation may be required.

a. Justification: UIC lines in some areas of the Big Island are located at elevations in excess of 500 ft. and as such, requiring elevated mounds or drip irrigation systems for disposal from ATU' s at higher elevations would not seem to be appropriate. Proposed wording is similar to wording regarding seepage pits under HAR §11- 62-34(d)(1)(C).

DOH Response: *The DOH concurs with comment and will incorporate the proposed recommended change.*

2. **Comment:** What “additional restrictions”?

DOH Response: *A variance will be required for an aerobic treatment unit with disinfected effluent to discharge directly to groundwater. Direct discharges of aerobic treatment unit effluent to groundwater should be avoided if other disposal options are available. This revision will assist with reducing the pollutant load to groundwater sources and surface waters.*

HAR § 11- 62-82(b)(1)(D):

Comment: Proposal: Revise 11-62-82(b)(1)(D) as follows:

Failing to respond to department inspection reports, if the report state a response is required.

DOH Response: *The DOH concurs with the comment and will revise as follows:*

Failing to respond to department inspection reports, if the report states a response is required.

Appendix B:

1. **Comment:** Correct footer numbering. Currently indicates 62-"C" vs. 62-"B".

2. **Comment:** Proposal: Revise Appendix B page numbers to correspond with from Appendix C to Appendix B.

   DOH Response: *DOH concurs with the comments and will incorporate the proposed recommended change.*

Appendix B, 5.b:

Comment: Proposal: Revise Appendix B, 5.b Spills to ground only – with no public access, as follows:

Immediate notice to DOH. If a spill of a thousand gallons or more, and for spills over 50 gallons occurring more than twice within a 12 month period, from the same cause and/or location, within the confines or fence line of a wastewater system, the owner/agent shall notify the WWB within 24 hours.

DOH Response: *The DOH concurs with comment and will incorporate the proposed recommended change.*

Appendix B, 5.c;

Comment: Proposal: Revise Appendix B, 5.c Spills to ground only – with no public access as follows:

Reporting. For spills of a thousand gallons or more, and for spills over 50 gallons occurring more than twice within a 12 month period, from the same cause and/or location, within the confines or fence

line of a wastewater system, the owner/agent shall report to the WWB under section 9.a.

DOH Response: *The DOH concurs with comment and will incorporate the proposed recommended change.*

Appendix B.7;

Comment: Proposal: Revise Appendix B.7 Press Release as follows:

At a minimum, the press release shall be faxed, emailed or telephoned to the following:

DOH Response: *The DOH concurs with comment and will incorporate the proposed recommended change.*

Appendix B.9:

Comment: Proposal: Revise Appendix B, 9.a, Reporting as follows:

When required above, the owner/agent shall submit a written report of the details of the spill within five (5) calendar days of the incident to the director in care of the CWB, or WWB as applicable, unless an effective NPDES permit provides an alternative deadline.

DOH Response: *The DOH will revise as following to be consistent with NPDES permit reporting requirements:*

When required above, the owner/agent shall submit a written report of the details of the spill within five (5) working days of the incident to the director in care of the CWB, or WWB as applicable.

Appendix F:

Comment: Appendix F: Provide proposed flow per capita for barber shops, beauty salons and restaurants. Provide rationale or reference for these projections.

DOH Response: *The DOH reviewed the other states' design standards for septic tank systems. The flow per capita is currently being used by most states. The DOH realized that these flow per capita needed to be updated and is recommending less stringent flow per capita for these uses.*

Table 2:

1. **Comment:** If DOH has detected fecal coliform in private drinking well systems, as presented in the rationale, should there also be a recommended minimum separation between wastewater systems and private wells? If so, coordination with the Commission on Water Resource Management for wells that are approved after an individual wastewater system has been installed may be beneficial.

   DOH Response: *The DOH acknowledges your comment and will work with the Commission on Water Resource Management to develop a reasonable recommended minimum separation between wastewater systems and private wells. DOH intends to propose including the recommended setback distance in our next proposed rules revision.*

2. **Comment:** What is the 50 foot distance for the shoreline setback for wastewater system units based upon? The rationale report indicates that cesspools within the 200 foot coastal setback have the highest potential to introduce pathogen and nutrient contamination into coastal waters. Do septic systems offer a high enough degree of wastewater treatment to justify a 50 foot shoreline setback?

   DOH response: *The 50 foot distance for the shoreline setback was based on the Uniform Plumbing Code location requirements for onsite systems. Many properties located along the shoreline would not be able to meet a 200 foot setback requirement. Most if not all wastewater systems located in these areas require the installation of an aerobic treatment unit with disinfection due to the high ground water table.*

Based on the comments received during the public comment period, the following revisions shall be made to HAR, chapter 11-62 as follows:

HAR § 11-62-03 Definitions

"Individual wastewater [system] systems" means [a facility which is used and designed to receive and dispose of no more than one thousand gallons per day of domestic wastewater. Each individual wastewater system includes all connected plumbing, treatment (if any), and disposal components that could, if not connected, serve as separate wastewater systems.]
facilities, such as septic systems, aerobic treatment units, and cesspools, that are not connected to a sewer and are used and designed to receive and dispose of:
(1) No more than one thousand gallons per day of domestic wastewater; or
(2) Greater than one thousand gallons per day of domestic wastewater from buildings with highly variable flows.

"Seepage pit" means an excavation in the ground whose depth is greater than its widest surface dimension and which receives the discharge from treatment units and permits the effluent to [seep]exit through its bottom or sides [to gain access to the underground formation.] for gradual seepage into the ground which does not result in contamination of water-bearing formations or surface water.

