

## **DEM Sewage Sludge Regulations Summary of Draft Revisions**

### General

- The title of the regulations has been changed to “Rules and Regulations for Sewage Sludge Management.” A definition for sludge management has been added to the regulations and refers to any activity that requires an Order of Approval.
- The draft regulations include significant restructuring. For example, the current regulations have separate rules on requirements for submissions for approval for each sludge management option (Rule 9, 11 and 13). These rules have been consolidated into a new Rule 8, “Application for Order of Approval,” which includes the submission requirements that are similar for all sludge management options. Additional specific submission requirements are listed in the rule for each sludge management option.
- Also, new separate rules have been created for Distribution and Land Application of Treated Sludge (Rule 12), Stockpiling (Rule 13), and Transportation (Rule 14). Under the current regulations, these activities are addressed as part of the rules for other sludge management options.
- Each reference to “sludge, composted sludge and treated sludge” in the current regulations has been changed to only “sludge” or “sewage sludge” since the definition of sludge and sewage sludge includes composted sludge and treated sludge.
- The term “commissioner” has been changed to “Director” throughout the regulations.
- Other minor revisions.

### Rule 3 – Applicability

- Revised to clarify that all transporters, even if only passing through Rhode Island territories, are subject to the sludge transportation requirements.
- Revised to clarify that the regulations do not pertain to industrial or commercial wastes that do not contain sewage sludge.

### Rule 5 - Definitions

- Several definitions have been revised. Of particular note, the definition of sludge has been revised to exclude septage. Definitions for facility, site and transporter also significantly revised.
- Definitions have been added for the following: *abutter, agronomic rate, beneficial use, bulk distribution, closure, disposal, generator, land disposal or land-disposed, management or manage, Order of Approval, processing, reclamation, septage and stockpiling.*
- The following definitions have been deleted: *composted sludge, final cover, ISDS Regulations, preparer and user.*
- Definition of pollutant revised to be consistent with the Water Quality Regulations.

### Rule 7 – Requirements for Order of Approval

- This rule has been revised to specifically indicate what activities do and do not require an Order of Approval.
- Clarifies that an Order of Approval is not required for transportation of Class A Biosolids and transportation of sludge through the state.
- Section C(3) and C(4) incorporates criteria from “Enforcement Discretion Statements” previously issued by the department to clarify under what circumstances an Order of Approval is not required for distribution and land application of Class A Biosolids.
- Section E added to provide more detail on requirements for pilot projects.
- Sections K through N added to outline in more detail the Order of Approval process.

#### Rule 8 – Application for Order of Approval

- This new rule consolidates the submission requirements listed in Rules 9, 11 and 13 of the current sludge regulations.

#### Rule 9 – Land Disposal

- Section M added which lists additional submission requirements for Order of Approval not listed in Rule 8.

#### Rule 10 – Land Application

- Section S added which lists additional submission requirements for Order of Approval not listed in Rule 8.

#### Rule 11 – Treatment of Sludge

- This rule has been revised to apply to all treated sludge, not strictly composted sludge. Rule 14 – Alternative Sludge Technologies of the current sludge regulations has been deleted and incorporated into this rule.
- Added Section L pertaining to meeting odor regulations.
- Section O added which lists additional submission requirements for Order of Approval not listed in Rule 8.

#### Rule 12 – Distribution and Land Application of Treated Sludge

- This new rule was part of Rule 12 (sludge treatment) in the current sludge regulations. A separate rule has been created since sludge treatment and distribution are two separate activities that require an Order of Approval (although both activities are typically covered in one application and Order of Approval).
- Added Section B for land application of Class A Biosolids.
- Added subrules A(7), B(6), C(3) and E(7) which list additional submission requirements for an Order of Approval not listed in Rule 8.

#### Rule 13 – Stockpiling

- This new rule has been added because the current regulations lack requirements for stockpiling of sludge. Under the proposed regulations, stockpiling of sludge, as defined in the regulations, will require an Order of Approval.

#### Rule 14 – Transportation

- This new rule has been added since transportation is a specific sludge management activity that requires an Order of Approval. Under the current regulations, the transportation requirements are incorporated in various rules.
- Added new requirements for sludge transportation.

#### Rule 15 – Incineration

- Added section F which outlines requirements for regional incineration facilities.
- Added section G which lists additional submission requirements for Order of Approval not listed in Rule 8.
- Deleted cyclonic reactor method of incineration.

Rule 16 – Co-Disposal of Sludge and Solid Waste

- Section E has been added that lists additional submission requirements for Order of Approval not listed in Rule 8.

Rule 18 – Accidental Release

- This rule added to establish requirements for sludge spills and reporting of sludge spills to the department. This language is similar to the “bypass” language in the RIPDES regulations.

Rule 21 – Existing Facilities or Sites

- Deleted section B.

Appendix 1 – Application for Order of Approval

- Deleted in order that the department may revise the application form as needed.

Appendix 2 – Site Information Sheet

- Deleted in order that the department may revise the application form as needed.

STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS  
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
Office of Water Resources

Rules and Regulations for ~~the Treatment, Disposal, Utilization and  
Transportation of~~ Sewage Sludge Management



DRAFT

~~April, 1997~~ June, 2010

Regulation #12-190-008

**AUTHORITY:** These rules and regulations are adopted pursuant to Chapters 42-35, 46-12, 42-17.1, 23-18.9 and 23-19.1 of the Rhode Island General Laws of 1956, as amended.

STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS  
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
Office of Water Resources

RULES AND REGULATIONS FOR ~~THE TREATMENT, DISPOSAL, UTILIZATION AND  
TRANSPORTATION OF~~ SEWAGE SLUDGE MANAGEMENT

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STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS  
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
Office of Water Resources

RULES AND REGULATIONS FOR ~~THE TREATMENT, DISPOSAL,~~  
~~UTILIZATION AND TRANSPORTATION OF SEWAGE SLUDGE~~ MANAGEMENT

**RULE 1. PURPOSE**

The purpose of these rules and regulations is to ensure that sewage sludge, ~~Composted Sludge and Treated Sludge~~ that is treated, utilized and applied, disposed, distributed, stockpiled or transported in the State of Rhode Island is done so in a manner to protect public health and to avoid degradation of the environment. To achieve this purpose, these rules and regulations establish procedures governing the ~~treatment, disposal, utilization and transportation~~ management of sludge, ~~Composted Sludge and Treated Sludge~~.

**RULE 2. AUTHORITY**

These rules and regulations are promulgated pursuant to the requirements and provisions of Chapter 42-17.1, "Department of Environmental Management", Chapter 42-17.6, "Administrative Penalties for Environmental Violations", Chapter 46-12, "Water Pollution", Chapter 23-18.9, "Refuse Disposal", ~~and~~ Chapter 23-19.1, "Hazardous Waste Management", ~~in accordance with the provisions of and~~ Chapter 42-35, "Administrative Procedures Act", of the Rhode Island General Laws of 1956, as amended.

**RULE 3. APPLICABILITY**

- (A) These rules and regulations apply to all sludge, ~~Composted Sludge or Treated Sludge~~ generated by publicly owned treatment works or privately owned treatment works that is utilized or disposed managed in the State of Rhode Island ~~and all Sludge that is treated in the State of Rhode Island~~. All sludge, ~~Composted Sludge or Treated Sludge~~ generated by publicly owned treatment works or privately owned treatment works ~~in the State of Rhode Island or all sludge, Composted Sludge or Treated Sludge~~ that enters the State of Rhode Island for the purposes of ~~treatment, disposal or utilization within the State of Rhode Island~~ of transportation only, shall also be subject to the transportation requirements of these rules and regulations.
- (B) In addition to compliance with these rules and regulations, certain proposed facilities or sites may require compliance with legal requirements imposed by the federal government, other state agencies or offices within the Department and/or local governmental entities (governmental requirements). These rules and regulations are intended to be and should be interpreted to be consistent and/or complementary with ~~these said~~ governmental requirements and any perceived conflicts are unintentional. Should a perceived conflict arise between or among these rules and regulations and the governmental requirements imposed by other departmental regulations or other governmental entities, the most stringent requirement shall govern.
- (C) Byproducts or wastes from commercial or industrial treatment works that do not contain sewage sludge are not subject to these rules and regulations but may be subject to other applicable State and Federal regulations for solid waste or hazardous waste. Sludge generated by Byproducts or wastes from commercial or industrial operations treatment works that contain sewage sludge may also be subject to applicable State and Federal regulations for solid waste or hazardous waste.

**RULE 4. LIBERAL APPLICATION**

The terms and provisions of these rules and regulations shall be liberally construed to permit the Department to effectuate the purposes of state law, goals, and policies.

## RULE 5. DEFINITIONS

For the purposes of these rules and regulations, the following terms shall have the following meanings:

- (A) "Abutter" means any person who owns property adjacent to, or across a road, railroad, or stream from a proposed facility or site.
- (~~AB~~) "Agricultural lands" means those lands utilized for or having the potential for the production of food crops, feed crops or fiber crops.
- (C) "Agronomic rate" means the sludge application rate that is designed to provide the amount of nitrogen or other nutrient(s) needed by the crop or vegetation and minimize the amount of nitrogen that passes below the root zone of the crop or the vegetation to the groundwater.
- (D) "Beneficial use" means taking advantage of the nutrient content and/or soil conditioning properties of sludge by supplying agronomic or soil conditioning benefits such as nitrogen, phosphorus, micronutrients, or organic matter needs for crops, silviculture or establishing a vegetative cover for reclamation sites. Use of Class A Biosolids, Class B Biosolids and Class C Biosolids as landfill cover material is also considered beneficial use.
- (~~BE~~) "Aquifer" means a geologic formation, group of formations, or part of a formation capable of yielding a significant amount of groundwater to wells and springs.
- (~~CF~~) "Applicant" means a person who applies for an Order of Approval or the ~~Commissioner~~Director's approval pursuant to these rules and regulations.
- (G) "Bulk distribution" means the distribution of Class A Biosolids in a container greater than 100 pounds.
- (~~DH~~) "Bulking agent" means material such as sawdust, woodchips or yard trimmings which is added to the sludge to provide structure, lower total moisture content, allow air to reach and be held in small pockets by preventing settling and compaction of the sludge, and in some cases to act as a carbon source for ~~the~~composting operations.
- (~~EI~~) "Class A Biosolids" means any ~~composted Sludge or~~ treated sludge ~~which that~~ meets the metals and pathogen limits established in Appendix 7 of these rules and regulations.
- (~~FJ~~) "Class B Biosolids" means any ~~composted Sludge or~~ treated sludge that does not meet the metals limits established in Appendix 7 but which meets the metals limits established in Appendix 8 of these rules and regulations.
- (~~GK~~) "Class C Biosolids" means any ~~composted Sludge or~~ treated sludge ~~which that~~ does not meet the metals limits in Appendices 7 and 8 of these rules and regulations.
- (L) "Closure" means the procedures used to cease the use of a facility, or a portion thereof, in a manner that will minimize future risks of environmental damage, and includes all post-closure inspection, monitoring, and maintenance activities.
- (~~HM~~) "Composting" means the biological method of stabilizing organic residues through an aerobic, self-heating process.
- (I) ~~"Composted Sludge" means the reduced pathogen, humus-like material resulting from composting Sludge.~~
- (~~JN~~) "Cover" means soil or other approved material placed over sewage sludge in a land disposal site or sewage sludge or solid waste in a solid waste landfill.
- (~~KO~~) "Department" means the Rhode Island Department of Environmental Management.

- (~~LP~~) "~~Commissioner~~**Director**" means the ~~Commissioner or the~~ Director of the Department of Environmental Management or any designee to whom the ~~Commissioner~~**Director** delegates any powers and duties vested in that office.
- (~~Q~~) "~~Disposal~~" means the final discharge, deposit, injection, dumping, mixing, spilling, leaking, incinerating, or placing of sludge into or onto any land so that such sludge or any constituent thereof may enter the environment, be emitted into the air or be discharged into any surface water or groundwater. Disposal includes land application.
- (~~MR~~) "~~Distributor~~" means any person who distributes or markets Class A Biosolids. Any person that receives and distributes or markets packaged Class A Biosolids exclusively is not considered a distributor.
- (~~NS~~) "~~Facility~~" means any building, structure and operation, including land or appurtenances thereto, on one contiguous site used for the generation, processing or management of sludge. A facility includes, but is not limited to a publicly or privately owned treatment works, sludge treatment facility, sludge-only landfill (or monofill),-sludge incinerator and site where sludge is treated, stockpiled or mixed with other sludge or other material for shipment off-site. any publicly or privately owned treatment works that produces or disposes of sludge, Composted Sludge or Treated Sludge.
- (~~OT~~) "~~Feed crops~~" means crops grown for consumption by animals.
- (~~PU~~) "~~Fiber crops~~" means crops, such as flax or cotton that are cultivated for their fiber content and are not consumed by humans or by animals intended for human consumption.
- (~~Q~~) "~~Final Cover~~" means ~~cover material which will be permanently exposed to the environment.~~
- (~~RV~~) "~~Flood plain~~" means that land area adjacent to a river which is, on the average, likely to be covered with flood water resulting from a 100-year frequency storm, and shall be that land so designated as flood plain on the U.S. Department of Housing and Urban Development Federal Insurance Administration Flood Hazard Boundary Map, currently administered by FEMA.
- (~~SW~~) "~~Food crops~~" means crops, including tobacco, consumed by humans.
- (~~X~~) "~~Generator~~" means the person who holds title to a publicly owned treatment works or privately owned treatment works that produces sewage sludge or the facility or site where sludge is mixed or treated to produce another material.
- (~~FY~~) "~~Groundwater~~" means water found underground which completely fills the open spaces between particles of ~~sediment~~soil and spaces within rock formations.
- (~~UZ~~) "~~Hazardous waste~~" means any waste as defined in accordance with Section 23-19.1 and Section 23-19.4 of the General Laws of Rhode Island of 1956, as amended, and regulations adopted pursuant thereto.
- (~~VAA~~) "~~Incorporated into the soil~~" means the injection of liquid sludge ~~or liquid Treated Sludge~~ beneath the surface of the soil or the mixing of sludge, ~~Composted Sludge or Treated Sludge~~ with the surface soil for beneficial use.
- (~~W~~) "~~ISDS Regulations~~" means the "~~Rules and Regulations Establishing Minimum Standards Relating to Location, Design, Construction and Maintenance of Individual Sewage Disposal Systems~~", Rhode Island Department of Environmental Management, August, 1994, as amended.
- (~~XBB~~) "~~Land application~~" or "~~land-applied~~" means the spraying or spreading of sludge, ~~Composted Sludge or Treated Sludge~~ onto the land surface; the injection of ~~liquid Sludge or liquid Treated Sludge~~ sludge below the land surface; or the incorporation of sludge, ~~Composted Sludge or Treated Sludge~~ into the soil so that the sludge, ~~Composted Sludge or Treated Sludge~~ can either condition the soil or fertilize crops or vegetation grown in the soil.

- (CC) "Land disposal" or "land-disposed" means the burial of sludge in a sludge-only landfill (or monofill). Burial of sludge in a solid waste landfill is not considered land disposal.
- (YDD) "Lead free" means any sludge, ~~Composted Sludge or Treated Sludge~~ having no lead present or having lead present in amounts less than the standards established in the Rhode Island Department of Health "Rules and Regulations for Lead Poisoning Prevention," as amended.
- (ZEE) "Lead safe" means any sludge, ~~Composted Sludge or Treated Sludge~~ which pursuant to the Rhode Island Department of Health "Rules and Regulations for Lead Poisoning Prevention," as amended, poses no significant environmental lead exposure hazard despite having a lead concentration above that required for a designation as "lead free" (see subrule (WEE) above).
- (FF) "Management" or "manage" means the supervising, controlling, or undertaking of any sludge activity(ies) regulated under these rules and regulations including transporting, processing, land applying, disposing, stockpiling, treating or distributing of sludge.
- (AAGG) "Monitoring well" means a cased and screened well that intercepts the groundwater and can be used to detect the presence of groundwater contamination. All monitoring wells are to be designed based on criteria established by the Department.
- (BBHH) "Office of Water Resources" means the Office of Water Resources of the Department of Environmental Management.
- (EEII) "Operator" means the person in control of or having responsibility for managing the ~~daily operation of sludge activity(ies) at~~ a facility ~~or~~ site or publicly or privately owned wastewater treatment facility.
- (JJ) "Order of Approval" means a written document issued by the department, which authorizes the holder to manage a site or facility or transport sludge according to the terms of the document.
- (DDKK) "Owner" means the person named on the Federal National Pollutant Discharge Elimination System (NPDES) or the Rhode Island Pollutant Discharge Elimination System (RIPDES) permit issued for ~~the~~ facility or the applicant named on the Order of Approval or the person holding title to ~~the~~ a facility or site where sludge is generated and/or managed or is proposed to be generated and/or managed.
- (EELL) "Pathogen" means disease-causing organisms including, but not limited to, certain bacteria, protozoa, viruses, and viable helminth ova.
- (FMMM) "Person" shall include an individual, trust, firm, joint stock company, corporation (including a quasi-governmental corporation), partnership, association, syndicate, municipality, municipal or state agency, fire district, club, non-profit agency or any subdivision, commission, department, bureau, agency or department of state or federal government (including any quasi-governmental corporation) or of any interstate body.
- (GGNN) "pH" means the logarithm of the reciprocal of the hydrogen ion concentration (base 10).
- (HHOO) "Pollutant" means any dredged material, solid waste, incinerator residue, sewage, garbage, sewage sludge, sediment, filter backwash, munitions, chemical wastes, ~~sewage~~, biological materials, radioactive materials, heat, wrecked or discarded equipment, rock, sand, cellar dirt, industrial, ~~or~~ municipal, ~~or~~ agricultural waste or effluent, petroleum or petroleum products, including but not limited to oil; or any material which may will likely alter the aesthetiephysical, chemical, ~~physical~~, biological, ~~thermal~~ or radiological characteristics and/or integrity of water; which may include rock and sand.
- (II) ~~"Preparer" means a publicly owned treatment works or privately owned treatment works that generates sewage sludge, Composted Sludge or Treated Sludge.~~