"Subsurface disposal system" means a disposal system [which permits effluent to reach the underground geologic formation] that allows the gradual seepage of effluent into the ground which does not result in contamination of water-bearing formations or surface water, such as a seepage pit, cesspool, [injection well,] soil absorption system, or other facility used in the disposal of wastewater, including any wastewater transmission lines, pumps, power, or other equipment associated with the disposal of wastewater.

HAR §11-62-06(d), Operation and Maintenance:

(e)](d) Operation and maintenance. All wastewater systems and parts thereof that are installed or used by persons to achieve compliance with this [rule] chapter and the conditions of any [permit] department approval for use issued under this rule shall at all times be properly operated and maintained. Proper operation and maintenance includes adequate laboratory controls and

appropriate quality assurance procedures as specified by the director. Effluent testing for private wastewater systems shall be performed by an independent laboratory. Proper operation and maintenance also includes operation of any required back-up or auxiliary facilities or similar systems as specified by the director to be installed to achieve compliance with this [rule] chapter and the conditions of any [permit] department approval for use issued under this [rule] chapter.

HAR § 11-62-06(h):

[(i)](h) In case of a violation of this chapter, the director, at the director's discretion, shall initiate enforcement action against the owner(s) of the wastewater system and initiate enforcement action against other persons to have the offending condition abated, corrected, or removed [, destroyed, or prevented]. In addition, once a violation of this chapter occurs, the director shall order the [owner of the wastewater system] owner to take immediate actions to protect public health and safety.

HAR § 11-62-06(r):

(r) Upon sale of any building served by an existing cesspool that, as designated by DOH, is within the Zone B (two-year groundwater capture area) for a public drinking water well, or within 750 feet of the shoreline, a perennial stream or a marsh, the building, no later than 365 days after ownership transfer, shall be connected to a sewer or, where a sewer connection is not feasible, the cesspool shall be replaced with a new wastewater system, other than a cesspool, that meets the applicable requirements of Subchapter 3 of this rule. The director may, in the sole exercise of her discretion, grant exemptions from the upgrade requirement for homeowners who present documentation showing that, for legitimate reasons such as no proximate sewer and a small lot, steep topography, or no equipment access, it is not feasible to upgrade.

HAR §11-62-07.1(d):

[(e)](d) [The director in] In determining treatment requirements for the non-domestic wastewater, the director shall consider requirements for non-domestic wastewater as

set forth by EPA, 40 CFR 257, [subchapter 4], the Reuse Guidelines, and the Animal Waste Guidelines.

HAR §11-62-25(d):

(d) All wastewater subsurface effluent disposal systems and injection wells shall include provisions for purging and chemical “shock loading”.

HAR § 11-62-26:

§11-62-26 Wastewater effluent requirements, recycled water quality, and monitoring and reporting requirements applicable to treatment works treating domestic wastewater.

(a) All treatment works shall meet the applicable requirements of this section. Nothing in this section shall be construed to prevent the engineer from applying more stringent requirements if the engineer determines that the particular design and circumstances for which the engineer is responsible warrants the more stringent requirements.

(b) Treatment works' effluent and other parameters shall be monitored as follows and shall not exceed the following limits:

(1) Biochemical oxygen demand (BOD_5).

(A) For wastewater treatment works excluding wastewater pond systems with [design] average daily flows greater than or equal to 100,000 gallons per day, the owner or operator shall perform composite sampling at least weekly.

(B) For wastewater treatment works with [design] average daily flows less than 100,000 gallons per day, the owner or operator shall perform grab sampling at least monthly.

(C) For wastewater pond systems with average daily flows greater than or equal to 100,000 gallons per day, the owner or operator shall perform grab sampling at least weekly.

[(C)](D) The BOD_5 in the effluent from a treatment works shall not exceed 30 milligrams per liter based on the [arithmetic] monthly average of the results of the analyses of composite samples.

[(D)](E) The BOD_5 in the effluent from a treatment works shall not exceed 60 milligrams per liter based on a grab sample.

(2) Suspended solids.

(A) For wastewater treatment works, except for wastewater pond systems, with [design]

average daily flows greater than or equal to 100,000 gallons per day, the owner or operator shall perform composite sampling at least weekly.

(B) For wastewater treatment works with [design] average daily flows less than 100,000 gallons per day, the owner or operator shall perform grab sampling at least monthly.

(C) For wastewater pond systems with average daily flows greater than or equal to 100,000 gallons per day, the owner or operator shall perform grab sampling at least weekly.

[(C)](D) The suspended solids in the effluent from a treatment works shall not exceed 30 milligrams per liter based on the [arithmetic] monthly average of the results of the analyses of composite samples.

[(D)](E) The suspended solids in the effluent from a treatment works shall not exceed 60 milligrams per liter based on a grab sample.

HAR §11-62-26(b)(3):

(3) Owners or authorized agents shall submit suspended solids and BOD_5 lab data to the director no later than thirty days after the last day of June and December, unless the data is already being submitted to the Department under an NPDES permit by a public agency.

HAR §11-62-26(b)(8):

(8) The operator shall maintain a log book or records which shall include but not be limited to: the date and time of operator entry, operating conditions, process control testing performed, and any servicing or preventative maintenance done while at the wastewater treatment works.

HAR §11-62-31.1(a)(1)(B):

(B) Total development of an area shall not exceed [fifty] fifteen single family residential lots or exceed [fifty] fifteen dwelling units except for developments consisting of one dwelling unit per acre or greater;

HAR §11-62-31.1(i)

(i) Wastewater into an individual wastewater system from buildings other than dwellings shall meet the pretreatment standards and local pollutant limits as set by the respective county. If the county does not have any local pollutant limits, the local limits as set forth by the City and County of Honolulu shall be used.

HAR §11-62-33.1(a)(5)

(5) For wastewater flows greater than 1,000 gallons per day or five bedrooms, the formula: Minimum capacity gallons = 1,000 + (Q-800)x 1.25, where Q=design flow, shall be used.

HAR § 11-62-33.1(b)(6):

[(5)](6) In areas below (makai of) the Underground Injection Control Line established pursuant to chapter 11-23, where the vertical separation distance from the discharge to the seasonal high groundwater table is less than three feet, a new household aerobic unit may discharge its effluent [directly into the groundwater provided the effluent is disinfected.] into an elevated mound to achieve the vertical separation or drip irrigation system or, with a variance approved by the director and if the effluent is disinfected, to a seepage pit. Where water bearing formations are in danger of contamination, greater vertical separation may be required.

HAR § 11-62-82(b)(1)(D):

(D) Failing to respond to department inspection reports, if the report states a response is required;

Appendix B, 5.b, 5.c, 7 and 9:

b. Immediate notice to DOH. If a spill of a thousand gallons or more, and for spills over 50 gallons occurring more than twice within a 12 month period, from the same cause and/or location, period within the confines or fence line of a wastewater system, the owner/agent shall notify the WWB within 24 hours.

c. Reporting. For spills of a thousand gallons or more, and for spills over 50 gallons occurring more than twice within a 12 month period, from the same cause and/or location, within the confines or fence line of a wastewater system, the owner/agent shall report to the WWB under section 9.a.

7. Press release

The press release shall describe the location of the spill, the amount of wastewater released, what caused the spill, and what is being done to correct the situation. Also, include a contact person and telephone number (including an after hours/weekend contact). At a minimum, the press release shall be faxed, emailed or telephoned to the following:

9. Reporting

a. When required above, the owner/agent shall submit a written report of the details of the spill within five (5) working days of the incident to the director in care of the CWB or WWB as applicable. The director may waive the five day written reporting requirement on a case by case basis provided that the director receives a request for waiver prior to the due date of the report.

Rationale for the Proposed Revisions

To Department of Health

Administrative Rules,

Title 11, Chapter 62

Wastewater Systems

Department of Health

Environmental Management Division

Wastewater Branch

Honolulu, Hawai`i

July 2015

Background:

The Department of Health (DOH) has statutory authority to adopt rules that it deems necessary for the public health and safety respecting:

(1) **Nuisances**, foul or noxious odors, gases, vapors, waters in which mosquitoes breed or may breed, **sources of filth, and causes of sickness or disease**, within the respective districts of the State, and on board any vessel;

(3) Location, air space, ventilation, **sanitation, drainage, sewage disposal, and other health conditions** of buildings, courts, construction projects, excavations, pools, watercourses, areas, and alleys;

(4) Privy vaults and **cesspools**;

Hawai`i Revised Statutes (HRS) §§321-11. DOH also has statutory rulemaking authority under HRS §342D-4, which states:

In addition to any other power or duty prescribed by law and in this chapter, the director shall prevent, control, and abate water pollution in the State and **may control all management practices for domestic sewage, sewage sludge, and recycled water, whether or not the practices cause water pollution.** In the discharge of this duty, the director may adopt rules pursuant to chapter 91 necessary for the purposes of this chapter.

Hawai`i's administrative rules for wastewater systems date back to at least December 1988. They were revised in December 2004.

Proposed Revisions:
The Department of Health (DOH) is proposing to revise Hawai`i Administrative Rules (HAR), Title 11, Chapter 62, Wastewater Systems (hereinafter referred to as HAR 11-62), with the following changes, among other things:

1. Prohibiting the installation of new cesspools in all areas of the State;

2. Adding requirements for the certification of qualified cesspools and qualified expenses for the implementation of Act 120 that provides a temporary income tax credit for the cost of upgrading or converting a qualified cesspool to a septic tank system or an aerobic treatment unit system, or connecting to a sewer system.

3. Changing definitions in §11-62-01 to clarify the meaning of terms used in the rules and delete terms no longer included;

4. Eliminating the "general permit" and clarifying that the Wastewater Branch of DOH issues construction approvals and approvals to use, not permits;

5. Adding a requirement that effluent testing for private wastewater treatment plants shall be performed by an independent laboratory;