- (~~HP~~) **"Private drinking water supply well"** means any well established for the purpose of meeting all or part of a person's potable water needs provided said well does not supply a public drinking water supply.
- (~~KK~~) **"Privately owned treatment works"** means any facility which is owned by a private individual or private party or corporation or other private entity and is used for the treatment of pollutants. This definition includes sewers, pipes if they convey wastewater to a privately owned treatment works as well as any equipment, buildings or machinery used in the treatment operation.
- (~~RR~~) **"Processing"** means any activity that reduces the quantity of sludge or alters its chemical, biological, or physical state.
- (~~LS~~) **"Processes to Significantly Reduce Pathogens (PSRPs)"** and **"Processes to Further Reduce Pathogens (PFRPs)"** means the processes listed in Appendix 3 and Appendix 4, respectively, which will reduce pathogens in sludge.
- (~~MM~~) **"Public drinking water supply well"** means any well supplying a water system with piped water for human consumption, provided that such a system has at least 15 service connections or regularly serves an average of at least 25 individuals daily at least 60 days of the year.
- (~~NN~~) **"Publicly owned treatment works (POTW)"** means any facility which is used for the treatment of pollutants and is owned by the state or any political subdivision thereof, municipality, or other public entity, including any quasi-governmental corporation. This definition includes sewers, pipes if they convey wastewater to a publicly owned treatment works and any equipment, buildings or machinery used in the treatment operation.
- (~~VV~~) **"Reclamation"** means the addition of organic matter and nutrients to improve and/or promote establishment of vegetation on soils which have been severely disturbed or which are in a poor vegetative state.
- (~~WW~~) **"Septage"** is either liquid or solid material removed from a septic tank, cesspool, portable toilet, marine sanitation device, or similar treatment works that receives only domestic sewage.
- (~~OX~~) **"Sewage"** or **"wastewater"** means human waste, or wastes from toilets and other receptacles intended to receive or retain body waste, and any wastes, including wastes from human households, commercial establishments, and industries.
- (~~PP~~) **"Silviculture"** means the growing or cultivation of forests.
- (~~QZ~~) **"Site"** means contiguous land areas owned by the same person(s) on which sludge is managed even if the land area is divided by a highway, railroad, water body, or boundary of a political subdivision used for the treatment, disposal, distribution or utilization of sludge, Composted Sludge or Treated Sludge.
- (~~RA~~) **"Sludge"** or **"sewage sludge"** means residue, partially solid, or solid, treated or untreated, resulting from the treatment of sewage, including such residues from the cleaning of sewers, by processes, such as settling, flotation, filtration and centrifugation, that does not meet the criteria for a hazardous waste. Domestic septage is not considered sludge.
- (~~SB~~) **"Solid Waste Regulations"** means the "Rules and Regulations for Solid Waste Management Facilities", Rhode Island Department of Environmental Management, April 1992, as amended.
- (~~CC~~) **"Stockpiling"** means the storage of sludge.
- (~~TF~~) **"Surface water"** means any waters of the State that are not groundwaters.
- (~~UU~~) **"Toxicity Characteristic Leachate Procedure (TCLP)"** means a quantitative analysis to determine hazardous

characteristics as described in 40 CFR Part 261, Appendix II, ~~issued March 29, 1990.~~

~~(VVFFF)~~ **"Transporter"** means ~~the any person engaged in the removal or transporting of sludge, Composted Sludge or Treated Sludge or the person acting on behalf of the person transporting sludge, Composted Sludge or Treated Sludge. Any person that transports packaged Class A Biosolids exclusively is not considered a transporter.~~

~~(WWGGG)~~ **"Treated sludge"** means sewage sludge ~~which that~~ is treated by one or more of the methods listed in Appendix 4, Process to Further Reduce Pathogens ~~chemical, thermophilic or other alternative method to composting.~~

~~(XX)~~ **"User"** means ~~the person that utilizes Composted sludge or Treated Sludge.~~

~~(YYHHH)~~ **"Vector"** means a carrier, ~~usually an animal, that is~~ capable of transmitting a pathogen from one organism to another, including but not limited to flies and other insects, rodents, birds and other vermin.

~~(ZZIII)~~ **"Waters of the state" or "the waters"** means all surface water and groundwater of the State of Rhode Island, including all tidewaters, territorial seas, wetlands, land masses partially or wholly submerged in water, and both inter- and intra-state bodies of water which are, have been or will be used in commerce, by industry, for the harvesting of fish and shellfish or for recreational purposes.

~~(AAAJJ)~~ **"Well"** means a bored, drilled or driven shaft or a dug hole, with a depth greater than its largest surface dimension, through which groundwater flows under natural or induced pressure.

~~(BBBKKK)~~ **"Wellhead protection area"** means that portion of the ground surface and subsurface area surrounding a public well or wellfield through which water will move toward and reach such well or wellfield as designated by the ~~Commissioner~~Director in accordance with the Rhode Island Wellhead Protection Program.

~~(CCCLLL)~~ **"Wetlands"** means those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs and similar areas. For freshwaters, wetlands are determined by the Office of Water Resources using the Rules and Regulations Governing the Enforcement and Administration of the Freshwater Wetlands Act, as amended. Coastal wetlands are determined by rules and regulations under the jurisdiction of the Coastal Resources Management Council.

## **RULE 6. SLUDGE MANAGEMENT OPERATIONS.**

(A) The owner or operator of a ~~publicly owned treatment works or privately owned treatment works facility or site~~ is required to operate and maintain properly all equipment and systems used to achieve compliance with these rules and regulations. Proper operation and maintenance includes effective performance, adequate funding, adequate staffing and training, and adequate laboratory and process controls, including appropriate quality assurance procedures.

(B) Upon any interruption in operations of the facility or site due to loss or reduction of power or other equipment failure, the owner or operator shall control ~~disposal, operations and~~ management of the facility or site to the extent necessary to maintain compliance with these rules and regulations until such time as power or other equipment is restored or an alternative method of disposal management is provided.

(C) The owner or operator shall take immediate action necessary to correct any non-compliance with these rules and regulations when such non-compliance may have an adverse effect on public health or the environment.

(D) The owner or operator shall notify the Office of Water Resources in writing, at least ninety (90) days prior to any alteration or modification of the facility or site, change in ~~the disposal, use or transportation~~management practices of the facility or site, or any other activity which may result in non-compliance with these rules and regulations.

(E) The owner or operator shall immediately notify the Office of Water Resources of any substantial change in the volume or composition of sludge, ~~Composted Sludge or Treated Sludge~~ resulting from the introduction of pollutants into the

facility or site. The notice shall include information on the quantity and composition of sludge, ~~Composted Sludge or Treated Sludge~~, the source of the new pollutants or efforts made to discover the source, and any impacts on ~~utilization or disposal-management~~ practices resulting from the change.

## **RULE 7. REQUIREMENTS FOR ORDER OF APPROVAL**

(A) ~~An Order of Approval must be obtained for each facility and for each site by either t~~The owner or operator of ~~thea~~ facility or site must obtain an Order of Approval. The owner or operator of the facility or site must operate at all times in accordance with the Order of Approval, ~~and~~ the completed Application for ~~an~~ Order of Approval ~~(see Appendix 1) and the Management Plan for the facility or site.~~

~~(B) Rule 7(A) does not apply to a site upon which Class A Biosolids is land applied.~~

~~(B) Except as provided in Rule 7(C) below, an Order of Approval shall be required for:~~

~~(1) The processing, treatment, transporting, land application, land disposal, co-disposal (of sludge and solid waste), incineration and/or distribution of sludge;~~

~~(2) All sludge mixing facilities and sites where the resultant sludge is to be used on site or off site;~~

~~(3) All sludge stockpiling facilities and sites; and~~

~~(4) The closure of a land disposal facility or site.~~

~~(C) Unless the Director determines that A~~an Order of Approval is necessary for a specific facility or site to protect public health and to avoid degradation of the environment, an Order of Approval shall not be not be required for:

~~(1) The transportation of Class A Biosolids;~~

~~(2) The interstate transportation of sludge that is not generated, processed, transferred, stored, used or disposed of in the State of Rhode Island;~~

~~(3) Any site upon which Class A Biosolids is land applied for beneficial use which meets the following conditions:~~

~~(a) The Class A Biosolids is generated by a facility that holds a valid Order of Approval from the Department to generate Class A Biosolids;~~

~~(b) The owner of the site or the person land applying the Class A Biosolids is not the owner of the facility or site where the Class A Biosolids is generated;~~

~~(c) The Class A Biosolids is stored at the land application site no longer than six (6) months prior to land application;~~

~~(d) The quantity of Class A Biosolids stored at the land application site is consistent with the appropriate application rate and size of the land application area;~~

~~(e) The stockpile area and land application area is not located within fifty (50) feet of any surface water;~~

~~(f) Adequate erosion control is used to prevent material from entering any waters of the state;~~

~~(g) The site complies with the department's Office of Air Resources Air Pollution Control Regulation 17; and~~

~~(h) The person land applying the Class A Biosolids at the site possesses and follows a Department-approved User's Guide provided by the facility that generates the Class A Biosolids.~~

~~(4) Any Class A Biosolids distribution facility and/or mixing facility or site, such as a landscaping company or soil blending facility, or stockpile site which meets the following conditions:~~

~~(a) The Class A Biosolids is generated by a facility that holds a valid Order of Approval from the Department to generate Class A Biosolids;~~

~~(b) The owner of the site is not the owner of the facility or site where the Class A Biosolids is generated;~~

~~(c) The facility or site is not located within 50 feet of a surface water body;~~

- (d) The amount of unmixed Class A Biosolids stockpiled at the site does not exceed 500 cubic yards at any one time (any mixed material that contains more than 40% Class A Biosolids by volume shall be considered unmixed for the purposes of this storage limit);
- (e) Other than the mixing of Class A Biosolids with soil or appropriate soil amendment materials, no further processing or treatment of the Class A Biosolids takes place at the facility or site;
- (f) The Class A Biosolids or mixed Class A Biosolids is intended for beneficial use;
- (g) If mixing takes place, the mixing process does not degrade the quality of the Class A Biosolids;
- (h) Stockpiling of unmixed Class A Biosolids does not take place during the period starting on the first day of November and ending the last day of February;
- (i) The site has adequate erosion control to prevent mixed or unmixed Class A Biosolids from entering waters of the state;
- (j) The site complies with the Department's Office of Air Resources Air Pollution Control Regulation 17;
- (k) The owner or operator of the facility or site provides a department-approved User's Guide or information sheet to any person(s) that receives unmixed Class A Biosolids from the facility or site pursuant to Rules 12(A)(2)(a-b) of these rules and regulations; and
- (l) The owner or operator of the facility or site maintains written records pursuant to Rule 12(A)(2)(c) of these Rules and Regulations.

~~(C) All transporters must operate at all times in accordance with the Order of Approval.~~

~~(D) The applicant must submit to the Commissioner an Application for an Order of Approval (Appendix 1). The An aApplication for Order of Approval must be submitted at least ninety (90) days prior to the anticipated date of operation of any proposed facility or site. Said applications must be accompanied by a fee of \$150.00 per the appropriate application fee along with any plans, specifications and an operating planManagement Plan as stipulated in these rules and regulations. An Applicant may apply to the Commissioner for approval to conduct a one-time pilot project utilizing no more than thirty (30) cubic yards of Class A Biosolids or Class B Biosolids. No application fee is required for such projects. Where land for the disposal, treatment, distribution or utilization of sludge, composted sludge or treated sludge the facility or site is not owned by the applicant, certified copies of any lease or contracted agreements or other documentation acceptable to the Department providing the applicant with adequate authority to engage in the proposed activity on at the subject facility or site must also be submitted. Where such information has been previously submitted to the CommissionerDirector and approved and where the applicant proposes to continue the previously approved means of disposal, treatment, distribution or utilization sludge management or when utilizing an-state approved site, the CommissionerDirector may waive the requirement that additional plans, specifications and Operation and Maintenance ManualsManagement Plans accompany the application.~~

~~(E) A person may request approval from the Director to conduct a one-time pilot project for the beneficial use of no more than thirty (30) cubic yards of Class A Biosolids in those instances where the distributor that is to provide the Class A Biosolids does not hold an Order of Approval from the department to generate or distribute Class A Biosolids. Such a request must be submitted in writing and must include a description of the source of the sludge, lab analysis demonstrating that the sludge meets Class A Biosolids standards and a detailed description of the nature of the pilot project. An application fee is not required for such projects.~~

~~(EF) Notice of the Commissioner's initiation of proceedings to review an application shall be provided by-The Director may require that the applicant provide notification of any Application for Order of Approval to all potentially affected parties as determined by the CommissionerDirector. At a minimum, the applicant may be required to shall notify all abutters owners of land abutting of the proposed facility or site, of the proposed activity. The Commissioner shallmay schedule a public hearing as required pursuant to Rhode Island General Laws Chapter 42-35 to solicit public comment prior to rendering a decision on the application. The applicant shall be required to pay the expenses for notice and hearing.~~

~~(FG) The owner or operator of an approved facility or site who seeks to change the treatment, disposal, distribution or utilization land application methods, or who seeks to add facilities or sites, must apply for a new Order of Approval for such modifications at least ninety (90) days prior to the anticipated modification.~~

~~(GH) Approval of the-The Department must issue an Order of Approval on an application for a proposed facility or site must~~

~~be made~~ prior to implementation of the sludge treatment, ~~or stockpiling, utilization and application, method or~~ disposal or distribution at the facility or site. Said approval shall remain in full force and effect until terminated by the ~~Commissioner~~Director.

- (~~H~~) In those instances where sludge ~~treatment, disposal, distribution or utilization management at a facility or site~~ is delegated by the owner to another person~~party~~, it shall remain the responsibility of the owner to meet all requirements of these rules and regulations and to submit the necessary documents for the ~~Commissioner~~Director to issue an Order of Approval.
- (~~I~~) Approval of a facility or site involves an initial evaluation of the plan in accordance with Rule ~~s 9, 11 and 138~~ of these rules and regulations.
- (~~K~~) Upon receipt of an application the Department shall review the application for completeness. If the application is incomplete, the Department shall list the information necessary to make the application complete and shall specify a date for submitting the necessary information. Where the Department has deemed an application to be deficient, the processing of the application will be suspended and the applicant given a deadline to correct said deficiencies to the satisfaction of the Department. If the applicant fails or refuses to correct said deficiencies within the time period specified or extension granted by the Department, the application shall be denied.
- (~~L~~) After an application is determined to be complete, the Department may request additional information from an applicant but only when necessary to clarify, modify, or supplement previously submitted material. Requests for such additional information will not render an application incomplete, but if the applicant fails or refuses to submit such information, the application may be denied.
- (~~M~~) During the review of an application, the Department shall determine whether a site visit(s) and inspection are necessary in order to evaluate the application completely and accurately. If the Department decides that a site visit is necessary for any reason in conjunction with the processing of an application, the applicant shall be notified and a site visit shall be scheduled.
- (~~N~~) The department shall issue an Order of Approval when and if it determines that all applicable requirements of these rules and regulations have been met.
- (~~J~~) An owner of a facility or site may apply to the ~~Commissioner~~Director for a transfer of the Order of Approval to a new owner. The current owner must apply to the ~~Commissioner~~Director in writing by certified mail of the proposed transfer at least ninety (90) days prior to the proposed transfer date and must include the following information:
- (1) Name and address of ~~the subject~~current facility or site;
  - (2) Name and address of new owner(s) and operator(s);
  - (3) Names and addresses of the person(s) upon whom the ~~Commissioner~~Director may serve legal process;
  - (4) A notarized statement signed by a duly authorized officer or agent of the new owner stating that he or she has read the original Application for ~~an~~ Order of Approval and believes that to the best of his or her knowledge there has been no material change in the operations of the facility or site since the Order of Approval was issued or describes the changes that have occurred since the Order of Approval was issued, and
  - (5) A proposed transfer date on which the new owner will assume the Order of Approval and all accompanying responsibility.
- (~~K~~) The ~~Commissioner~~Director may approve a change in the method of treatment, disposal, ~~utilization and application,~~ or transportation of sludge, ~~Composted Sludge or Treated Sludge~~ from a publicly owned treatment works or privately owned treatment works for emergency situations without requiring the owner or operator of the facility to first apply for an Order of Approval. The owner or operator of the facility must submit to the ~~Commissioner~~Director an Application for ~~an~~ Order of Approval within fourteen (14) days of receiving an emergency approval from the ~~Commissioner~~Director ~~in accordance with Rule 7(D).~~
- (~~Q~~) The owner or operator of an approved facility or site shall furnish to the Department within a reasonable time, any

information which the Department may request to determine whether cause exists for modifying, suspending, or revoking the facility or site's Order of Approval. The owner or operator of an approved facility or site shall also furnish to the Department upon request, copies of records required by the Order of Approval.

(R) The owner or operator of an approved facility or site shall retain records of all information required under the Order of Approval for a period of at least five (5) years from the date that record was generated. This period may be extended by request of the Department at any time.