6. Clarifying when a building modification may trigger a requirement to upgrade a system;

7. Consolidating requirements for non-domestic wastewater;

8. Streamlining by allowing engineers to submit certification statements for treatment works;

9. Requiring new facilities greater than 100,000 gallons per day to dewater their sludge;

10. Restricting the use of seepage pits as soil absorption systems;

11. Adding reporting requirements for wastewater treatment works;

12. Adding the option to submit a recycled water application for a recycled water system;

13. Added requirements for new users of recycled water obtaining access to an existing recycle water system;

14. Revised the requirement for onsite storage of plant records from five to two years;

15. Updating graywater system rules to be consistent with State Plumbing Code;

16. Requiring that septic tank manholes be brought to grade and secured for better maintenance access;

17. Clarifying requirements for operators of aerobic treatment units;

18. Add minimum contract requirements for the maintenance of an aerobic treatment unit and its disposal system;

19. Add restrictions to prevent the direct discharge of effluent from an aerobic treatment unit to groundwater;

20. Deleting requirements for surface disposal;

21. Deleting requirement that pumpers submit quarterly reports;

22. Revising provisions of field citations;

23. Revising spill reporting requirements;

24. Revising the flow per capita requirements for restaurants, barber shops and beauty salons;

25. Clarifying that the IWS setback is from the shoreline certification, not the vegetation; and

26. Revising the Molybdenum pollutant ceiling from 15 mg/kg to 25 mg/kg.

27. Revising the Nickel pollutant ceiling from 100 mg/kg to 420 mg/kg.

Rationale for prohibiting new cesspools

Sewers and septic systems treat wastewater before discharging it to the environment, but cesspools generally do not.[1] Cesspools are little more than holes in the ground that discharge raw, untreated human waste directly into the subsoil, where it can spread and contaminate ground water, drinking water sources, streams and the ocean by releasing disease-causing pathogens and other harmful substances. The effluent from cesspools generally contains much higher concentrations of nitrogen, phosphorus, and fecal coliform bacteria than that of septic system effluent subjected to soil treatment.[2] **In order to protect public health and the environment, new cesspools should be prohibited.**

Cesspool risks to human health and the environment.

Cesspools present risks to human health and the environment on every major island in the State of Hawai`i. There are approximately 88,000 cesspools currently in the State, with nearly 50,000 located on the Big Island, almost 14,000 on Kauai, over 12,000 on Maui, over 11,000 on Oahu and over 1,400 on Molokai. Each year an additional 800 new cesspools are approved for construction.

Hawai`i's cesspools release approximately 55 million gallons of untreated sewage into the ground each day. Untreated wastewater contains pathogens such as bacteria, protozoa and viruses that can cause gastroenteritis, Hepatitis A, conjunctivitis, leptospirosis, salmonellosis and cholera. Pharmaceuticals in wastewater, including disruptive hormones, also may adversely affect human health and aquatic organisms. Hawai`i's cesspools also

[1]Any treatment that cesspool effluent receives is incidental, not by design, very site specific, and not practical to include in the regulatory process.

[2] An evaluation done by the Water Resources Research Center of the University of Hawai`i concluded that the effluent from cesspools contains concentrations about 15 to 90 times higher for nitrogen, 5 to 20 times higher for phosphorus, and 77,000 times higher for fecal coliform bacteria than that of septic system effluent subjected to soil treatment ("Onsite Wastewater Treatment Survey and Assessment – Prepared for the State of Hawaii, Department of Business, Economic Development and Tourism Office of Planning, Hawaii Coastal Zone Management Program; and the Department of Health," Water Resources Research Center, University of Hawaii and Engineering Solutions, Inc., March 2008).

release as much as 23,700 pounds of nitrogen and nearly 6,000 pounds of phosphorus into the ground each day, which can stimulate undesirable algae growth, degrade water quality, and impact coral reefs.

Studies performed for DOH designated receptors of concern as sensitive ecosystems that can potentially be adversely affected by cesspool effluent or areas where potential human contact with cesspool contaminated waters may occur.[3] These studies considered three receptors of concern: (1) drinking water sources, (2) streams and watersheds, and (3) coastal waters. Setback zones were delineated around each receptor of concern based on either a fixed distance or a groundwater time of travel to the receptor of concern. Based on these studies, it was determined that there are approximately **87,000** cesspools that pose a risk to our water resources. The purpose of these studies was to identify the cesspools and other individual wastewater treatment systems that have the potential for adverse receptor of concern impact. The presence of a cesspool within a receptor of concern's setback zone is evaluated as having the potential for a negative impact on that receptor of concern.

Cesspool effluent can negatively impact drinking water wells by introducing biological and chemical contamination into the well's intake. Setbacks were delineated for public drinking water wells based on the groundwater time of travel to the well intake. A two-year time-of-travel setback for drinking water wells identifies those cesspools that have the potential to introduce chemical and biological contamination into a well. It is assumed that pathogens will not survive longer than 2 years, but chemical contamination can persist much longer. There are approximately 2,551 cesspools that are located in areas within a 2 year time of travel to the intake of a public drinking water well.

Cesspool effluent entering a stream can introduce pathogens and increase the nutrient loads in the streams resulting in excessive plant growth. A 750 foot setback from the stream channel identifies those cesspools with the potential to introduce both pathogen and nutrient contamination to a stream. Perennial streams depend on discharge of groundwater to the surface water to support stream flow during periods with no or little rainfall. Cesspools located within a perennial watershed can increase the nutrient load of the streams within that watershed. There are approximately 11,536 cesspools that are located within 750 feet of a perennial stream channels throughout the State.

As with streams, cesspool effluent can introduce pathogens and nutrients to the coastal waters. The 750 foot coastal setback identifies those cesspools with the highest potential to introduce pathogen and nutrient contamination into the coastal waters. There are approximately 6,896 cesspools that are located within 750 feet of the shoreline.

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[3]"Human and Environmental Risk Ranking of Onsite Sewage Disposal Systems on Oahu, Hawaii," Robert B. Whittier of DOH and Aly I. El-Kadi of University of Hawai`i at Manoa, December 2009.

"Human Health and Environmental Risk Ranking of On-site Sewage Disposal Systems For the Hawaiian Islands of Kauai, Maui, Molokai and Hawai`i," Robert B. Whittier of DOH and Aly I. El-Kadi of University of Hawai`i at Manoa, June 2014.