## **RULE 8. APPLICATION FOR ORDER OF APPROVAL**

This rule outlines the information that must be filed with the Department when applying for an Order of Approval to manage sludge. This Rule does not apply to an applicant that proposes to only transport sludge (see Rule 14). A registered professional engineer or land surveyor must stamp plans and submissions required below. The plans should be scaled to fit on a standard 24 x 36 inch sheet wherever possible. Larger sheets must be used when the minimum scale requirements do not permit the use of 24 x 36 inch sheets. The Director may require additional information if necessary to satisfy the requirements of these rules and regulations.

### (A) Application Form

The applicant shall provide information on the proposed sludge management activity on an application form obtained from the department.

### (B) Initial Investigation Plans

Copies of the latest U.S. Geological Topographic Map, Farm Services Agency aerial maps and the United States Department of Agriculture Soil Survey Map, with the facility or site outlined and an indication of the required setbacks shall be submitted to the Office of Water Resources prior to all other required information. This will allow initial evaluation of the plan relating to wetlands, aquifers, and soil type before large investigatory and developmental expenditures are made. A report of the evaluation shall be made to the applicant. The report shall list what submissions, from Rules 8(C-G) below and from other Rules in these rules and regulations specific to the proposed management activity must be submitted to the Office of Water Resources to obtain an Order of Approval.

### (C) Radius Plan

A radius plan including all the information listed below shall be submitted. The radius plan must be drawn at a minimum scale of one inch to two hundred feet (1"=200') and include all areas within a one quarter (1/4) mile radius from all property lines of the site. The required information includes:

- (1) All buildings;
- (2) All water supplies (wells, etc.);
- (3) All surface watercourses and wetlands;
- (4) All roads;
- (5) All boring locations (where applicable);
- (6) Legal boundaries of facility or site;
- (7) North arrow;
- (8) Extent of one hundred (100) year flood plain (where applicable), and
- (9) Local zoning and permitting requirements.

### (D) Soil Borings

Borings are required for all proposed areas to be filled or developed with the exception of land application sites. The minimum number of borings required is listed below:

<u>Proposed No. of Acres</u>	<u>No. of Borings</u>
<u>1 – 10</u>	<u>3</u>
<u>11 - 50</u>	<u>6</u>
<u>51 - 100</u>	<u>12</u>
<u>101 - 200</u>	<u>18</u>
<u>Over 200</u>	<u>24 plus 1 for every 10 acres over 200</u>

Split spoon samples shall be collected at a minimum of five (5) foot intervals. A soil description shall be provided for each split spoon sample. All borings should be driven to a minimum depth of twenty (20) feet below the proposed bottom level of sludge or to refusal. The following information contained on the boring logs should be submitted:

- (1) Depth of the maximum elevation of the groundwater table (to be measured at a minimum of twenty four (24) hours after the boring is taken);
- (2) A detailed soil profile description to a depth of four (4) feet must be submitted for each soil mapping unit on the site. The required information includes:
  - (a) Color of each horizon;
  - (b) Texture of each horizon;
  - (c) Depth of each horizon;
  - (d) Depth to mottles (if any);
  - (e) Amount of coarse fragments (if any);
  - (f) Depth to bedrock (if encountered);
  - (g) Consistence or relative density, and
  - (h) Slope.
- (3) Method of boring;
- (4) Blow counts, and
- (5) Date boring was taken.

The boring should be located to give the best indications of subsurface conditions for the whole site that can be obtained considering the limited number of borings required. The groundwater table elevation determination shall be made when the water table is highest; this occurs usually during the months of January through April. (Specific dates may be determined on a yearly basis by the Director.) All boring holes must be maintained for future water table elevation determinations. If the Director feels it necessary, additional borings may be required.

(E) Groundwater Survey

A groundwater survey showing the maximum ground water elevations, the direction of groundwater flow, and an estimation of the rate of flow (including calculations) shall be submitted.

(F) Site Delineation

The following areas at the proposed site shall be marked with stakes at the time of the engineering survey. The stakes must be a minimum of two (2) feet high, clearly visible and maintained at all times. All sites shall include the following delineations:

- (1) Areas enclosed by legal boundaries; and
- (2) Areas to be developed or filled as indicated in the Operation and Maintenance Plan.

(G) Management Plan

A Management Plan shall be submitted detailing operating procedures for the facility or site.

**RULE 89. LAND DISPOSAL—~~GENERAL REQUIREMENTS~~**

This rule applies to the disposal of sludge, ~~Composted Sludge or Treated Sludge~~ by burial. All applications for land disposal sites are to be in accordance with the design and operational requirements for solid waste landfills as promulgated by the Office of Waste Management, Rhode Island Department of Environmental Management. (Sludge burial at a solid waste landfill is covered under Rule 16 of these rules and regulations.) All land disposal sites must operate under an Order of Approval and must meet the following requirements. ~~(Burial at a solid waste landfill is covered under Rule 16.)~~

**(A) Condition of Sludge, ~~Composted Sludge or Treated Sludge~~**

Sludge, ~~Composted Sludge or Treated Sludge~~ that is land disposed must be treated by one or more of the Processes to Significantly Reduce Pathogens ~~(see listed in Appendix 3)~~ 1 of these rules and regulations. Such treatment is the responsibility of the owner or operator of the facility performing the Process to Significantly Reduce Pathogens. Sludge, ~~composted sludge or treated sludge~~ that meets the hazardous waste criteria shall not be ~~is~~ land disposed ~~shall not meet the criteria for hazardous waste~~.

**(B) Groundwater**

A minimum of five (5) feet of soil is required between the lowest level of deposited sludge, ~~Composted Sludge or Treated Sludge~~ and the highest water table level established during and the seasonal high groundwater table ~~periods~~ determined by ~~the Department a~~ DEM-licensed Class IV soil evaluator in accordance with the ~~Department's ISDS regulations~~ procedures described in the Department's Rules Establishing Minimum Standards Relating to Location, Design, Construction and Maintenance of Onsite Wastewater Treatment Systems. The determination of the seasonal high groundwater table must be witnessed by the Department. In addition, a minimum of five (5) feet of soil is required between the highest level of bedrock and lowest level of deposited sludge, ~~Composted Sludge or Treated Sludge~~. If the owner or applicant seeks a variance from the separation distances under Rule ~~2422~~ of these rules and regulations, the ~~Commissioner~~ Director may require the installation of an impermeable liner system and leachate collection and treatment system or other means to prevent leachate from reaching the groundwater as a condition for the granting of such variance.

**(C) Surface Water**

No sludge, ~~Composted Sludge or Treated Sludge~~ shall be land disposed within 200 feet of any body of surface water. No sludge, ~~Composted Sludge or Treated Sludge~~ shall be land disposed within one thousand two hundred (1200) feet from the center line of the following freshwater rivers: Ashaway River, Beaver River, Blackstone River, Chepachet River, Clear River, Falls River, Flat River, Hunt River, Moshassuck River, Moosup River, Narrow River, Pawcatuck River, Pascoag River, Pawtuxet River, and Wood River. No sludge, ~~Composted Sludge or Treated Sludge~~ shall be land disposed of in the watershed of any surface water used as a public drinking water supply. The ~~Commissioner~~ Director may, if necessary, require continuous monitoring of any surface watercourses in the vicinity of the proposed land disposal site. Such monitoring shall be of a type and frequency determined by the ~~Commissioner~~ Director on a case-by-case basis and shall be the responsibility of the owner or operator.

**(D) Drinking Water Wells**

No sludge, ~~Composted Sludge or Treated Sludge~~ shall be land disposed within one thousand (1,000) feet of any private drinking water supply well or within the Wellhead Protection Area for a public drinking water supply well. Land disposal of sludge, ~~Composted Sludge or Treated Sludge~~ shall be in accordance with the Rhode Island Groundwater Protection Act of 1985, 46-13.1 and any rules and regulations promulgated thereunder.

(E) Distance to Buildings

No sludge, ~~Composted Sludge or Treated Sludge~~ shall be land disposed within six hundred (600) feet of any domestic, commercial or industrial structure not associated with the proposed land disposal site.

(F) Distance to Property Lines

No sludge, ~~Composted Sludge or Treated Sludge~~ shall be land disposed within two hundred (200) feet of a property line.

(G) Monitoring Wells

For the purpose of monitoring groundwater conditions, the owner or operator of a land disposal site shall install and maintain monitoring wells of a number and type approved by the ~~Commissioner~~Director and at locations chosen by the ~~Commissioner~~Director. The owner or operator of the site is responsible for analysis of groundwaters in accordance with instructions of the ~~Commissioner~~Director. The Director shall determine the testing and reporting frequency.

(H) Erosion Control

The owner or operator shall make provisions to have the land disposal site, including the fill surface, graded and provided with a drainage system to minimize surface water runoff onto and into the fill, to drain off rain water falling on the fill and to prevent the collection of standing water.

(I) Transportation

All transportation of sludge, ~~Composted Sludge or Treated Sludge~~ shall comply with Rule 14 of these rules and regulations~~be transported in vehicles that are properly sealed, watertight and covered while in transit so as to prevent any leaking or dropping of sludge, Composted Sludge or Treated Sludge.~~

(J) Cover Material

A soil cover of at least six (6) inches shall be applied to all sludge, ~~Composted Sludge or Treated Sludge~~ deposits daily to control disease vectors and nuisance conditions. Final cover in terminating the use of a land disposal site shall be two (2) feet in depth.

(K) Odor Control

Any land disposal site must comply with the Rhode Island Department of Environmental Management, Office of Air Resources Air Pollution Control Regulation 17, as amended, or other rules and regulations pertaining to odors.

(L) Analysis of Sludge, ~~Composted Sludge or Treated Sludge~~

All sludge, ~~Composted Sludge or Treated Sludge~~ intended for land disposal may be required to be tested using the Toxicity Characteristic Leaching Procedure for the parameters listed in Appendix 64 of these rules and regulations and the results submitted to the Office of Water Resources. The owner or operator of the facility is responsible for all analyses. The ~~Commissioner~~Director shall determine the testing and reporting frequency depending upon the amount of sludge, ~~Composted Sludge or Treated Sludge~~ produced.

(M) Submissions for Approval

The following submissions are required as part of an Application for Order of Approval for land disposal of sludge and must be stamped by a registered professional engineer or land surveyor. These submissions are in addition to the submission requirements listed in Rule 8.

(1) Site Plan

A site plan shall be submitted for all areas within the land disposal site. The site plan must be drawn to a minimum scale of one inch to one hundred feet (1"=100'). The site plan must include the following information:

- (a) Initial ground contours at five-foot intervals;
- (b) Final proposed contours at five-foot intervals;
- (c) Boring locations;
- (d) Proposed leachate collection and treatment systems;
- (e) Proposed gas controls (if any);
- (f) Buildings (if any);
- (g) Wells (if any);
- (h) Surface water courses (if any);
- (i) Roads (if any);
- (j) Cross section lines (see Rule 9(M)(2));
- (k) Groundwater monitoring wells;
- (l) Legal boundaries of site;
- (m) Power lines, pipe lines, rights of way and other utilities;
- (n) Proposed fences;
- (o) Weighing facilities (if any);
- (p) North arrow;
- (q) Location of borrow areas (if any), and
- (r) Boundaries of areas to be filled.

(2) Cross Section

Typical cross section plans of the land disposal site shall be submitted. A minimum of two cross sections are required of right angled center lines passing through the approximate middle of the land disposal site. The cross section plans should be drawn using a minimum horizontal scale of one inch to one hundred feet (1"=100'). All required details should be drawn using equal vertical and horizontal scales. The cross section plans must include the following information:

- (a) Proposed lifts;
- (b) Virgin ground;
- (c) Maximum groundwater table;
- (d) Bedrock location;
- (e) Side slopes;
- (f) Details of surface drains and ditches;
- (g) Final fill elevation and grades;
- (h) Limits of excavations;
- (i) Final cover elevations;
- (j) Details on access road construction;
- (k) Details of leachate collection and treatment systems;
- (l) Details of gas venting facilities (if any), and
- (m) Details of groundwater monitoring wells with soil profiles.

(3) Management Plan

The Management Plan shall include the following information:

- (a) Type of method to be used (trench, area, etc.);
- (b) Provisions for appropriate liners;
- (c) Proposed sequence of operation;
- (d) Estimate of amount of cover material available or to be purchased and from whom;

- (e) Operating hours;
- (f) Personnel and duties;
- (g) Projected use of completed land disposal site;
- (h) Dust control program;
- (i) Vector control program;
- (j) Odor control program;
- (k) Procedures to control erosion and sedimentation and to promote vegetative growth in completed areas;
- (l) Equipment to be on site during operating hours;
- (m) Substitute equipment available;
- (n) Communications equipment available;
- (o) Population and service area;
- (p) Winter operations;
- (q) Provisions for limiting access such as fencing, signs, etc.;
- (r) Weighing facilities (if any);
- (s) Estimated life of land disposal site;
- (t) Aesthetic considerations;
- (u) Leachate treatment operations, and
- (v) Surface drainage control methods.

(4) Closure Plan

A closure plan for all areas within the land disposal site shall be submitted. The closure plan must be drawn to a minimum scale of one inch to one hundred feet (1" = 100'). The closure plan must include the following information:

- (a) Date of proposed closure;
- (b) Methods of restricting access and preventing additional disposal;
- (c) Methods of protecting ground and surface water and controlling air emissions;
- (d) Date on which all land disposal areas will be covered with two (2) feet of final cover;
- (e) Date of installation of impermeable covering, if any, and planting with vegetation;
- (f) Final grades and method of maintaining final grades and promoting surface runoff;
- (g) Fences and gates;
- (h) Location and description of groundwater and surface water monitoring stations and provision that such monitoring shall continue on a quarterly basis for up to five (5) years after the site is closed, and
- (i) Legal boundaries.

In addition, the applicant shall set aside a post-closure monitoring fund for a monitoring period of up to thirty (30) years subsequent to the closure of the land disposal site. The applicant shall establish a post-closure monitoring and maintenance fund designated "in trust for the post-closure monitoring and maintenance of the land disposal site." A bank or other financial institution approved by the Director shall act as trustee of the trust fund. The trust instrument shall provide that the Director shall have the right to use such part of the fund as is necessary to carry out the post-closure monitoring and maintenance for the land disposal site in accordance with these rules and regulations. The trust instrument shall also provide that the Director shall determine whether post-closure expenditures are reasonable and in accordance with the closure plan. The trustee shall release these funds upon receipt of a written request from the Director.

(5) Analysis of Sludge

All results of the sludge analysis required in Rule 9(L) shall be submitted.

**~~RULE 9. LAND DISPOSAL— SUBMISSIONS FOR APPROVAL~~ [Moved to Rules 8 and 9(L)]**

~~Plans and submissions required by Rules 9(B)—(F) below must be stamped by a registered professional engineer or land surveyor. The plans should be sealed to fit on a standard 24 x 36 inch sheet wherever possible. Larger sheets must be used~~

when the minimum scale requirements do not permit the use of 24 x 36 inch sheets. The Commissioner may require additional information if necessary to satisfy the requirements of these rules and regulations.

~~(A) — Initial Investigation Plans~~

~~Copies of the latest U.S. Geological Topographic Map, Farm Services Agency aerial maps and the United States Department of Agriculture Soil Survey Map, with the Land Disposal Site outlined and an indication of the required setbacks, must be submitted to the Office of Water Resources prior to all other required information. This will allow initial evaluation of the plan relating to wetlands, aquifers, and soil type before large investigatory and developmental expenditures are made. A report of the evaluation shall be made to the Applicant. The report shall list what submissions, if any, from Rules 9(B) — (J) below must be submitted to the Office of Water Resources to obtain an Order of Approval.~~

~~(B) — Radius Plan~~

~~A radius plan shall be submitted. The radius plan must be drawn at a minimum scale of one inch to two hundred feet (1"=200') and include all areas within a one quarter (1/4) mile radius from all property lines of the Land Disposal Site. The radius plan must include the following information:~~

- ~~(1) — All buildings;~~
- ~~(2) — All water supplies (wells, etc.);~~
- ~~(3) — All surface water courses and wetlands;~~
- ~~(4) — All roads;~~
- ~~(5) — All boring locations;~~
- ~~(6) — Legal boundaries of Site;~~
- ~~(7) — North arrow;~~
- ~~(8) — Extent of one hundred (100) year flood plain (where applicable), and~~
- ~~(9) — Local zoning and permitting requirements.~~

~~(C) — Site Plan~~

~~A Site plan shall be submitted for all areas within the Land Disposal Site. The Site plan must be drawn to a minimum scale of one inch to one hundred feet (1"=100'). The Site plan must include the following information:~~

- ~~(1) — Initial ground contours at five foot intervals;~~
- ~~(2) — Final proposed contours at five foot intervals;~~
- ~~(3) — Boring locations;~~
- ~~(4) — Proposed leachate collection and treatment systems;~~
- ~~(5) — Proposed gas controls (if any);~~
- ~~(6) — Buildings (if any);~~
- ~~(7) — Wells (if any);~~
- ~~(8) — Surface water courses (if any);~~
- ~~(9) — Roads (if any);~~
- ~~(10) — Cross Section lines (see Rule 9(D));~~
- ~~(11) — Ground water monitoring wells;~~
- ~~(12) — Legal boundaries of Site;~~
- ~~(13) — Power lines, pipe lines, rights of way and other utilities;~~
- ~~(14) — Proposed fences;~~
- ~~(15) — Weighing facilities (if any);~~
- ~~(16) — North arrow;~~
- ~~(17) — Location of borrow areas (if any), and~~
- ~~(18) — Boundaries of areas to be filled as indicated in operating plan (see Rule 9(H)).~~

~~(D) — Cross Section~~

Typical cross section plans of the Land Disposal Site shall be submitted. A minimum of two cross sections are required of right angled center lines passing through the approximate middle of the Land Disposal Site. The cross section plans should be drawn using a minimum horizontal scale of one inch to one hundred feet (1"=100'). All required details should be drawn using equal vertical and horizontal scales. The cross section plans must include the following information:

- (1) Proposed lifts;
- (2) Virgin ground;
- (3) Maximum groundwater table;
- (4) Bedrock location;
- (5) Side slopes;
- (6) Details of surface drains and ditches;
- (7) Final fill elevation and grades;
- (8) Limits of excavations;
- (9) Final cover elevations;
- (10) Details on access road construction;
- (11) Details of leachate collection and treatment systems;
- (12) Details of gas venting facilities (if any), and
- (13) Details of ground water monitoring wells with soil profiles.

(E) Soil Borings

Borings are required of all proposed areas to be filled. The minimum number of borings required are listed below:

Proposed No. of Acres to be Filled	No. of Borings
1—10	3
11—50	6
51—100	12
101—200	18
Over 200	24 plus 1 for every 10 acres over 200

Split spoon samples shall be collected at a minimum of five (5) foot intervals. A soil description shall be provided for each split spoon sample. All borings should be driven to a minimum depth of twenty (20) feet below the proposed bottom level of Sludge, Composted Sludge or Treated Sludge or to refusal. The following information contained on the boring logs should be submitted:

- (1) Depth of the maximum elevation of the groundwater table (to be measured at a minimum of twenty four (24) hours after the boring is taken);
- (2) A detailed soil profile description to a depth of four (4) feet must be submitted for each soil mapping unit on the Land Disposal Site. The required information includes:
  - (a) Color of each horizon;
  - (b) Texture of each horizon;
  - (c) Depth of each horizon;
  - (d) Depth to mottles (if any);
  - (e) Amount of coarse fragments (if any);
  - (f) Depth to bedrock (if encountered);
  - (g) Consistence or relative density, and
  - (h) Slope.
- (3) Method of boring;
- (4) Blow counts, and

~~(5) — Date boring was taken.~~

~~The boring should be located to give the best indications of subsurface conditions for the whole Land Disposal Site that can be obtained considering the limited number of borings required. The groundwater table elevation determination shall be made when the water table is highest; this occurs usually during the months of January through April. (Specific dates may be determined on a yearly basis by the Commissioner.) All boring holes must be maintained for future water table elevation determinations. If the Commissioner feels it necessary, additional borings may be required.~~

~~(F) — Groundwater Survey~~

~~A groundwater survey showing the maximum groundwater elevations, the direction of groundwater flow, and an estimation of the rate of flow (including calculations) shall be submitted.~~

~~(G) — Site Delineation~~

~~The following Land Disposal Site areas shall be marked with stakes at the time of engineering survey. The stakes must be a minimum of two (2) feet high, clearly visible and maintained at all times. All Sites shall include the following delineations:~~

- ~~(1) — Areas enclosed by legal boundaries; and~~
- ~~(2) — Areas to be filled as indicated in the Operating Plan.~~

~~(H) — Operating Plan~~

~~All applications for Land Disposal Sites are to be in accordance with the design and operational requirements for solid waste landfills as promulgated by the Department's Office of Waste Management.~~

~~An operating plan shall be submitted detailing operating procedures for a two year period. No later than ninety (90) days prior to the end of this two year period, a new operating plan shall be submitted which covers the following two (2) years. All operating plans must include the following information:~~

- ~~(1) — Type of method to be used (trench, area, etc.);~~
- ~~(2) — Provisions for appropriate liners;~~
- ~~(3) — Proposed sequence of operation;~~
- ~~(4) — Estimate of amount of cover material available or to be purchased and from whom;~~
- ~~(5) — Operating hours;~~
- ~~(6) — Personnel and duties;~~
- ~~(7) — Projected use of completed Land Disposal Site;~~
- ~~(8) — Dust control program;~~
- ~~(9) — Vector control program;~~
- ~~(10) — Odor control program;~~
- ~~(11) — Procedures to control erosion and sedimentation and to promote vegetative growth in completed areas;~~
- ~~(12) — Equipment to be on Site during operating hours;~~
- ~~(13) — Substitute equipment available;~~
- ~~(14) — Communications equipment available;~~
- ~~(15) — Population and service area;~~
- ~~(16) — Winter operations;~~
- ~~(17) — Provisions for limiting access such as fencing, signs, etc.;~~
- ~~(18) — Weighing facilities (if any);~~
- ~~(19) — Estimated life of Land Disposal Site;~~
- ~~(20) — Aesthetic considerations;~~
- ~~(21) — Leachate treatment operations, and~~
- ~~(22) — Surface drainage control methods.~~

~~(I) — Closure Plan~~

~~A closure plan for all areas within the Land Disposal Site shall be submitted. The closure plan must be drawn to a minimum scale of one inch to one hundred feet (1" = 100'). The closure plan must include the following information:~~

- ~~(1) — Date of proposed closure;~~
- ~~(2) — Methods of restricting access and preventing additional disposal;~~
- ~~(3) — Methods of protecting ground and surface water and controlling air emissions;~~
- ~~(4) — Date on which all Land Disposal areas will be covered with two (2) feet of final cover;~~
- ~~(5) — Date of installation of impermeable covering, if any, and planting with vegetation;~~
- ~~(6) — Final grades and method of maintaining final grades and promoting surface runoff;~~
- ~~(7) — Fences and gates;~~
- ~~(8) — Location and description of groundwater and surface water monitoring stations and provision that such monitoring shall continue on a quarterly basis for up to five (5) years after the Site is closed, and~~
- ~~(9) — Legal boundaries.~~

~~In addition, the Applicant shall set aside a post-closure monitoring fund for a monitoring period of up to thirty (30) years subsequent to the closure of the Land Disposal Site. The Applicant shall establish a post-closure monitoring and maintenance fund designated "in trust for the post-closure monitoring and maintenance of the Land Disposal Site." A bank or other financial institution approved by the Commissioner shall act as trustee of the trust fund. The trust instrument shall provide that the Commissioner shall have the right to use such part of the fund as is necessary to carry out the post-closure monitoring and maintenance for the Land Disposal Site in accordance with these rules and regulations. The trust instrument shall also provide that the Commissioner shall determine whether post-closure expenditures are reasonable and in accordance with the closure plan. The trustee shall release these funds upon receipt of a written request from the Commissioner.~~

~~(J) — Analysis of Sludge, Composted Sludge or Treated Sludge~~

~~All results of the analysis required in Rule 8(L) of these rules and regulations must be on file with the Office of Water Resources at the time of application.~~

~~(K) — Application for Order of Approval~~

~~Any Person that proposes to land dispose Sludge, Composted Sludge or Treated Sludge must submit an Application for Order of Approval (see Appendix 1) as described in Rule 7 of these rules and regulations.~~

~~(L) — Site Information Sheet~~

~~For all Land Disposal Sites, the Applicant must submit a completed Site Information Sheet (see Appendix 2). The Site Information Sheet must be on file with the Office of Water Resources at the time of application.~~

**~~RULE 10. LAND APPLICATION OF SLUDGE — GENERAL REQUIREMENTS~~**

This rule applies to the ~~utilization of sludge for land application or incorporation~~ of sludge into the soil that has been treated by one or more of the Processes to Significantly Reduce Pathogens listed in Appendix 3 of these rules and regulations. All ~~projects utilizing sludge land application sites~~ must operate under an Order of Approval and must meet the following requirements:

~~(A) Sludge and Soil Analysis~~

All sludge intended for land application may be required to be tested using the Toxicity Characteristic Leaching Procedure for the parameters listed in Appendix ~~64~~ and the results submitted to the Office of Water Resources. Sludge intended for land application must meet the limits established in Appendix ~~86~~ for metals and must be tested for the listed characteristics. In addition, soil from the proposed land application site, with the exception of silvicultural lands, must be

tested for metals listed in Appendix ~~86~~ and for the parameters listed in Rule ~~11(F)10(S)(3)~~ below. The ~~Commissioner~~Director shall determine the testing and reporting frequency. All sludge analyses shall be the responsibility of the owner or operator of the facility; all soil analyses ~~will~~shall be the responsibility of the applicant.

(B) Land Application Rates

All sludge intended for land application must be applied at an annual rate not to exceed the amount necessary to supply adequate available nitrogen for crop production using good agricultural or silvicultural practices or not to exceed the maximum annual rates recommended by the U.S. Department of Agriculture to achieve fertilizer benefits and soil improvement.

(C) Cumulative Loading Rates

The maximum amount of sludge that can be applied to a land application site shall be calculated using the procedure established in Appendix ~~97~~. The amount of metals in the soil shall be deducted from each calculation.

(D) Condition of Sludge

Sludge intended for land application shall be treated by one of the Processes to Significantly Reduce Pathogens (~~described-listed~~ in Appendix ~~3~~1 of these rules and regulations and shall meet one of the Vector Attraction Reduction Requirements (~~described-listed~~ in Appendix ~~5~~3 of these rules and regulations). Such treatment shall be the responsibility of the owner or operator of the facility. Sludge intended for land application shall not meet the criteria for hazardous waste.

(E) Crops

Food crops with harvested parts that touch the sewage sludge/soil mixture and are totally above the land surface shall not be harvested for fourteen (14) months after application of sewage sludge. Food crops with harvested parts below the surface of the land shall not be harvested for twenty (20) months after application of sewage sludge when the sewage sludge remains on the land surface for four (4) months or longer prior to incorporation into the soil. Food chain crops with harvested parts below the surface of the land shall not be harvested for thirty eight (38) months after application of sewage sludge when the sewage sludge remains on the land surface for less than four (4) months prior to incorporation into the soil. Food crops with harvested parts that do not touch the sewage sludge/soil mixture, feed crops and fiber crops shall not be harvested for thirty (30) days after application of sewage sludge.

(F) Turf

Turf grown on land where sewage sludge is applied shall not be harvested for one (1) year after the last application of sewage sludge has occurred when the harvested turf is placed on either land with a high potential for public exposure or a lawn.

(G) Public Access

Public access to the land application site shall be prohibited by the owner or operator until one (1) year has passed since the last application of sewage sludge to land with a high potential for public exposure, such as a park or ball field or thirty (30) days has passed since the last application of sewage sludge to land with a low potential for public exposure, such as private farmland.

(H) Animal Grazing

Animals whose products are consumed by humans shall not be allowed to graze on land where sewage sludge is applied for thirty (30) days after the last application of sewage sludge has occurred.

(I) Frozen Ground

No sludge shall be applied to frozen, flooded or snow-covered ground unless appropriate erosion and runoff control measures are provided.

(J) Odor Control

Any land application project must comply with the Department's Office of Air Resources Air Pollution Control Regulation 17, as amended, or other rules and regulations pertaining to odors.

(K) Groundwater

A minimum of two (2) feet of soil is required between the lowest level of applied sludge and the ~~highest water table level established during the~~ seasonal high groundwater table ~~period as~~ determined by ~~the Department a~~ DEM-licensed Class IV soil evaluator in accordance with the procedures described in the Department's ~~ISDS regulations~~ Rules Establishing Minimum Standards Relating to Location, Design, Construction and Maintenance of Onsite Wastewater Treatment Systems. The determination of the seasonal high groundwater table must be witnessed by the Department. In addition, a minimum of three (3) feet of soil is required between the highest level of bedrock and the lowest level of applied sludge.

(L) Surface Water

No sludge shall be land applied within two hundred (200) feet of any body of surface water. No sludge shall be applied to land within the watershed of any surface water used as a public drinking water supply. The ~~Commissioner~~Director may, if necessary, require continuous monitoring of any surface watercourses in the vicinity of the proposed land application site. Such monitoring shall be of a type and frequency determined by the ~~Commissioner~~Director on a case-by-case basis and shall be the responsibility of the owner or operator. ~~This requirement will be met if the Applicant demonstrates to the satisfaction of the Department that the proposed project will not affect Surface Water.~~

(M) Drinking Water Wells

No sludge shall be land applied within one thousand (1,000) feet of any private drinking water supply well or within the Wellhead Protection Area for a public drinking water supply well. Land application of sludge shall be in accordance with the Rhode Island Groundwater Protection Act of 1985, General Laws Chapter 46-13.1 and any rules and regulations promulgated thereunder.

(N) Distance to Buildings

No sludge shall be land applied within four hundred (400) feet of any domestic, commercial or industrial structure not associated with the proposed land application project.

(O) Distance from Property Lines

No sludge shall be land applied within one hundred (100) feet of a property line. This requirement will be met if consent from the adjacent landowner is received.

(P) Monitoring Wells

Groundwater monitoring shall be of a type and frequency determined by the ~~Commissioner~~Director on a case-by-case basis and shall be the responsibility of the owner or operator.

(Q) Erosion Control

Soil erosion on all land application sites shall be limited to conditions which meet Resource Management System Quality Criteria for soil erosion as defined in the USDA Natural Resources Conservation Service (NRCS) Field Office Technical Guide for Rhode Island. Erosion control methods on all land application sites shall be consistent with practice standards and specifications in the NRCS Field Office Technical Guide for Rhode Island. Sediment and runoff shall be controlled on all land application sites consistent with the measures within the Rhode Island Erosion and Sediment Control Handbook, USDA, SCS, 1990.

(R) Transportation

All transportation of sludge shall comply with Rule 14 of these rules and regulations~~be transported in vehicles that are properly sealed, watertight and covered while in transit so as to prevent any leaking or dropping of sludge.~~

(S) Submissions for Approval

The following submissions are required as part of an Application for Order of Approval for land application of sludge and must be stamped by a registered professional engineer or land surveyor. These submissions are in addition to the submission requirements listed in Rule 8.

(1) Site Plan

A site plan for all areas within the land application site shall be submitted. The site plan must be drawn to a minimum scale of one inch to one hundred feet (1"=100'). The site plan must include the following information:

- (1) Detailed soil map;
- (2) Buildings (if any);
- (3) Wells (if any);
- (4) Surface watercourses (if any);
- (5) Roads (if any);
- (6) Groundwater monitoring wells;
- (7) Proposed erosion control and runoff collection and treatment systems (if any);
- (8) Legal boundaries of site;
- (9) Power lines, pipe lines, rights of way and other utilities, and
- (10) North arrow.

(2) Soil Description

A detailed soil profile description to a depth of four (4) feet must be submitted for each soil-mapping unit on the land application site. The required information includes:

- (1) Color of each horizon;
- (2) Texture of each horizon;
- (3) Depth of each horizon;
- (4) Depth to mottles (if any);
- (5) Amount of coarse fragments (if any);
- (6) Depth to bedrock (if encountered);
- (7) Consistence or relative density, and
- (8) Slope.

(3) Laboratory Data

Representative samples shall be taken from the plow layer within the proposed land application site. The following data shall be submitted for each sample:

- (a) Soil density;
- (b) Depth of sample, and
- (c) Moisture content (%).

(4) Management Plan

The Management Plan shall include the following information:

- (a) Type of land application method to be used;
- (b) Detailed description of the land application project and the proposed sequence of operation;
- (c) Provisions for compliance with Rule 10 (A–R) of these rules and regulations;
- (d) Personnel and duties;
- (e) Projected use of the land application site;
- (f) Procedures to control dust, vectors and odor;
- (g) Procedures to control erosion, sedimentation and promote vegetative growth;
- (h) Equipment to be utilized and substitute equipment to be on-site;
- (i) Provisions to control access;
- (j) Estimated life of land application site, and
- (k) Aesthetic considerations.

(5) Sludge and Soil Analysis

The results of the sludge and soil analysis required in Rule 10(A) of these rules and regulations shall be submitted.