The studies indicate that Hawai`i Island and Kauai have the most high risk areas for water quality degradation from on-site disposal systems:

- Hawai`i Island: the northeast coast and west coast from Hualalai to south of Captain Cook have elevated risk of harm to coastal waters and drinking water. Hilo has high concentrations of on-site disposal systems. Pahoa, Kapoho, Pahala, Naalehu, Hawai`i Ocean View Estates and Waimea are also areas with elevated risk.

- Kauai: in Wailua/Kapaa there is a dense clustering of on-site systems in perennial watersheds, and within a two-year travel time to the ocean, with higher risk of harm. The south shore from Poipu to Hanapepe, and Nawiliwili also have high risks.

- Maui has elevated risks in coastal zones in Kaanapali, Kihei to Makena, Waihee/Waiehu and the coastal area fronting the northwest slope of Haleakala.

- On Oahu, Koolauloa, Pupukea-Sunset Beach, Kahaluu, and Waialua are the areas with highest risk.

- On Molokai, there is elevated risk near the coast fronting the unsewered areas near Kaunakakai.

Last in the Nation

Hawai`i is the only state in the US that still allows construction of new cesspools. Hawai`i has fallen behind all other states in eliminating cesspool pollution. Even Rhode Island, which has the second largest number of cesspools in the nation (25,000), banned the construction of new cesspools ***46 years ago*** in 1968. Rhode Island's Cesspool Act of 2007 mandates replacement of cesspools that are located within 200 feet of shoreline or wells.

New Jersey, requires cesspools to be upgraded to septic systems whenever property ownership changes. Requiring cesspool upgrades when property is sold makes sense because the cost of the upgrade can be shared between the buyer and seller at a time when sellers, with proceeds from the sale, are better able to afford upgrading costs and buyers, who are usually borrowing already for their purchase, may obtain additional financing for eliminating a cesspool.

Alternative to cesspools

When connection to a sewer system is not practical, a septic system should be installed to contain and treat wastewater before disposal. A septic system allows solids to settle in a tank where anaerobic organisms slowly digest organic solids and allow liquids to flow into a shallow absorption bed. A proper soil bed has a biologically active area in the first three feet of the soil layer where oxygen can support microorganism activity that neutralizes pathogens. The studies indicate that soil treatment is very effective in removing bacteria

(fecal coliform was only 13 colony forming units (cfu) per 100 milliliters (mL) in leachate after soil treatment versus 1,000,000 cfu/mL for cesspools.) Septic systems with soil treatment also greatly reduce the amount of nitrogen and phosphorus compared to cesspools. An evaluation using the data from the Whittier and El-Kadi studies indicates that replacing cesspools with septic systems with soil treatment would reduce nitrogen discharges by more than 90% and phosphorus by more than 80%.

In contrast, when waste is delivered directly into subsoil that is too coarse or lacks oxygen, as usually happens with cesspools, biological activity to treat wastewater cannot be supported. Coarse, porous soil conditions and fractured lava or lava tubes are a problem particularly on the island of Hawai`i (Big Island), where the majority of the cesspools in the State are located. Porous rock cannot effectively filter wastewater but instead allows easy flow within tubes and caves, as documented by the Hawai`i Chapter of the National Speleological Society. As described above, there is elevated risk of contamination of drinking water sources, streams and watersheds, and coastal waters from cesspools.

Conclusion

There are approximately **87,000** cesspools in Hawai`i that pose a potential risk to our water resources. Cesspools discharge untreated waste into the ground, causing risks to human health through drinking water sources, streams and near-shore waters. These risks will increase with the growing population if Hawai`i does not stop allowing the installation of new cesspools, and will continue if Hawai`i does not phase out cesspools. **The Department of Health seeks to protect public health and preserve our natural resources by proposing in these rules that no new cesspools be permitted.**

Rationale for other changes

The table below lists other changes proposed by DOH with the rationales for those changes:

Sections proposed for change	Rationales for proposed changes for HAR, Chapter 11-62
§11-62-01	Amend the preamble to reflect the present goals and objectives for the treatment and disposal of wastewater in the State of Hawai`i. Amendment explains a major new initiative, to prohibit the construction of new cesspools in the State. This proposed initiative will help protect our groundwater, drinking water and surface waters.
§11-62-02(c)	Change would clarify the relationship between the chapter 11-62 rules and the provisions in county codes, rules or ordinances.

Sections proposed for change	Rationales for proposed changes for HAR, Chapter 11-62
§11-62-03	To make the definition of "Bedroom" easier to understand. Current definition is difficult to interpret. "Construction" is referenced in the rules but is not defined; a definition of the term would lead to greater consistency in program implementation. Deleting the definition of "CWDA maps" would be appropriate if new cesspools are prohibited because the maps then would not be needed. The definition of "General Permit" is no longer needed. The General Permit Program was terminated because the Wastewater Branch has decided not to seek delegation for the Wastewater Sludge Program with EPA. The General Permit was required as a condition of seeking delegation. Would add the definition of "Aerobic Treatment Unit" to have the same meaning as provided in the statute. Propose to revise the definition of "Graywater" to be consistent with section HRS 342D-1. Change the term defined from "Individual wastewater system" to "Individual wastewater systems". Clarify the definition by listing the common types of systems. Would add the definition of "Large capacity cesspool" for information purposes and make it consistent with the definition used by EPA, which regulates large capacity cesspools. Would delete the definition of "Notice of Intent". This definition applies to the General Permit Program that has been terminated by the Wastewater Branch. Would add the definition of "Public water systems" because it is referenced in the appendices and to ensure consistency with program implementation. Would add the definition of "Qualified Cesspool" to have the same meaning as provided in section HRS 342D-1. Would add the definition of "Qualified Expenses" to have the same meaning as provided in section HRS 342D-1. Would update the rules' reference to the "Reuse Guidelines" to the latest version of the document. Would add the definition of "Residential large capacity cesspool" to have the same meaning as provided section HRS 342D-1. Would clarify the definition of "Seepage pit" to make it easier to understand. The current definition is unclear. Revised definition based on public comment. Would add the definition of "Septic System" to have the same meaning as provided in the statute.