~~**RULE 11. LAND APPLICATION OF SLUDGE – SUBMISSIONS FOR APPROVAL**~~ *[Moved to Rules 8 and 10(S)]*

~~Plans and submissions required by Rules 11(B)–(E) below must be stamped by a registered professional engineer or land surveyor. The plans should be scaled to fit on a standard 24 x 36 inch sheet whenever possible. Larger sheets must be used when the minimum scale requirements do not permit the use of 24 x 36 inch sheets. The Commissioner may require additional information if necessary to satisfy the requirements of these rules and regulations.~~

~~(A) Initial Investigation Plans~~

~~Copies of the latest U.S. Geological Topographic Map, Farm Services Agency aerial maps and the United States Department of Agriculture Soil Survey Map, with the land application Site outlined and an indication of the required setbacks, must be submitted to the Office of Water Resources prior to all other required information. This will allow initial evaluation of the plan relating to wetlands, aquifers, and soil type before large investigatory and developmental expenditures are made. A report of the evaluation shall be made to the Applicant. The report shall list what submissions, if any, from Rules 11(B)–(I) below must be submitted to the Office of Water Resources to obtain an Order of Approval.~~

~~(B) Radius Plan~~

~~A radius plan shall be submitted. The radius plan must be drawn at a minimum scale of one inch to two hundred feet (1"=200') and include all areas within a one quarter (1/4) mile radius from all property lines of the Site. The radius plan must include the following information:~~

- ~~(1) All buildings;~~
- ~~(2) All water supplies (wells, etc.);~~
- ~~(3) All surface water courses and wetlands;~~
- ~~(4) All roads;~~
- ~~(5) Legal boundaries of land application Site;~~
- ~~(6) North arrow;~~

- ~~(7) — Extent of one hundred (100) year flood plain (where applicable), and~~
- ~~(8) — Local zoning and permitting requirements.~~

~~(C) — Site Plan~~

~~A Site plan for all areas within the land application Site shall be submitted. The Site plan must be drawn to a minimum scale of one inch to one hundred feet (1"=100'). The Site plan must include the following information:~~

- ~~(1) — Detailed soil map;~~
- ~~(2) — Buildings (if any);~~
- ~~(3) — Wells (if any);~~
- ~~(4) — Surface water courses (if any);~~
- ~~(5) — Roads (if any);~~
- ~~(6) — Groundwater monitoring wells;~~
- ~~(7) — Proposed erosion control and runoff collection and treatment systems (if any);~~
- ~~(8) — Legal boundaries of Site;~~
- ~~(9) — Power lines, pipe lines, rights of way and other utilities, and~~
- ~~(10) — North arrow.~~

~~(D) — Soil Description~~

~~A detailed soil profile description to a depth of four (4) feet must be submitted for each soil mapping unit on the land application Site. The required information includes:~~

- ~~(1) — Color of each horizon;~~
- ~~(2) — Texture of each horizon;~~
- ~~(3) — Depth of each horizon;~~
- ~~(4) — Depth to mottles (if any);~~
- ~~(5) — Amount of coarse fragments (if any);~~
- ~~(6) — Depth to bedrock (if encountered);~~
- ~~(7) — Consistence or relative density, and~~
- ~~(8) — Slope.~~

~~(E) — Groundwater Survey~~

~~A groundwater survey showing the maximum groundwater elevations, the direction of groundwater flow, and an estimation of the rate of flow (including calculations) shall be submitted.~~

~~(F) — Laboratory Data~~

~~Representative samples shall be taken from the plow layer within the proposed land application Site. The following data shall be submitted for each sample:~~

- ~~(1) — Soil Density;~~
- ~~(2) — Depth of Sample, and~~
- ~~(3) — Moisture Content (%).~~

~~(G) — Operating Plan~~

~~An operating plan shall be submitted detailing procedures for a two year period. No later than ninety (90) days prior to the end of this two year period, a new operating plan shall be submitted which covers the following two (2) years. All operating plans shall include the following information:~~

- ~~(1) — Type of land application method to be used;~~

- ~~(2) Detailed description of the sludge utilization project and the proposed sequence of operation;~~
- ~~(3) Provisions for compliance with Rule 10 of these rules and regulations;~~
- ~~(4) Personnel and duties;~~
- ~~(5) Projected use of the land application Site;~~
- ~~(6) Procedures to control dust, vectors and odor;~~
- ~~(7) Procedures to control erosion, sedimentation and promote vegetative growth;~~
- ~~(8) Equipment to be utilized and substitute equipment to be on Site;~~
- ~~(9) Provisions to control access;~~
- ~~(10) Estimated life of sludge utilization area, and~~
- ~~(11) Aesthetic considerations.~~

~~(H) Sludge and Soil Analysis~~

~~The results of the sludge analysis and soil analysis required in Rule 10(A) of these rules and regulations must be on file with the Office of Water Resources at the time of application.~~

~~(I) Application for Order of Approval~~

~~Any person that proposes to land apply sludge must submit an Application for Order of Approval (see Appendix 1) as described in Rule 7 of these rules and regulations.~~

~~(J) Site Information Sheet~~

~~For all land application Sites, the Applicant must submit a completed Site Information Sheet (see Appendix 2). The Site Information Sheet must be on file with the Office of Water Resources at the time of application.~~

**RULE 121. COMPOSTING OF TREATMENT OF SLUDGE—GENERAL REQUIREMENTS**

~~Composting of sludge shall be permitted as a means of sludge treatment if the owner meets the requirements presented in this rule. This rule applies to the treatment of sludge by one of the Processes to Further Reduce Pathogens listed in Appendix 2 of these rules and regulations. All sludge treatment facilities must operate under an Order of Approval and must meet the following requirements:~~

~~(A) Sludge Composting Operations Treatment Method~~

~~All methods of sludge composting treatment must comply with the definitions of thermophilic composting as a meet one of the Processes to Further Reduce Pathogens as listed in Appendix 42 of these rules and regulations and must meet one of the Vector Attraction Reduction Requirements described listed in Appendix 53 of these rules and regulations. Any sludge composting operation must comply with the Department's Office of Air Resources Air Pollution Control Regulation 17, as amended, or other rules and regulations pertaining to odors and must operate under an Order of Approval. Any co-composting of sludge and solid waste must comply with rules and regulations under the Department's Office of Waste Management.~~

~~(B) Sludge Composting Methods~~

~~When sludge is treated by composting as provided in Appendix 2(A) of these rules and regulations, one of the following composting methods shall be used; may be practiced by the methods described below. Any comparable method of sludge composting shall be considered by the Commissioner for approval.~~

~~(1) Aerated Static Pile~~

~~If this method is proposed, the Sludge must be maintained at operating conditions of 55°C or greater for three (3) consecutive days. The sludge must remain in the active phase for a minimum of twenty one (21) days in a pile not to exceed twelve (12) feet in height. At the end of the active phase, the material must be cured for a minimum~~

of thirty (30) days in a stockpile not to exceed twelve (12) feet in height unless the Department determines that such curing is not necessary. Such composting operations shall be provided with an appropriate leachate collection system, shall be built on an impervious surface and shall be protected from direct rainfall by a roof to reduce the amount of leachate and runoff.

(2) Windrow

~~If this method is proposed, the~~ Sludge must be maintained at operating conditions of 55°C or greater for at least fifteen (15) consecutive days during the active phase. The sludge must remain in the active phase for a minimum of twenty one (21) days in a pile, with the sludge being turned at least once every three (3) days. Height of the pile shall be compatible with the equipment used for turning the sludge. The active phase shall be followed by a curing period of at least thirty (30) days in a curing pile not to exceed twelve (12) feet in height unless the Department determines that such curing is not necessary. Such composting operations shall be provided with an appropriate leachate collection system, shall be built on an impervious surface and shall be protected from direct rainfall by a roof to reduce the amount of leachate and runoff.

(3) In-vessel

~~If this method is proposed, the~~ Sludge must be maintained at operating conditions of 55°C or greater for three (3) consecutive days. The sludge must remain in the active phase for a minimum of fourteen (14) days. The active and curing phases are to be maintained for a total minimum period of thirty (30) days. If sludge is cured in a curing pile, the pile is not to exceed twelve (12) feet in height.

~~(2C)~~ Groundwater

A minimum of two (2) feet of soil is required between the proposed sludge composting-treatment surface and the highest water table level established during the seasonal high groundwater table period as determined by the Department a DEM-licensed Class IV soil evaluator in accordance with the procedures described in the Department's ISDS regulations Rules Establishing Minimum Standards Relating to Location, Design, Construction and Maintenance of Onsite Wastewater Treatment Systems. The determination of the seasonal high groundwater table must be witnessed by the Department. In addition, a minimum of three (3) feet of soil is required between the highest level of bedrock and the sludge composting-treatment surface. If the owner or applicant seeks a variance offrom these separation distances under Rule 2422 of these rules and regulations, the applicant must demonstrate to the satisfaction of the Office of Water Resources that the sludge treatment facility or site will not generate leachate. Otherwise, the Commissioner Director will require the installation of an impermeable liner system and leachate collection and treatment system or other means to prevent leachate from reaching the groundwater as a condition for the granting of such variance. ~~This requirement will be met if the Applicant demonstrates to the satisfaction of the Office of Water Resources that the Sludge composting operation will not generate leachate.~~

~~(3D)~~ Surface Water

No sludge shall be composted-treated within two hundred (200) feet of any body of surface water. No sludge shall be composted-treated within the watershed of any surface water used as a public drinking water supply. The Commissioner Director may, if necessary, require continuous monitoring of any surface watercourses in the vicinity of the sludge composting-treatment facility or site. Such monitoring shall be of a type and frequency determined by the Commissioner Director on a case-by-case basis and shall be the responsibility of the owner or operator of the facility or site. This requirement will be met if the applicant seeks a variance from these separation distances under Rule 22 of these rules and regulations, the applicant must demonstrates to the satisfaction of the Department that any runoff from the sludge composting operation-treatment facility or site will not affect-impact surface water as a condition for the granting of such variance.

~~(4E)~~ Drinking Water Wells

No sludge shall be composted-treated within one thousand (1,000) feet of any private drinking water supply well or

within the Wellhead Protection Area for a public drinking water supply well. ~~Composting of Any~~ sludge treatment facility or site shall ~~be in accordance~~ comply with the Rhode Island ~~Groundwater~~ Groundwater Protection Act of 1985, General Laws Chapter 46-13.1 and any rules and regulations promulgated thereunder. ~~This requirement will be met if~~ the applicant seeks a variance from these separation distances under Rule 22 of these rules and regulations, the applicant must demonstrate to the satisfaction of the Department that the sludge ~~composting operation~~ treatment facility or site will not generate leachate as a condition for the granting of such variance.

~~(5F)~~ Distance to Property Lines

No sludge shall be composted within four hundred (400) feet of a property line. ~~This requirement will be met if~~ the applicant seeks a variance from this separation distance under Rule 22 of these rules and regulations, demonstrates to the satisfaction of the Department ~~Director will require~~ that the facility is ~~be~~ completely enclosed as a condition for the granting of such variance.

~~(6G)~~ Monitoring Wells

For the purpose of monitoring groundwater conditions, the owner or operator of a sludge ~~Composting treatment~~ site shall install and maintain monitoring wells of a number and type approved by the ~~Commissioner~~ Director and at locations chosen by the ~~Commissioner~~ Director. The owner or operator of the site is responsible for analysis of groundwaters in accordance with instructions of the ~~Commissioner~~ Director. The ~~Commissioner~~ Director shall determine the testing and reporting frequency. ~~This requirement will be met if~~ the applicant seeks a variance from this requirement, the applicant must demonstrate to the satisfaction of the Department that the sludge ~~Composting treatment~~ operation will not generate leachate.

~~(7H)~~ Transportation

All transportation of sludge shall comply with Rule 14 of these rules and regulations ~~be transported in vehicles that are properly sealed, watertight and covered while in transit so as to prevent any leaking or dropping of sludge~~.

~~(8I)~~ Sludge and Composted Sludge Storage Stockpiling

~~All stockpiling of sludge and treated sludge shall comply with Rule 13 of these rules and regulations. The stockpiling of uncomposted sludge is prohibited. Arrangements must be made to compost all sludge immediately upon arrival at the composting facility. The storage of composted sludge shall be allowed if the Applicant can demonstrate, to the satisfaction of the Department, that the storage Site will not impact surface water and groundwater.~~

~~(9J)~~ Sludge and Bulking Agent Analysis

All sludge intended for ~~composting and bulking agents treatment~~ may be required to be tested using the Toxicity Characteristic Leaching Procedure for the parameters listed in Appendix ~~64 of these rules and regulations~~ and the results submitted to the Office of Water Resources. The ~~Commissioner~~ Director shall determine the testing and reporting frequency. For composting facilities, any bulking agents utilized in the operation may also be required to be tested. ~~All~~ Sludge analyses shall be the responsibility of the owner or operator of the facility that ~~produceed~~ generates the sludge; ~~all~~ bulking agent analyses shall be the responsibility of the owner or operator of the sludge composting facility.

~~(10K)~~ Condition of Sludge and Bulking Agents

All sludge intended for ~~composting treatment~~ and all bulking agents shall not meet the criteria for hazardous waste.

(L) Odors

Any sludge treatment facility must comply with the Department's Office of Air Resources Air Pollution Control Regulation 17, as amended, and any other rules and regulations pertaining to odors.

(BM) ~~Composted~~Treated Sludge Quality

Any ~~composted~~treated sludge ~~which-that~~ meets all the limits established in Appendix 75 of these rules and regulations shall be considered Class A Biosolids; the requirements and restrictions for the distribution and use of Class A Biosolids are listed in Rule 12(~~DA~~) and 12 (B) of these rules and regulations. Any ~~composted~~treated sludge ~~which-that does not meet the limits in Appendix 5 but~~ meets the limits established in Appendix 86 of these rules and regulations shall be considered Class B Biosolids; the requirements and restrictions for the use of Class B Biosolids are listed in Rule ~~12(E)~~ and-12(FC) of these rules and regulations. Any ~~composted~~treated sludge that does not meet the limits established in Appendices 75 and 86 shall be considered Class C Biosolids; the requirements and restrictions for the use of Class C Biosolids are listed in Rule 12(~~GD~~) of these rules and regulations.

(CN) ~~Composted-Treated~~ Sludge Analysis

Class A Biosolids must be tested for the metals and the pathogens listed in Appendix 75. Class B Biosolids and Class C Biosolids must be tested for the metals and the characteristics listed in Appendix 86. All results must be submitted to the Office of Water Resources. The ~~Commissioner~~Director shall determine the testing and reporting frequency. All ~~composted~~treated sludge analysis shall be the responsibility of the owner or operator of the sludge ~~composting~~treatment facility.

(O) Submissions for Approval

The following submissions are required as part of an Application for Order of Approval for a sludge treatment facility or site and must be stamped by a registered professional engineer or land surveyor. These submissions are in addition to the submission requirements listed in Rule 8.

(1) Site Plan

A site plan including all of the information listed below for all areas within the sludge treatment site shall be submitted. The site plan must be drawn to a minimum scale of one inch to one hundred feet (1"=100'). The required information includes:

- (a) Initial ground contours at five-foot intervals;
- (b) Final proposed contours at five-foot intervals;
- (c) Boring locations;
- (d) Proposed leachate collection and treatment systems;
- (e) Proposed gas controls (if any);
- (f) Buildings (where applicable);
- (g) Wells (if any);
- (h) Surface watercourses and other wetlands;
- (I) Roads;
- (j) Groundwater monitoring wells;
- (k) Legal boundaries of site;
- (l) Power lines, pipelines, rights of way and other utilities;
- (m) Proposed fences;
- (n) Weighing facilities (if any), and
- (o) North arrow.

(2) Management Plan

The Management Plan shall include the following information:

- (a) Detailed description of the sludge treatment method to be used and the proposed sequence of operation;
- (b) Use of bulking agent and procedures for temperature control (if any);
- (c) Operating hours;

- (d) Personnel and duties;
- (e) Procedures to control dust, vectors and odors;
- (f) Provisions for the immediate treatment of all sludge;
- (g) Provisions for the proper storage of treated sludge;
- (h) Procedures to control erosion and sedimentation;
- (I) Equipment to be on-site during operating hours;
- (j) Substitute equipment available;
- (k) Communications equipment available;
- (l) Population and service area;
- (m) Winter operations;
- (n) Provisions for limiting access;
- (o) Provisions for ~~treated sludge utilization~~ land application and/or disposal of treated sludge;
- (p) Weighing facilities (if any);
- (q) Estimated life of the sludge treatment facility;
- (r) Aesthetic considerations;
- (s) Leachate treatment operations, and
- (t) Surface drainage control measures.

(3) Sludge and Bulking Agent Analysis

The results of the sludge and bulking agent analysis required in Rule 11(H) of these rules and regulations shall be submitted.

~~(D) Distribution and Utilization of Class A Biosolids~~

**RULE 12. DISTRIBUTION AND LAND APPLICATION OF TREATED SLUDGE**

This ~~subrule~~ applies to the distribution and ~~utilization-land application~~ of Class A Biosolids ~~treated sludge~~. ~~Any Person proposing to distribute Class A Biosolids must operate under an Order of Approval.~~

~~(+A) Packaged~~ Distribution of Class A Biosolids

This subrule applies to the distribution of Class A Biosolids. Except as provided in Rule 7(C)(4), all distribution facilities or sites must operate under an Order of Approval and must meet the following requirements.

(1) Packaged Distribution of Class A Biosolids

Packaged distribution shall mean Class A Biosolids that are sold or given away in a bag or other container for application to the land. The container shall hold no more than ~~fifty (50)~~ one hundred (100) pounds of Class A Biosolids. The distributor shall provide the following information to the user on a label when Class A Biosolids ~~is~~ are packaged:

- (a) The name and address of the ~~preparer~~ generator of the product;
- (b) A statement that the product is derived from sewage sludge;
- (c) Instructions on the proper use of the product for various applications (for example, on lawns). This must include a statement that the annual product application rate should not be exceeded, if applicable; and
- (d) Class A Biosolids that are lead safe and are intended for use as ~~a~~ mulch must include a statement that the product is lead safe but not lead free.

(2) Unpackaged Bulk ~~Distribution~~ of Class A Biosolids

Unpackaged Bulk distribution shall mean Class A Biosolids that are sold or given away in bulk ~~(not in a bag or container) for application to the land. Class A Biosolids that are sold or given away in or in~~ a container holding more than ~~fifty (50)~~ one hundred (100) pounds of Class A Biosolids ~~shall be considered unpackaged distribution.~~ The requirements for the distribution of unpackaged bulk Class A Biosolids ~~vary~~ are based on volume as follows:

(a) Less Than Twenty-Five (25) Cubic Yards

Any distributor of Class A Biosolids ~~must~~shall provide the ~~following~~ information from Rule 12(A)(1)(a-d), in writing, to all users taking less than twenty-five (25) cubic yards per day. In addition, the distributor shall inform the user, in writing, that the Class A Biosolids shall not be further processed, stockpiled or distributed without prior approval from the Department unless the conditions of Rule 7(C)(4) are met.

~~(i) The name and address of the preparer of the product;~~

~~(ii) A statement that the product is derived from sewage sludge;~~

~~(iii) Instructions on the proper use of the product for various applications (for example, on lawns). This must include a statement that the annual product application rate should not be exceeded, if applicable;~~

~~(iv) Class A Biosolids that are lead safe and are intended for use as a mulch must include a statement that the product is lead safe but not lead free.~~

(b) More Than Twenty-Five (25) Cubic Yards

Any distributor of Class A Biosolids must provide a "User's Guide" to all users taking more than twenty-five (25) cubic yards per day. The "User's Guide" shall be provided to the distributor by the Department and shall include instructions on the proper use of the product for various applications. The distributor must provide the instructions for the product to the Department so that they can be incorporated into the "User's Guide."

(c) Record Keeping

~~The~~Any distributor that distributes Class A Biosolids in bulk must maintain written records of the following information when a user or another distributor is provided with more than twenty-five (25) cubic yards per day: (i) date the Class A Biosolids was taken; (ii) name of user; (iii) amount of Class A Biosolids taken; (iv) location where Class A Biosolids are to be applied; and (v) signature of the operator. The distributor must also indicate in the records that the user received a "User's Guide." Said records must be available for inspection by state and federal officials ~~at all times~~.

(3) Class A Biosolids Storage/Stockpiling

The ~~stockpiling~~storage of Class A Biosolids shall comply with Rule 13 of these rules and regulations~~be allowed if the applicant can demonstrate, to the satisfaction of the Department, that the storage site will not impact surface water and groundwater.~~

(4) Odor Control

Any distribution site must comply with the Department's Office of Air Resources Air Pollution Control Regulation 17, as amended, or other rules and regulations pertaining to odors.

(5) Transportation

All ~~transportation of sludge unpackaged Class A Biosolids~~ shall comply with Rule 14 of these rules and regulations~~be transported in vehicles that are properly covered while in transit so as to prevent any dropping of Class A Biosolids.~~

(6) Licensing

Any facility or site that ~~produces~~distributes packaged or bulk Class A Biosolids must comply with the Department's Office of Natural Resource Services' Commercial Fertilizer Law, as amended, (RI Gen. Law Chap. 2-7) and any other rules and regulations pertaining to fertilizer and soil amendment products. All fertilizer and

soil amendment products must be registered with the Office of Natural Resource Services before being offered for sale.

(7) Submissions for Approval

The following submissions are required as part of an Application for Order of Approval for a treated sludge distribution facility or site and must be stamped by a registered professional engineer or land surveyor. These submissions are in addition to the submission requirements listed in Rule 8.

(a) Site Plan

A site plan including all of the information listed below for all areas within the treated sludge distribution site shall be submitted. The site plan must be drawn to a minimum scale of one inch to one hundred feet (1"=100'). The required information includes:

- (i) Initial ground contours at five-foot intervals;
- (ii) Final proposed contours at five-foot intervals;
- (iii) Boring locations;
- (iv) Proposed leachate collection and treatment systems;
- (v) Buildings (where applicable);
- (vi) Treated sludge stockpile areas;
- (vii) Wells (if any);
- (viii) Surface watercourses and other wetlands;
- (ix) Roads;
- (x) Groundwater monitoring wells;
- (xi) Legal boundaries of site;
- (xii) Power lines, pipelines, rights of way and other utilities;
- (xiii) Proposed fences;
- (xiv) Weighing facilities (if any), and
- (xv) North arrow.

(b) Management Plan

The applicant shall submit a Management Plan describing compliance with the provisions of Rule 12(A)(1–6) of these rules and regulations.

(c) Stockpiling

The applicant shall submit a copy of the latest U.S. Geological Topographic Map with the distribution site outlined and an indication of the Class A Biosolids stockpile areas. This requirement shall be waived if the applicant proposes to stockpile Class A Biosolids in an enclosed structure, where runoff will not occur.

(d) Treated Sludge Analysis

The applicant shall submit the results of the analysis required in Rule 11(L) of these rules and regulations.

(B) Land Application of Class A Biosolids

This subrule applies to the land application of Class A Biosolids obtained from a generator that possesses a valid Order of Approval from the Department to generate and distribute Class A Biosolids. Except as provided in Rule 7(C)(3) and except in the case of pilot projects as provided in Rule 7(E), all sites where Class A Biosolids is land applied must operate under an Order of Approval and must meet the following requirements. The land application of Class A Biosolids obtained from a generator that does not hold a valid Order of Approval from the Department is prohibited.

(1) Stockpiling

The stockpiling of Class A Biosolids shall comply with Rule 13 of these rules and regulations. The quantity of Class A Biosolids stockpiled at the land application site shall be consistent with the appropriate application rate and size of the land application area.

(2) Frozen Ground

No Class A Biosolids shall be applied to frozen, flooded or snow-covered ground unless appropriate erosion and runoff control measures are provided.

(3) Erosion Control

Soil erosion on all land application sites shall be limited to conditions which meet Resource Management System Quality Criteria for soil erosion as defined in the USDA Natural Resources Conservation Service (NRCS) Field Office Technical Guide for Rhode Island. Erosion control methods on all land application sites shall be consistent with practice standards and specifications in the NRCS Field Office Technical Guide for Rhode Island. Sediment and runoff shall be controlled on all land application sites consistent with the measures within the Rhode Island Erosion and Sediment Control Handbook, USDA, SCS, 1990.

(4) Odor Control

Any distribution site must comply with the Department's Office of Air Resources Air Pollution Control Regulation 17, as amended, or other rules and regulations pertaining to odors.

(5) Transportation

All transportation of sludge shall comply with Rule 14 of these rules and regulations.

(6) Submissions for Approval

The following submissions are required as part of an Application for Order of Approval for the land application of Class A Biosolids.

(a) Management Plan

The applicant shall submit a Management Plan describing compliance with the provisions of Rule 12(B)(1-5) of these rules and regulations.

(b) Class A Biosolids Generator

The applicant shall identify the generator of the Class A Biosolids to be land-applied.

(EC) ~~Agricultural Utilization-Land Application~~ of Class B Biosolids

(1) ~~Agricultural Utilization-Land Application~~ of Class B Biosolids for Agricultural Use

This subrule applies to the utilization-land application of Class B Biosolids as a fertilizer and/or soil amendment to enhance Agricultural Lands. ~~Such uses may include, but are not limited to nurseries and tree farms, floriculture, and turfgrass production.~~ All projects utilizing Class B Biosolids land application projects must operate under an Order of Approval ~~and, must meet the same requirements for land-applied sludge in Rules 10(E-K) and 10(P-Q), and~~ must meet the following additional requirements:

(a) Soil Analysis

Soil from the proposed land application site must be tested for metals listed in Appendix 86 and for the parameters listed in Rule ~~14(F)10(R)(3)~~ above. The ~~Commissioner~~ Director shall determine the testing and reporting frequency. All soil analyses shall be the responsibility of the applicant.

(b) Land Application Rates

All Class B Biosolids intended for agricultural ~~utilization~~ use must be land applied at an annual rate not to exceed the amount necessary to supply adequate available nitrogen for crop production using good agricultural practices or not to exceed the maximum annual rates recommended by the U.S. Department of Agriculture to achieve fertilizer benefits and soil improvement.

(c) Cumulative Loading Rates

The maximum amount of Class B Biosolids that can be applied to a land application site shall be calculated using the procedure established in Appendix 97. The amount of metals in the soil shall be deducted from each calculation.

~~(d) Crops~~

~~Food Crops with harvested parts that touch the Class B Biosolids/soil mixture and are totally above the land surface shall not be harvested for fourteen (14) months after application of Class B Biosolids. Food Crops with harvested parts below the surface of the land shall not be harvested for twenty (20) months after application of Class B Biosolids when the Class B Biosolids remains on the land surface for four (4) months or longer prior to incorporation into the soil. Food Crops with harvested parts below the surface of the land shall not be harvested for thirty eight (38) months after application of Class B Biosolids when the Class B Biosolids remains on the land surface for less than four (4) months prior to incorporation into the soil. Food Crops with harvested parts that do not touch the Class B Biosolids/soil mixture, Feed Crops and Fiber Crops shall not be harvested for thirty (30) days after application of Class B Biosolids. This requirement will be met if a land application Site receives Class B Biosolids that meets the pathogen limits established in Appendix 7.~~

~~(e) Animal Grazing~~

~~Animals whose products are consumed by humans shall not be allowed to graze on land where Class B Biosolids are applied for thirty (30) days after the last application of Class B Biosolids has occurred. This requirement will be met if a land application Site receives Class B Biosolids that meets the pathogen limits established in Appendix 7.~~

~~(f) Turf~~

~~Turf grown on land where Class B Biosolids is applied shall not be harvested for one (1) year after the last application of Class B Biosolids has passed when the harvested turf is placed on either land with a high potential for public exposure or a lawn. This requirement will be met if a land application Site receives Class B Biosolids that meets the pathogen limits established in Appendix 7.~~

~~(g) Public Access~~

~~Public access to land where Class B Biosolids has been applied shall be prohibited by the Owner or Operator until one (1) year has passed since the last application of Class B Biosolids to land with a high potential for public exposure, such as a park or ballfield or thirty (30) days has passed since the last application of Class B Biosolids to land with a low potential for public exposure, such as private farmland.~~

~~This requirement will be met if a land application Site receives Class B Biosolids that meets the pathogen limits established in Appendix 7.~~

~~(h) Frozen Ground~~

~~No Class B Biosolids shall be applied to frozen, flooded or snow covered ground unless appropriate erosion and runoff control measures are provided.~~

~~(i) Odor Control~~

~~Any Class B Biosolids utilization project must comply with the Department's Office of Air Resources Air Pollution Control Regulation 17, as amended, or other rules and regulations pertaining to odors.~~

~~(j) Groundwater~~

~~A minimum of two (2) feet of soil is required between the lowest level of Class B Biosolids and the highest water table level established during the seasonal high ground water table period determined by the Department in accordance with the Department's ISDS regulations. In addition, a minimum of three (3) feet of soil is required between the highest level of bedrock and the lowest level of applied Class B Biosolids.~~

~~(k)~~ Surface Water

No Class B Biosolids shall be land applied within fifty (50) feet of any body of surface water or within one hundred (100) feet of any body of surface water within the watershed of a public drinking water supply. The ~~Commissioner~~Director, may, if necessary, require continuous monitoring of any surface watercourses in the vicinity of the proposed Class B Biosolids application Site. Such monitoring shall be of a type and frequency determined by the ~~Commissioner~~Director on a case-by-case basis and shall be the responsibility of the owner or operator. This requirement will be met if the applicant demonstrates to the satisfaction of the Department that any runoff from the proposed project will not affect surface water.

~~(l)~~ Drinking Water Wells

No Class B Biosolids shall be land applied within fifty (50) feet of any private drinking water supply well or within four hundred (400) feet of any public drinking water supply well. Land application of Class B Biosolids shall be in accordance with the Rhode Island Groundwater Protection Act of 1985, General Laws Chapter 46-13.1 and any rules and regulations promulgated thereunder.

~~(m)~~ Distance to Property Lines

No Class B Biosolids shall be land applied within fifty (50) feet of a property line. This requirement will be ~~met~~waived if consent from the adjacent landowner is received.

~~(n) Monitoring Wells~~

~~Groundwater monitoring shall be of a type and frequency determined by the Commissioner on a case-by-case basis and shall be the responsibility of the Owner or Operator.~~

~~(o) Erosion Control~~

~~Soil erosion on all land application Sites shall be limited to conditions that meet Resource Management System Quality Criteria for soil erosion as defined in the USDA Natural Resources Conservation Service (NRCS) Field Office Technical Guide for Rhode Island. Erosion control methods on all land application Sites shall be consistent with practice standards and specifications in the NRCS Field Office Technical~~

~~Guide for Rhode Island. Sediment and runoff shall be controlled on all land application Sites consistent with the measures within the Rhode Island Erosion and Sediment Control Handbook, USDA, SCS, 1990.~~

~~(g) Stockpiling~~

~~All stockpiling of Class B Biosolids shall comply with Rule 13 of these rules and regulations.~~

~~(ph) Transportation~~

~~All transportation of Class B Biosolids shall comply with Rule 14 of these rules and regulationsbe transported in vehicles that are properly covered while in transit so as to prevent any dropping of Class B Biosolids.~~

~~(F2) Non-Agricultural Utilization Land Application of Class B Biosolids for Non-Agricultural Use~~

This subrule applies to ~~utilization land application~~ of Class B Biosolids as a fertilizer and/or soil amendment to enhance non-Agricultural Lands. Such uses may include, but are not limited to public parks and grounds, sand and gravel pit reclamation, roadsides and medians, silviculture, playgrounds, golf courses, ball fields and stadiums and cemeteries. All ~~projects utilizing~~ Class B Biosolids land application projects must operate under an Order of Approval, must meet the same requirements for land-applied sludge in Rules 10(I-K) and 10(P-Q), and must meet the following requirements:

~~(1a) Cumulative Loading Rates~~

The maximum amount of Class B Biosolids that can be applied to a land application site shall be calculated using the procedure established in Appendix ~~97~~. All Class B Biosolids intended for land application must be applied using good agricultural or silvicultural practices.

~~(2b) Public Access~~

~~Public access to land where Class B Biosolids is applied shall be prohibited by the Owner or Operator until one (1) year has passed since the last application of Class B Biosolids to land with a high potential for public exposure, such as a park or ~~ballfield~~ball field or thirty (30) days has passed since the last application of Class B Biosolids to land with a low potential for public exposure, such as a sand and gravel pit reclamation Site. This requirement will be ~~met~~waived if a land application ~~S~~site receives Class B Biosolids which meets the pathogen limits established in Appendix 7.~~

~~(3c) Frozen Ground~~

~~No Class B Biosolids shall be applied to frozen, flooded or snow covered ground unless appropriate erosion and runoff control measures are provided.~~

~~(4d) Odor Control~~

~~Any Class B Biosolids utilization project must comply with the Department's Office of Air Resources Air Pollution Control Regulation 17, as amended, or other rules and regulations pertaining to odors.~~

~~(5e) Groundwater~~

~~A minimum of two (2) feet of soil is required between the lowest level of Class B Biosolids and the highest water table level established during the seasonal high ground water table period determined by the Department in accordance with the Department's ISDS regulations. In addition, a minimum of three (3) feet of soil is required between the highest level of bedrock and the lowest level of applied Class B Biosolids.~~

~~\_\_\_\_\_~~ (6c) Surface Water

No Class B Biosolids shall be land applied within fifty (50) feet of any body of surface water or within one hundred (100) feet of any body of surface water within the watershed of a public drinking water supply. The ~~Commissioner~~Director, may, if necessary, require continuous monitoring of any surface watercourses in the vicinity of the proposed Class B Biosolids application site. Such monitoring shall be of a type and frequency determined by the ~~Commissioner~~Director on a case-by-case basis and shall be the responsibility of the owner. This requirement will be met if the applicant demonstrates to the satisfaction of the Department that the proposed project will not affect surface water.

~~\_\_\_\_\_~~ (7d) Drinking Water Wells

No Class B Biosolids shall be land applied within fifty (50) feet of any private drinking water supply well or within four hundred (400) feet of any public drinking water supply well. Land application of Class B Biosolids shall be in accordance with the Rhode Island Groundwater Protection Act of 1985, General Laws Chapter 46-13.1 and any rules and regulations promulgated thereunder.

~~\_\_\_\_\_~~ (8e) Distance to Property Lines

No Class B Biosolids shall be land applied within fifty (50) feet of a property line. This requirement will be ~~met~~waived if written consent is received from the adjacent land owner.

(f) Stockpiling

All stockpiling of Class B Biosolids shall comply with Rule 13 of these rules and regulations.

~~(9) Monitoring Wells~~

~~Groundwater monitoring shall be of a type and frequency determined by the Commissioner on a case-by-case basis and shall be the responsibility of the Owner or Operator.~~

~~(10) Erosion Control~~

~~Soil erosion on all land application Sites shall be limited to conditions which meet Resource Management System Quality Criteria for soil erosion as defined in the USDA Natural Resources Conservation Service (NRCS) Field Office Technical Guide for Rhode Island. Erosion control methods on all land application Sites shall be consistent with practice standards and specifications in the NRCS Field Office Technical Guide for Rhode Island. Sediment and runoff shall be controlled on all land application Sites consistent with the measures within the Rhode Island Erosion and Sediment Control Handbook, USDA, SCS, 1990.~~

~~\_\_\_\_\_~~ (11j) Transportation

~~All transportation of Class B Biosolids shall comply with Rule 14 of these Rules and Regulations be transported in vehicles which are properly covered while in transit so as to prevent any dropping of Class B Biosolids.~~

~~\_\_\_\_\_~~ (3) Submissions for Approval

~~The following submissions are required as part of an Application for Order of Approval for the agricultural or non-agricultural use of Class B Biosolids and must be stamped by a registered professional engineer or land surveyor. These submissions are in addition to the submission requirements listed in Rule 8.~~

~~\_\_\_\_\_~~ (a) Management Plan

~~\_\_\_\_\_~~ The applicant shall submit a Management Plan that includes the following information:

- (i) Detailed description of the Class B Biosolids land application project and the proposed sequence of operation;
- (ii) Provisions for compliance with Rules 12(B)(1) or 12(B)(2) of these rules and regulations;
- (iii) Personnel and duties;
- (iv) Procedures to control dust;
- (v) Procedures to control erosion, sedimentation and promote vegetative growth;
- (vi) Equipment to be utilized;
- (vii) Substitute equipment available;
- (viii) Provisions to control access;
- (ix) Estimated life of Class B Biosolids land application area, and
- (x) Aesthetic considerations.

(b) Class B Biosolids and Soil Analysis

The results of the Class B Biosolids analysis required in Rule 11(L) and the soil analysis required in Rule 12(B)(1)(a) of these rules and regulations must be on file with the Office of Water Resources at the time of application.

(GD) ~~Utilization and Disposal~~ of Class C Biosolids

Class C Biosolids may be used as cover material for solid waste landfills and land disposal sites under Rule 12(E) of these rules and regulations. Class C Biosolids may be disposed of by burial at land disposal sites and solid waste landfills under Rules 9 and 16 of these rules and regulations. Land application of Class C Biosolids is prohibited.