Sections proposed for change	Rationales for proposed changes for HAR, Chapter 11-62
§11-62-03	Would add the definition of "Septic system" to clarify the meaning; the term is used in various areas of the chapter but not defined. Would clarify the definition of "Septic tank" to make it easier to understand. Current definition is difficult to interpret. Would update the definition of "Standard methods" to reference the latest edition of the publication. Would clarify the definition of "Subsurface disposal system" to make it easier to understand, read and apply. Removed injection well from the definition of a subsurface disposal system based on comment from the public.
§11-62-05(a) and (b)	Would clarify that all areas of the State are critical wastewater disposal areas (CWDA) and are not appropriate for construction of new cesspools.
§11-62-06(a and b)	Would correct grammar.
§11-62-06(d)	Would relocate §11-62-06(d) to consolidate requirements for non-domestic wastewater under new §11-62-07.
§11-62-06(e)	Would renumber as Section 11-62-06(d), delete reference to permit and add "Department approval to use." The general permit program was terminated. The Department issues approvals to use and not general permits. Would add requirement that effluent testing shall be performed by an independent lab for private wastewater treatment systems for quality assurance and quality control purposes.
§11-62-06(n)	Would renumber as Section 11-62-06(m). Would revise this section to clarify when a wastewater system should be upgraded. These changes are being proposed to protect groundwater and surface waters from the discharge of wastewater from failing systems. Would clarify that an owner has to satisfactorily address all of the deficiencies. The current language could potentially allow an owner to address one of many deficiencies.
§11-62-06(q)	Would renumber as Section 11-62-06(p), delete reference to permit, and add "Department approval to use". The general permit program was terminated. The Department issues approvals to use and not general permits.
§11-62-07	Renumbered §11-62-07.1 to §11-62-07. Relocated §11-62-06(c) under this section to consolidate the requirements for non-domestic wastewater.
§11-62-08(d)(1)	Would clarify fencing requirement to prevent the public from gaining access to wastewater systems for safety and liability reasons.
§11-62-23.1(f)	Would require the owner's engineer instead of the owner to submit the one year certification statement based on the results and actual sampling of the treatment works. This will make it easier for the owners to allow their engineers to submit this information directly to the Department. This helps to streamline the process.

Sections proposed for change	Rationales for proposed changes for HAR, Chapter 11-62
§11-62-24(b)(1)	Would add a new section to require new facilities > 100,000 gpd to have solids dewatering systems because facilities of this size should be capable of dewatering their sludge for disposal to a landfill, not rely on the Counties to process their wastewater sludge.
§11-62-25(b)	Would restrict the use of seepage pits as soil absorption systems. Seepage pits should not be a way to avoid the injection well permitting process.
§11-62-25(d)	Included injection wells in this section there was a change made to the definition of "Surface Disposal System" as a result of a public comment.
§11-62-26	Would add reporting requirements applicable to treatment works. This will assist the program with evaluating the performance of the wastewater treatment works. These requirements were provided in DOH's general permits; however, the permit program has since been terminated. Would exclude the requirement for the composite sampling of wastewater ponds. Effluent flows from ponds are not continuous, making it difficult to obtain a representative composite sample. Would delete the requirement of using the design flows and replace it with average daily flows throughout this section when performing effluent sampling. New plants often take time to achieve operation at design flow. Effluent testing should be based on average daily flows. Would clarify the need to maintain a log book at the wastewater treatment works, to help ensure that proper operation and maintenance is being performed at the facility.
§11-62-26(c)(2)(ii)	Would delete requirement to monitor the control of chlorine dosage. DOH determined that this information was not necessary when evaluating the performance of the chlorination system.
§11-62-26(e), (f) and (g)	Would update the turbidity, dosage and transmittance requirements for R-1 based on the 2003 National Water Research Institute (NWRI) standards.
§11-62-26(h)	Would add requirement that the new acceptable design requirements and commissioning of new UV disinfection systems shall comply with the 2003 NWRI UV disinfection guidelines.
§11-62-27(b)	Would make grammatical change.
§11-62-27(d),(g) and (h)	Revised section to allow the submittal of a recycled water application form. Reference to the submittal of an engineering report and other requirements were deleted. The use of a recycled water application form simplifies the process of submitting an application for a recycled water project.
§11-62-27(e)	New users of recycle water acquiring access to an existing recycled water system need to be made aware of the DOH requirements for use and approval prior to using recycled water. This new section will clarify this requirement.
§11-62-28	Revised requirement for onsite storage of plant records from five to two years. Storing five years of plant records onsite is not necessary for regulatory purposes.

Sections proposed for change	Rationales for proposed changes for HAR, Chapter 11-62
§11-62-31.1(d)	Would prohibit the construction of new cesspools to protect groundwater and surface waters. See more detailed rationale for prohibiting new cesspools.
§11-62-31.1(g)	Would make this section consistent with the State Plumbing Code, which has current design standards for gray water systems.
§11-62-33.1(a)(3)	Would delete reference to the Ten State Standards and update the current applicable IAPMO standards for septic tanks.
§11-62-33.1(a)(5)	Would add design criteria for septic tank sizing greater than 1,000 gallons per day. This is needed for septic tank systems receiving variances to allow for tanks that are sized > 1,000 gallons.
§11-62-33.1(a)(7)	Would require that manholes to septic tanks be brought to grade. The cover shall be secured to prevent unauthorized entry/opening of the tank. This revision will allow for better access to a septic tank system for maintenance.
§11-62-33.1(a)(11)	Would delete reference to "permit" and replace it with "approval to use." General permitting program terminated and permits are no longer being issued.
§11-62-33.1(b)(3)	Would add clarification for qualifications of certified operators that are authorized to maintain an aerobic treatment unit. Current requirement is vague and needs clarification.
§11-62-33.1(a)(3)	Would delete reference to the Ten State Standards and update the current applicable IAPMO standards for septic tanks.
§11-62-33.1(b)(4)	Would add section to clarify the minimum contract requirements for the maintenance of an aerobic treatment unit and its disposal system. This section is needed to ensure that proper maintenance of aerobic treatment units are performed by certified operators.
§11-62-33.1(b)(5)	Would delete reference to permittees and replace that with approved for use by the director. The general permit program was terminated. The Department issues approvals to use, not general permits.
§11-62-33.1(b)(6)	Would provide additional restrictions to prevent the direct discharge of pollutants to groundwater. A variance will be required for an aerobic treatment unit with disinfected effluent to discharge directly to groundwater. Direct discharges of aerobic treatment unit effluent to groundwater should be avoided if other disposal options are available. This revision will assist with reducing the pollutant load to groundwater sources and surface waters.
§11-62-33.1(j)	Adding requirements for the certification of qualified cesspools and qualified expenses for the implementation of Act 120 that provides a temporary income tax credit for the cost of upgrading or converting a qualified cesspool to a septic tank system or an aerobic treatment unit system, or connecting to a sewer system.
§11-62-34(d)(3)(B)	Would clarify that extended cover was not needed if concrete rings were used for seepage pit construction.
§11-62-33.1(b)(4)	Would add section to clarify the minimum contract requirements for the maintenance of an aerobic treatment unit and its disposal system. This section is needed to ensure that proper maintenance of aerobic treatment units are performed by certified operators.

Sections proposed for change	Rationales for proposed changes for HAR, Chapter 11-62
§11-62-36	Would prohibit the construction of new cesspools and delete as unnecessary the design standards for new cesspools. As explained in the more detailed rationale regarding cesspools, this change would help reduce groundwater and surface water pollution.
§11-62-37	Would clarify that DOH shall review individual wastewater systems before a building permit will be signed. .
§11-62-41 §11-62-47, §11-62-48, §11-62-50, §11-62-51, §11-62-54.01, §11-62-54.08, §11-62-55.01, §11-62-55.02, §11-62-55.03, §11-62-55.04, §11-62-55.05, §11-62-55.06, §11-62-55.07, §11-62-55.08, §11-62-56, §11-62-57.01, §11-62-57.02, §11-62-57.03, §11-62-57.04, §11-62-58	Would remove reference to the general permit coverage, delete reference to permit, and add "Department approval to use". The general permit program was terminated. The Department issues approvals to use and not general permits. Would remove reference to surface disposal of wastewater sludge. It is not economically feasible to permit surface disposal sites in the State. Wastewater sludge is currently being disposed at permitted landfill sites.
§11-62-62(b)	Would delete requirement that pumpers submit quarterly pumping reports to DOH. The purpose is to lessen reporting requirements for pumpers.
§11-62-82	Would clarify that the section applies to the offer to settle and settlement amounts. Would clarify applicable sections that should be cited for spill violations. Would increase amount for spills to waters to $500 for first violation and $2,000 for subsequent violations. Would double the amounts for first and subsequent spill to ground violations from $100/$250 to $200/$500, and apply those amounts as well to violations of rules for: • improper operation and maintenance, • no ATU aerobic treatment unit contract, • failing to respond to department inspection reports, • having a cesspool without a concrete cover, • not having a secured manhole cover for the cesspool, and • a collapsed cesspool.

Sections proposed for change	Rationales for proposed changes for HAR, Chapter 11-62
§11-62-82	Would add a settlement amount of $1,000 for the 1st violation and $2,500 for a subsequent violation for constructing individual wastewater systems without the Department's approval to construct. This added amount should help deter any property owner from constructing illegal wastewater systems. These proposed changes will help the Department reduce groundwater and surface water pollution and protect public health and safety.
Appendix A	Would remove reference to the general permit coverage. The general permit program was terminated.
Appendix B	Would delete appendix in its entirety because it referred to the general permit coverage. The general permit program was terminated.
Appendix C	Would rename as Appendix B. Would amend Section 6 spill protocol to require that spills of RO water > 1,000 gallons must be reported to DOH. Would revise section 4.g to require that owner/agent of private wastewater systems report spills to DOH. Would revise Spill Protocol section 8, Monitoring of State Waters. Would delete fecal coliform testing requirement and replace it with enterococci testing to be consistent with HAR, chapter 11-54, Water Quality Standards. Would delete table on page 62-C-12 because it is not very useful for program implementation.
Appendix D	Would rename as Appendix C.
Appendix E	Would delete this appendix in its entirety, consistent with proposal to prohibit cesspools Statewide. All areas of the State would be CWDAs.
	Would rename as Appendix D. Table 1 – would add flow per capita for barber shops and beauty salons and revise the flow per capita for restaurants. These changes are necessary to clarify and reflect the present flow per capita data for these types of establishments. Table 2 – would clarify that individual wastewater systems should be sited the required distance from the shoreline certification instead of the vegetation. The shoreline certification is a better method to determine where the shoreline starts than the vegetation line, which is not very reliable. Table IV – would revise the Molybdenum pollutant ceiling from 15 mg/kg to 25 mg/kg. Studies have shown that there are no adverse effects to human health with Molybdenum at 25 mg/kg. Facilities are currently having difficult time with meeting the current standards of 15 mg/kg.