(DE) ~~Utilization~~ Use of Treated Sludge as Landfill Cover

This subrule applies to the ~~utilization~~ use of ~~Class C Biosolids~~ treated sludge as cover material at solid waste landfills and land disposal sites. ~~Utilization~~ Use at solid waste landfills must be in accordance with the Department's solid waste regulations. All solid waste landfills and land disposal sites ~~utilizing~~ using Class C Biosolids ~~treated sludge as cover material~~ must operate under an Order of Approval and must meet the following requirements.

(1) Solid Waste Landfills

Solid waste landfill uses include the following:

(a) Daily Cover

~~Class C Biosolids~~ Treated sludge may be ~~utilized~~ used as initial or daily landfill cover only as an amendment in amounts to be approved on a case-by-case basis.

(b) Intermediate Cover

~~Class C Biosolids~~ Treated sludge may be ~~utilized~~ used as an amendment in the creation of a six-inch (6") intermediate cover over the initial cover layer.

(c) Final Cover

~~Class C Biosolids~~ Treated sludge may be ~~utilized~~ used as final landfill cover as an application of soil of sufficient type and thickness to support vegetative growth.

(2) Land Disposal Sites

~~Class C Biosolids~~ Treated sludge may be ~~utilized~~ used as final cover for land disposal sites as an application of

soil of sufficient type and thickness to support vegetative growth.

(3) Application Rates

~~Class C Biosolids~~ Treated sludge utilized-used as cover shall be applied at a rate determined on a case-by-case basis. ~~Utilization-Use~~ at solid waste landfills shall be in accordance with procedures established in the ~~department's~~ solid waste regulations.

(4) Surface Water

~~Class C Biosolids~~ Treated sludge utilized-used as cover shall not be applied within fifty (50) feet of any body of surface water. This requirement will be met if the applicant demonstrates to the satisfaction of the Department that any runoff from the project will not affect surface water.

(5) Odor Control

Any solid waste landfill or land disposal site ~~utilizing-using~~ Class C Biosolidstreated sludge as cover must comply with the Department's Office of Air Resources' Air Pollution Control Regulation 17, as amended, or other rules and regulations pertaining to odors.

(6) Transportation

All ~~transportation of treated sludge~~ Class C Biosolids shall comply with Rule 14 of these rules and regulations ~~be transported in vehicles that are properly covered while in transit so as to prevent any dropping of Class C Biosolids.~~

~~(67)~~ Submissions for Approval

The following submissions are required as part of an Application for Order of Approval for the use of treated sludge as cover material at solid waste landfills and land disposal sites and must be stamped by a registered professional engineer or land surveyor. These submissions are in addition to the submission requirements listed in Rule 8. All submissions for approval and amendments to solid waste landfill operating and/or closure plans for using treated sludge for landfill cover must also be approved by the Office of Waste Management, in accordance with the solid waste regulations.

(a) Management Plan

The applicant shall submit a Management Plan describing compliance with the provisions of Rule 12(E)(1-6) of these rules and regulations.

(b) Treated Sludge Analysis

The applicant shall submit the results of the analysis required in Rule 11(N) of these rules and regulations.

**~~RULE 13. COMPOSTING OF SLUDGE - SUBMISSIONS FOR APPROVAL~~ [Moved to Rules 11(O) and 8]**

~~(A)~~ Sludge Composting Operations

~~Plans and submissions required by Rules 13(A)(2)-(5) below must be stamped by a registered professional engineer or land surveyor. The plans should be sealed to fit on a standard 24 x 36 inch sheet wherever possible. Larger sheets must be used when the minimum scale requirements do not permit the use of 24 x 36 inch sheets. The Commissioner may require additional information if necessary to satisfy the requirements of these rules and regulations.~~

~~(1)~~ Initial Investigation Plans

~~Copies of the latest U.S. Geological Topographic Map, Farm Services Agency aerial maps and the United States Department of Agriculture Soil Survey Map, with the Site outlined and an indication of the required setbacks, must be submitted to the Office of Water Resources prior to all other required information. This will allow initial evaluation of the plan relating to Wetlands, Aquifers, and soil type before large investigatory and developmental expenditures are made. A report of the evaluation shall be made to the Applicant. The report shall list what submissions, if any, from Rules 13(A)(2)–(8) below must be submitted to the Office of Water Resources to obtain an Order of Approval.~~

~~(2) — Radius Plan~~

~~A radius plan including all the information listed below shall be submitted. The radius plan must be drawn at a minimum scale of one inch to two hundred feet (1"=200') and include all areas within a one quarter (1/4) mile radius from all property lines of the Site. The required information includes:~~

- ~~(a) — All buildings;~~
- ~~(b) — All water supplies (wells, etc.);~~
- ~~(c) — All surface water courses and wetlands;~~
- ~~(d) — All roads;~~
- ~~(e) — All boring locations;~~
- ~~(f) — Legal boundaries of Site;~~
- ~~(g) — North arrow;~~
- ~~(h) — Extent of one hundred (100) year flood plain (where applicable), and~~
- ~~(i) — Local zoning and permitting requirements.~~

~~(3) — Site Plan~~

~~A Site plan including all of the information listed below for all areas within the sludge composting Site shall be submitted. The Site plan must be drawn to a minimum scale of one inch to one hundred feet (1"=100'). The required information includes:~~

- ~~(a) — Initial ground contours at five foot intervals;~~
- ~~(b) — Final proposed contours at five foot intervals;~~
- ~~(c) — Boring locations;~~
- ~~(d) — Proposed leachate collection and treatment systems;~~
- ~~(e) — Proposed gas controls (if any);~~
- ~~(f) — Buildings (where applicable);~~
- ~~(g) — Wells (if any);~~
- ~~(h) — Surface water courses and other wetlands;~~
- ~~(i) — Roads;~~
- ~~(j) — Ground water monitoring wells;~~
- ~~(k) — Legal boundaries of Site;~~
- ~~(l) — Power lines, pipe lines, rights of way and other utilities;~~
- ~~(m) — Proposed fences;~~
- ~~(n) — Weighing facilities (if any), and~~
- ~~(o) — North arrow.~~

~~(4) — Soil Borings~~

~~Borings shall be required of all proposed areas to be developed. The minimum number of borings required are listed below:~~

Proposed No. of Acres to be Filled	No. of Borings
1—10	3
11—50	6
51—100	12
101—200	18
Over 200	24 plus 1 for every 10 acres over 200

~~Split spoon samples shall be collected at a minimum of five (5) foot intervals. A soil description shall be provided for each split spoon sample. All borings should be driven to a minimum depth of twenty (20) feet below the proposed bottom level of composted sludge or to refusal. The following information contained on the boring logs should be submitted:~~

- ~~(a) — Depth of the maximum elevation of the groundwater table (to be measured at a minimum of twenty four (24) hours after the boring is taken);~~
- ~~(b) — A detailed soil profile description to a depth of four (4) feet must be submitted for each soil mapping unit on the sludge composting Site. The required information includes:
 
  - ~~(i) — Color of each horizon;~~
  - ~~(ii) — Texture of each horizon;~~
  - ~~(iii) — Depth of each horizon;~~
  - ~~(iv) — Depth to mottles (if any);~~
  - ~~(v) — Amount of coarse fragments (if any);~~
  - ~~(vi) — Depth to bedrock (if encountered);~~
  - ~~(vii) — Consistence or relative density, and~~
  - ~~(viii) — Slope.~~~~
- ~~(c) — Method of boring;~~
- ~~(d) — Blowcounts, and~~
- ~~(e) — Date boring was taken.~~

~~The boring should be located to give the best indications of subsurface conditions for the whole sludge composting Site that can be obtained considering the limited number of borings required. The groundwater table elevation determination shall be made when the water table is highest; this occurs usually during the months of January through April. (Specific dates may be determined on a yearly basis by the Commissioner.) All boring holes must be maintained for future water table elevation determinations. If the Commissioner feels it necessary, additional borings may be required.~~

~~(5) — Groundwater Survey~~

~~A groundwater survey showing the maximum ground water elevations, the direction of groundwater flow, and an estimation of the rate of flow (including calculations) shall be submitted.~~

~~(6) — Site Delineation~~

~~The following sludge composting Site areas shall be marked with stakes at the time of the engineering survey. The stakes must be a minimum of two (2) feet high, clearly visible and maintained at all times. All Sites shall include the following delineations:~~

- ~~(a) — Areas enclosed by legal boundaries; and~~
- ~~(b) — Areas to be developed as indicated in the Operating Plan.~~

~~(7) — Operating Plan~~

~~An operating plan shall be submitted detailing procedures for a two-year period. No later than ninety (90) days prior to the end of this two-year period, a new operating plan shall be submitted which covers the following two (2) years. All operating plans shall include the following information:~~

- ~~(a) — Detailed description of the sludge composting method to be used and the proposed sequence of operation (see Rule 12(A), "Sludge Composting Operations");~~
- ~~(b) — Use of bulking agent and procedures for temperature control;~~
- ~~(c) — Operating hours;~~
- ~~(d) — Personnel and duties;~~
- ~~(e) — Procedures to control dust, vectors and odors;~~
- ~~(f) — Provisions for the immediate composting of all sludge;~~
- ~~(g) — Provisions for the proper storage of composted sludge;~~
- ~~(h) — Procedures to control erosion and sedimentation;~~
- ~~(i) — Equipment to be on Site during operating hours;~~
- ~~(j) — Substitute equipment available;~~
- ~~(k) — Communications equipment available;~~
- ~~(l) — Population and service area;~~
- ~~(m) — Winter operations;~~
- ~~(n) — Provisions for limiting access;~~
- ~~(o) — Provisions for composted sludge utilization;~~
- ~~(p) — Weighing facilities (if any);~~
- ~~(q) — Estimated life of sludge composting Facility;~~
- ~~(r) — Aesthetic considerations;~~
- ~~(s) — Leachate treatment operations, and~~
- ~~(t) — Surface drainage control measures.~~

~~(8) — Sludge and Bulking Agent Analysis~~

~~The results of the sludge and bulking agent analysis required in Rule 12(A)(9) of these rules and regulations must be on file with the Office of Water Resources at the time of application.~~

~~(9) — Application for Order of Approval~~

~~Any Person who proposes to operate a sludge composting Facility must submit an Application for Order of Approval (see Appendix 1) as described in Rule 7 of these rules and regulations.~~

~~(10) — Site Information Sheet~~

~~For all sludge composting Sites, the Applicant must submit a completed Site Information Sheet (see Appendix 2). The Site Information Sheet must be on file with the Office of Water Resources at the time of application.~~

~~(B) — Distribution and Utilization of Class A Biosolids~~

~~This subrule applies to the distribution and utilization of Class A Biosolids as described in Rule 12(D) of these rules and regulations.~~

~~(1) — Operating Plan~~

~~The Applicant must submit an operating plan to the Office of Water Resources describing compliance with the provisions of Rule 12(D) of these rules and regulations. The operating plan must be on file with the Office of Water Resources at the time of application.~~

~~(2) — Class A Biosolids Storage~~

~~At the time of application the distributor must submit a copy of the latest U.S. Geological Topographic Map with the distribution Site outlined and an indication of the Class A Biosolids storage areas. This requirement will be met if the Applicant proposes to store Class A Biosolids in an enclosed structure, where runoff will not occur.~~

~~(3) — Composted Sludge Analysis~~

~~The results of the Class A Biosolids analysis required in Rule 12(C) of these rules and regulations must be on file with the Office of Water Resources at the time of the application.~~

~~(4) — Application for Order of Approval~~

~~Any Person who proposes to distribute Class A Biosolids must submit an Application for Order of Approval (see Appendix 1) as described in Rule 7 of these rules and regulations.~~

~~(5) — Site Information Sheet~~

~~For all Sites at which Class A Biosolids is to be distributed, the Applicant must submit a completed Site Information Sheet (see Appendix 2). The Site Information Sheet must be on file with the Office of Water Resources at the time of application.~~

~~(C) — Agricultural and Non-Agricultural Utilization of Class B Biosolids~~

~~This subrule applies to the utilization of Class B Biosolids as a fertilizer and/or soil amendment to enhance agricultural and non-Agricultural Lands as described in Rules 12(E) and 12(F). The plan required by Rule 13(C)(2) below must be stamped by a registered professional engineer or land surveyor. The plans should be scaled to fit on a standard 24 x 36 inch sheet wherever possible. Larger sheets must be used when the minimum scale requirements do not permit the use of 24 x 36 inch sheets. The Commissioner may require additional information if necessary to satisfy the requirements of these rules and regulations.~~

~~(1) — Initial Investigation Plans~~

~~Copies of the latest U.S. Geological Topographic Map, Farm Services Agency aerial maps and the United States Department of Agriculture Soil Survey Map, with the Site outlined and an indication of the required set-backs must be submitted to the Office of Water Resources prior to all other required information. This will allow initial evaluation of the plan relating to wetlands, aquifers, and soil type before large investigatory and developmental expenditures are made. A report of the evaluation shall be made to the Applicant. The report shall list what submissions, if any, from Rules 13(C)(2)–(4) below must be submitted to the Office of Water Resources to obtain an Order of Approval.~~

~~(2) — Radius Plan~~

~~A radius plan including all the information listed below shall be submitted. The radius plan must be drawn at a minimum scale of one inch to two hundred feet (1"=200') and include all areas within a one quarter (1/4) mile radius from all property lines of the Site. The required information includes:~~

- ~~(a) — All buildings;~~
- ~~(b) — All water supplies (wells, etc.);~~
- ~~(c) — All surface water courses and wetlands;~~
- ~~(d) — All roads;~~
- ~~(e) — Legal boundaries of Site;~~
- ~~(f) — North arrow;~~
- ~~(g) — Extent of one hundred (100)-year flood plain (where applicable), and~~

~~(h) Local zoning and permitting requirements.~~

~~(3) Operating Plan~~

~~An operating plan shall be submitted including all the information listed below:~~

- ~~(a) Detailed description of the Class B Biosolids utilization project and the proposed sequence of operation;~~
- ~~(b) Provisions for compliance with Rules 12(E) and 12(F) of these rules and regulations;~~
- ~~(c) Personnel and duties;~~
- ~~(d) Procedures to control dust;~~
- ~~(e) Procedures to control erosion, sedimentation and promote vegetative growth;~~
- ~~(f) Equipment to be utilized;~~
- ~~(g) Substitute equipment available;~~
- ~~(h) Provisions to control access;~~
- ~~(i) Estimated life of Class B Biosolids utilization area, and~~
- ~~(j) Aesthetic considerations.~~

~~(4) Class B Biosolids and Soil Analysis~~

~~The results of the Class B Biosolids analysis required in Rule 12(C) and the soil analysis required in Rule 12(E)(1) of these rules and regulations, must be on file with the Office of Water Resources at the time of application.~~

~~(5) Application for Order of Approval~~

~~Any Person that proposes to land apply Class B Biosolids must submit an Application for Order of Approval (see Appendix 1) as described in Rule 7 of these rules and regulations.~~

~~(6) Site Information Sheet~~

~~For all Sites on which Class B Biosolids is to be applied, the Applicant must submit a completed Site Information Sheet (see Appendix 2). The Site Information Sheet must be on file with the Office of Water Resources at the time of application.~~

~~(D) Utilization of Class C Biosolids~~

~~This subrule applies to the utilization of Class C Biosolids at solid waste landfills and land disposal sites as described in Rule 12(G). In addition to items (1)-(4) below, all submissions for approval and amendments to solid waste landfill operating and/or closure plans utilizing Class C Biosolids for landfill cover must be approved by the Office of Waste Management, in accordance with the solid waste regulations.~~

~~(1) Operating Plan~~

~~Any owner or applicant who wishes to utilize Class C Biosolids at a solid waste landfill or land disposal site must submit an operating plan describing compliance with the requirements of this rule to the Commissioner to be reviewed and evaluated individually before approval is issued.~~

~~(2) Class C Biosolids Analysis~~

~~The results of the Class C Biosolids analysis required in Rule 12(C) of these rules and regulations, must be on file with the Office of Water Resources at the time of application.~~

~~(3) Application for Order of Approval~~

Any Person that proposes to utilize Class C Biosolids at a solid waste landfill or Land Disposal Site must submit an Application for Order of Approval (see Appendix 1) as described in Rule 7 of these rules and regulations.

(4) — Site Information Sheet

For all solid waste landfill and Land Disposal Sites where Class C Biosolids is to be applied, the Applicant must submit a completed Site Information Sheet (see Appendix 2). The Site Information Sheet must be on file with the Office of Water Resources at the time of application.

**RULE 14. ALTERNATIVE SLUDGE TECHNOLOGIES** *[Combined with Rule 11]*

The treatment of sewage sludge by chemical, thermophilic or any other alternative methods shall be permitted if the owner meets the requirements presented in this rule. Any alternative sludge technology Facility must operate under an Order of Approval.

(A) — Operations

All methods of sludge treatment must meet one of the Processes to Further Reduce Pathogens as listed in Appendix 4 and must meet one of the vector attraction reduction requirements described in Appendix 5. Any alternative sludge technology Facility must comply with the Department's Office of Air Resources' Air Pollution Control Regulation 17, as amended, or other rules and regulations pertaining to odors. Any method of sludge treatment must meet the requirements established for sludge composting in Rules 12(A)(2-10) of these rules and regulations and the submission requirements in Rule 13(A) of these rules and regulations. The Commissioner reserves the right to require additional information if necessary.

(B) — Treated Sludge Quality

Any treated sludge which meets the limits established in Appendix 7 shall be considered Class A Biosolids; the requirements and restrictions for the distribution and use of Class A Biosolids are listed in Rule 12(D) of these rules and regulations. Any treated sludge which meets the limits established in Appendix 8 shall be considered Class B Biosolids; the requirements and restrictions for the use of Class B Biosolids are listed in Rule 12(E) and 12(F) of these rules and regulations. Any treated sludge which does not meet the limits established in Appendices 7 and 8 shall be considered Class C Biosolids; the requirements and restrictions for the use of Class C Biosolids are listed in Rule 12(G) of these rules and regulations.