Sections proposed for change	Rationales for proposed changes for HAR, Chapter 11-62
Appendix F	Tables IV and VII - Would revise the Nickel pollutant ceiling from 100 mg/kg to 420 mg/kg. 420 mg/kg is the same value used in 40 CFR 503.13, Table 1. Tables 2 & 3 also use 420 for cumulative loading rates. This value is also less than Hazard Evaluation and Emergency Response Office's Soil Action Level for Unrestricted use less than 150 meters from a surface water body of 760 mg/kg.
Appendix E	Renamed form A to new Appendix E.

To: Tasha Kama, Chair
Affordable Housing Committee
Maui County Council

From: Mark Deakos, Executive Director
Hawaii Association for Marine Education and Research (HAMER)

September 15, 2019

Re: AFFORDABLE HOUSING PROJECTS (CHAPTER 201H, HAWAII REVISED STATUTES) (INDEPENDENT DEVELOPMENT OF THE MAKILA FARMS PROJECT (LAHAINA)) (AH-1(3))

Aloha Chair Kama and Members of the Committee,

The following is critical information regarding Aerobic Treatment Units (ATUs), 48 of which will be associated with the Makila Farms project, which is deeply concerning and compelling reasons for denying this project.

1. The installation of each ATU requires obtaining a variance from the Department of Health (DOH)[1]. This variance is reviewed after 5 years[1].
2. In order to obtain approval from DOH for an ATU install, the engineer on record has to show a 2-year maintenance agreement with a licensed company to service these complex systems and owners must have an active service agreement (§11-62-33.1, 62-59)[2]. The service can be $400 per year.
3. After 2-years, it is up to the homeowner to continue the service contract, otherwise **DOH is issuing fines of $100/$250 to $200/$500** for first and subsequent violations for homeowners that don't have an ATU service contract (HAR §11-62-82, 62-113)[2].
4. ATU maintenance companies will tell you that most homeowner never extend the contract because they think they can maintain the ATU themselves and hence why most of the ATUs they inspect are not functioning as intended. This is further supported by other sources (https://inspectapedia.com/septic/Aerobic_Septic_Failures.php)[3].
5. A Texas A&M University guide to "Living with an ATU and Spray Field System (http://aglifesciences.tamu.edu/baen/wp-content/uploads/sites/24/2017/01/B-6234.-Living-with-an-Aerobic-Treatment-Unit-and-Spray-Field.pdf)[4] lists some common causes of a system malfunction including:
    - Too much water (too many showers, Jacuzzi, rainwater p. 5, 6, 7)
    - Too little water (water-saving devices, extended vacations, p. 6, 7)
    - Improper laundry detergents, use of bleach or too large a load (p. 6)
    - Garbage disposal (p. 6)
    - Drain cleaners (p. 6)
    - Antibacterial soap (p.6)
    - Excessive toilet paper (p. 7)
6. Also, the ATU system capacity should be large enough to handle the number of members in the household (p. 5)[4]. What happens if the developer builds one-bedroom units with a compatible ATU system and the homeowner wishes to add more rooms? Or will a single

bedroom homeowner be paying for a much larger and more costly system that handles more bedrooms?

7. A homeowner can simply turn off the blowers on the ATU to reduce maintenance costs, which essentially turns it into a basic septic system.
8. DOH allows **only one (1) ATU per TMK**[1] and DOH also requires that every independent structure built on a property requires a separate individual wastewater system (IWS) installed, no matter the bedroom count (5 bedroom max associated with a single IWS). **This means only one dwelling per lot, no secondary farm dwellings or ohanas allowed**[1]. Does the developer have a letter from DOH stating they will allow more than one ATU per TMK?

Let's recap the pros and cons of this project:

The Pros

- 19 lucky lottery winners will get a low-cost, 2-acre, ocean view home.

The Cons

- Every resident in this community has to drive at least 2.5 miles to get to school, work, or get access to necessities and the only way to and from Lahaina is via the Lahaina Bypass, subject to daily, gridlock traffic.
- Homeowners have to either maintain their costly ATU service contract or be subject to State fines.
- Given the failure rate of ATUs, this project is essentially installing **48 septic systems** that will degrade water quality. We are trying to phase out septic systems, why would we add more?
- This 201-H makes a mockery of the Community Plan process while doing little to address affordable housing. Pam Eaton already shared with you all that the West Maui Community does not support this development, especially on ag-zoned land.
- The illegal segmentation of this project violates the Community Plan and **will result in a lawsuit**.
- We have large plots of land that would be perfect to provide not just 100% affordable housing but also affordable living, which is equally important.

Please deny this project and focus on supporting a project that actually addresses our affordable housing issue. This project is not ready for approval.

Mahalo for your kokua,

Mark Deakos, *Ph.D.*

Attachments:

1. Example of ATU State Variance 5-year term limit, one per TMK
2. ATU State Variances, contract requirement, penalties for non-compliance
3. ATU Failure Rates Document
4. Texas A&M Guide, Living with an ATU, Causes for Malfunction

5 & 6 DOH justifications for new ATU regulations