(C) — Treated Sludge Analysis

Class A Biosolids must be tested for the metals and the pathogens listed in Appendix 7. Class B Biosolids and Class C Biosolids must be tested for the metals and the characteristics listed in Appendix 8. All results must be submitted to the Office of Water Resources. The Commissioner shall determine the testing and reporting frequency. All treated sludge analysis shall be the responsibility of the Owner or Operator of the sludge treatment Facility.

(D) — Distribution or Utilization of Treated Sludge

Any treated sludge intended for distribution or utilization is subject to the submission requirements established in Rules 13(B-D) of these rules and regulations.

(E) — Licensing

Any Facility that produces Class A Biosolids must comply with the Department's Office of Natural Resource Services' Commercial Fertilizer Law, as amended, (RI Gen. Law Chap. 2-7) and any other rules and regulations pertaining to fertilizer and soil amendment products. All fertilizer and soil amendment products must be registered with the Office of Natural Resource Services before being offered for sale.

## RULE 13. STOCKPILING

This rule applies to the stockpiling of untreated and treated sludge at a sludge management facility or site. Except as provided in Rule 7(C)(4), all stockpile facilities and sites must operate under an Order of Approval. Requirements for stockpiling sludge are as follows:

### (A) Untreated Sludge

Other than in approved storage facilities at publicly or privately owned treatment works, the stockpiling of untreated sludge is prohibited. Arrangements must be made to either:

- (1) Treat all sludge immediately upon arrival at a sludge treatment facility;
- (2) Bury all sludge immediately upon arrival at a land disposal or co-disposal facility or site; and
- (3) Land apply all sludge immediately upon arrival at a land application site.

### (B) Treated Sludge

The stockpiling of treated sludge shall meet the following requirements:

#### (1) Groundwater

A minimum of two (2) feet of soil is required between the lowest level of stockpiled sludge and the seasonal high groundwater table as determined by a DEM-licensed Class IV soil evaluator in accordance with the procedures described in the Department Rules Establishing Minimum Standards Relating to Location, Design, Construction and Maintenance of Onsite Wastewater Treatment Systems. The determination of the seasonal high groundwater table must be witnessed by the Department. In addition, a minimum of three (3) feet of soil is required between the highest level of bedrock and the lowest level of stockpiled sludge. If the applicant seeks a variance from these separation distances under Rule 22 of these rules and regulations, the applicant must demonstrate to the satisfaction of the Office of Water Resources that the sludge treatment facility or site will not generate leachate. Otherwise, the Director will require the installation of an impermeable liner system or leachate collection and treatment system or other means to prevent leachate from reaching the groundwater as a condition for the granting of such variance.

#### (2) Surface Water

No treated sludge shall be stockpiled within two hundred (200) feet of any body of surface water. No treated sludge shall be stockpiled within the watershed of any surface water used as a public drinking water supply. The Director may, if necessary, require continuous monitoring of any surface watercourses in the vicinity of the stockpile site. Such monitoring shall be of a type and frequency determined by the Director on a case-by-case basis and shall be the responsibility of the owner or operator of the facility or site. If the applicant seeks a variance from these separation distances under Rule 22 of these rules and regulations, the applicant must demonstrate to the satisfaction of the Department that any runoff from the sludge treatment facility or site will not impact surface water as a condition for the granting of such variance.

#### (3) Drinking Water Wells

No treated sludge shall be stockpiled within one thousand (1,000) feet of any private drinking water supply well or within the Wellhead Protection Area for a public drinking water supply well. Any stockpile site shall comply with the Rhode Island groundwater Protection Act of 1985, General Laws Chapter 46-13.1 and any rules and regulations promulgated thereunder. If the applicant seeks a variance from these separation distances under Rule 22 of these rules and regulations, the applicant must demonstrate to the satisfaction of the Department that the stockpile site will not generate leachate. Otherwise, the Director will require the installation of an impermeable

liner system or other means to prevent leachate from reaching the groundwater as a condition for the granting of such variance.

(4) Distance to Property Lines

No treated sludge shall be stockpiled within one hundred (100) feet of a property line. If the applicant seeks a variance from this separation distance under Rule 22 of these rules and regulations, the Director will require that the treated sludge be stockpiled in a facility that is enclosed as a condition for the granting of such variance.

(5) Monitoring Wells

For the purpose of monitoring groundwater conditions, the owner or operator of a stockpile facility or site shall install and maintain monitoring wells of a number and type approved by the Director and at locations chosen by the Director. The owner or operator of the site is responsible for analysis of groundwater in accordance with instructions of the Director. The Director shall determine the testing and reporting frequency. If the applicant seeks a variance from this requirement, the Director will require that the treated sludge be stockpiled in a facility that is completely enclosed as a condition for the granting of such variance.

(6) Odor Control

Any stockpile facility or site must comply with the Department's Office of Air Resources Air Pollution Control Regulation 17, as amended, or other rules and regulations pertaining to odors.

(C) Submissions for Approval

The following submissions are required as part of an Application for Order of Approval for the stockpiling of treated sludge and must be stamped by a registered professional engineer or land surveyor. These submissions are in addition to the submission requirements listed in Rule 8.

(1) Management Plan

The applicant shall submit a Management Plan describing compliance with the provisions of Rule 13(B)(1-6) of these rules and regulations.

(2) Treated Sludge Analysis

The applicant shall submit the results of the analysis required in Rule 11(N) of these rules and regulations.

**RULE 14. TRANSPORTATION OF SLUDGE**

This Rule applies to the transportation of sludge on public roads. All transporters operating within or entering the State of Rhode Island for the purpose of treatment, disposal, stockpiling, and/or land application of sludge within the State of Rhode Island shall operate under an Order of Approval and shall meet the requirements in this Rule. All other transporters entering the State of Rhode Island shall not be required to operate under an Order of Approval. However, such transporters shall meet the requirements in Rule 14(A) below.

(A) Vehicles and Containers

All vehicles and containers that are used for transportation of sludge shall comply with the following:

- (1) Each container and vehicle shall be maintained so as not to create objectionable odors or public health or environmental hazards;
- (2) All open containers shall be covered during transport to minimize odors and to prevent loss of sludge;
- (3) Each container transporting sludge from which liquid might be released during transport shall be watertight;

- (4) Vehicles and containers containing sludge shall not be placed for longer than 24 hours at a facility or site;
- (5) All containers shall be inspected by the driver prior to transport on public roads to ensure that sludge will not leak or spill out during transportation; and
- (6) All vehicles and containers shall conform to all applicable state and federal requirements.

(B) Recordkeeping

A transporter shall keep a written record of the following information for each load of sludge:

- (1) Date the sludge is removed from the generator's facility or site;
- (2) Generator's name, address and telephone number;
- (3) Characteristics of sludge (i.e. liquid or solid);
- (4) Quantity of sludge, in wet tons, dry tons and gallons (if in liquid form);
- (5) Name, address and telephone number of the facility(ies) or site(s) to which the sludge is to be delivered; and
- (6) The date delivered to the facility or site.

(C) Reporting

The transporter shall submit monthly the information required in Rule 14(B) above to the Office of Water Resources by no later than the 15th day of the following month.

(D) Submissions for Approval

The following submissions are required as part of an Application for Order of Approval for transportation of sludge.

(1) Application Form

The applicant shall provide information on the proposed sludge management activity on an application form obtained from the department.

(2) Management Plan

A Management Plan shall be submitted describing provisions for compliance with Rule 14(A - C) of these rules and regulations.

## **RULE 15. INCINERATION**

Incineration of sludge shall be permitted if the incinerator system employed complies with rules and regulations promulgated by the Department and the USEPA regarding incinerators, air pollution, and all other applicable provisions of the law and such rules and regulations. All sludge incinerators shall operate under an Order of Approval.

(A) Incineration Methods

Sludge incineration may be practiced by, but not limited to, the methods described below. Any proposed sludge incineration method must consider the treatment of exhaust gases to exclude harmful organics and particulates as stated in EPA and Rhode Island Air Pollution Control Regulations. Any comparable method of sludge incineration shall be considered by the ~~Commissioner~~Director for approval.

- (1) Multiple Hearth Incineration which includes, but is not limited to, "excess air" and pyrolysis.
- (2) Fluidized Bed Reactors which includes, but ~~are~~is not limited to, typical graded silica sand beds for the incineration of sludge.
- ~~(3) Cyclonic Reactors which include, but are not limited to, oil burning, atomizing type reactors.~~

~~(B) Operating Plan~~

~~Any owner or applicant who wishes to engage in sludge incineration must submit an incineration plan describing compliance with the requirements of this rule to the Commissioner to be reviewed and evaluated individually before approval is issued.~~

~~(C) Sludge Analysis~~

All sludge intended for incineration may be required to be tested using the Toxicity Characteristic Leaching Procedure for the parameters listed in Appendix ~~64~~ and the results submitted to the Office of Water Resources. The ~~Commissioner~~Director shall determine the testing and reporting frequency. All sludge analyses shall be the responsibility of the owner of the facility that ~~produced~~generates the sludge.

~~(D) Condition of Sludge~~

All sludge intended for incineration shall not meet the criteria for hazardous waste.

~~(E) Application for Order of Approval~~

~~Any person that proposes to incinerate sludge must submit an Application for Order of Approval (see Appendix 1) as described in Rule 7 of these rules and regulations.~~

~~(F) Odor Control~~

Any sludge incinerator must comply with the Department's Office of Air Resources' Air Pollution Control Regulation 17, as amended, or other rules and regulations pertaining to odors.

~~(G) Transportation~~

All ~~transportation of~~ sludge shall ~~comply with Rule 14 of these rules and regulations~~be transported in vehicles that are properly sealed, watertight and covered while in transit so as to prevent any leaking or dropping of sludge.

~~(H) Regional Incineration~~

~~This subrule applies to any incinerators that incinerate or propose to incinerate sludge from more than one publicly owned treatment works or privately owned treatment works. All such incinerators shall operate under an Order of Approval and shall meet the requirements in this subrule.~~

~~(1) Sludge Approval~~

~~The owner or operator of an incinerator shall obtain prior approval from the department for the sludge from each publicly owned treatment works or privately owned treatment works that is proposed to be incinerated. The owner or operator of an incinerator proposing to incinerate sludge from multiple publicly owned treatment works or privately owned treatment works shall submit the following information to the department:~~

- ~~a. Name and address of publicly owned treatment works or privately owned treatment works where the sludge is generated;~~
- ~~b. Description of the publicly owned treatment works or privately owned treatment works including but not limited to the type of wastewater treatment employed and design flow;~~
- ~~c. Estimate of how much sludge in dry tons/year is generated by the publicly owned treatment works or privately owned treatment works;~~
- ~~d. Estimate of how much sludge in dry tons/year from publicly owned treatment works or privately owned treatment works will be incinerated at the regional incinerator;~~

- e. Description of the sludge characteristics including but not limited to whether the sludge is liquid or solid and the average moisture content of the sludge;
- f. Name and address of the transporter;
- g. Copy of results for sludge testing using the Toxicity Characteristics Leaching Procedure for the parameters listed in Appendix 4 of these rules and regulations (testing shall have been performed no more than one (1) year prior to submittal);
- h. Proposed dates for the regional incinerator to incinerate sludge from the publicly owned treatment works or privately owned treatment works; and
- i. Explanation of available of storage, dewatering and incineration capacity at the regional incinerator.

(2) Sludge Analysis

A sludge sample shall be collected daily from the incinerator sludge storage tank and composited into one sample each month which shall be analyzed for total metals.

(3) Emergency Contingency Plan

All regional incinerators shall have an emergency contingency plan in place which outlines procedures for continued, uninterrupted disposal of sludge in the event that the regional incinerator is not able to accept and/or incinerate sludge for any reason including mechanical failure. The emergency contingency plan shall include a listing of alternate disposal sites for sludge.

(4) Reporting

The owner or operator of a regional incinerator shall submit monthly reports to the department no later than the 15<sup>th</sup> day of the following month that includes the following information:

- (a) Names of all publicly owned treatment works and privately owned treatment works from which incinerated sludge was generated from;
- (b) Quantity of sludge incinerated including number of loads received, total gallons received, average moisture content of sludge, and total dry tons of sludge received from each publicly owned treatment works or privately owned treatment facility;
- (c) Copy of sludge analysis required in Rule 15(F)(2).

(FG) Submissions for Approval

The following submissions are required as part of an Application for Order of Approval for incineration of sludge and must be stamped by a registered professional engineer or land surveyor.

(1) Application Form

The applicant shall provide information on the proposed sludge management activity on an application form obtained from the department.

(2) Management Plan

Any owner or applicant who wishes to engage in sludge incineration must submit a Management Plan describing compliance with the requirements of these rules and regulations to the Director to be reviewed and evaluated individually before approval is issued. An owner or applicant seeking to operate as a regional incinerator shall also describe compliance with requirements in Rule 15(F) of these rules and regulations.

## RULE 16. CO-DISPOSAL OF SLUDGE AND SOLID WASTE

This rule applies to the disposal of sludge, ~~Composted sludge or treated sludge~~ by burial at a solid waste landfill approved for the disposal of solid waste by the Department. Any such solid waste landfill must operate under an Order of Approval.

### (A) ~~Operating Management Plan~~

~~Any owner or applicant who wishes to engage in the disposal of sludge, Composted sludge or treated sludge by burial at a solid waste landfill must submit a plan describing compliance with the requirements in this rule to the Commissioner/Director to be reviewed and evaluated individually before approval is issued.~~

### (BA) Sludge Analysis

All sludge, ~~Composted sludge or treated sludge~~ intended for disposal at a solid waste landfill may be required to be tested using the Toxicity Characteristic Leaching Procedure for the parameters listed in Appendix 64 and the results submitted to the Office of Water Resources. The owner or operator of the facility that ~~produced~~generated the sludge, ~~Composted sludge or treated sludge~~ shall be responsible for all analyses. The ~~Commissioner/Director~~ shall determine the testing and reporting frequency.

### (CB) Condition of Sludge, ~~Composted Sludge or Treated Sludge~~

All sludge, ~~Composted sludge or treated sludge~~ intended for disposal at a solid waste landfill shall be treated by one of the Processes to Significantly Reduce Pathogens described in Appendix 3. Such treatment shall be the responsibility of the owner or operator of the facility that ~~produced~~generated the sludge, ~~Composted sludge or treated sludge~~. All sludge, ~~Composted sludge or treated sludge~~ intended for disposal at a solid waste landfill shall not meet the criteria for hazardous waste.

### (DC) Cover Material

A soil cover of at least six (6) inches shall be applied to all sludge, Composted sludge or treated sludge deposits daily to control disease vectors and nuisance conditions.

### (ED) Transportation

All transportation of sludge, ~~Composted sludge or treated sludge~~ shall comply with Rule 14 of these rules and regulations~~be transported in vehicles that are properly sealed, watertight and covered while in transit so as to prevent any leaking or dropping of sludge, Composted sludge or treated sludge.~~

### (FE) Odor Control

Any such solid waste landfill site must comply with the Rhode Island Department of Environmental Management, Office of Air Resources Air Pollution Control Regulation 17, as amended, and other rules and regulations pertaining to odors.

### (GF) Application for Order of Approval~~Submissions for Approval~~

The following submissions are required as part of an Application for Order of Approval for incineration of sludge and must be stamped by a registered professional engineer or land surveyor

#### (1) Application Form

The applicant shall provide information on the proposed sludge management activity on an application form obtained from the department.

~~Any person that proposes to engage in the disposal of sludge, Composted sludge or treated sludge by burial at a solid waste landfill must submit an Application for Order of Approval (see Appendix 1) as described in Rule 76 of these rules and regulations.~~

(2) Management Plan

~~Any owner or applicant who wishes to engage in the disposal of sludge by burial at a solid waste landfill must submit a plan describing compliance with the requirements in this rule to the Director to be reviewed and evaluated individually before approval is issued.~~

**RULE 17. OCEAN DISPOSAL**

The discharge or disposal of sludge, Composted sludge or treated sludge into the waters of the State is prohibited in accordance with Rhode Island General Laws, Title 46, Chapter 12, as amended.

**RULE 18. NOTIFICATION OF CLOSURE AND CLOSURE PROCEDURE**

(A) Land Disposal Facilities or Sites

The owner of a land disposal site shall notify the Office of Water Resources in writing within ninety (90) days prior to the date the owner intends to close said site. The notification shall provide that the owner will physically remove all materials on site or the owner will abide by the closure plan, including the post-closure monitoring and financial provisions, as submitted by the applicant and approved by the Office of Water Resources under Rule 9~~(4M)~~(4) of these rules and regulations.

(B) Other Facilities or Sites

The owner of any facility or site other than a land disposal site shall notify the Office of Water Resources in writing at least thirty (30) days prior to the date the owner intends to close said facility or site. Before a facility or site will be considered closed, the Office of Water Resources shall conduct a final investigation to determine compliance with the provisions of these rules and regulations and the approved ~~operating Management p~~Plan.

**RULE 19. LIMITED ACCESS**

Operations of a facility or site shall be limited to those hours specified in the approved ~~operating Management p~~Plan.

**RULE 20. ACCIDENTAL RELEASE**

~~In the event of an accidental release of sludge, the owner or operator of the facility or site where the sludge release occurred or the transporter (if the release occurred during transport) shall be required to do the following:~~

~~(A) Immediately take action to contain the spill, minimize the environmental impact, and begin clean up procedures.~~

~~(B) Verbally notify the Department within 24 hours of the release with the following information:~~

- ~~(1) The date, time and location of the spill;~~
- ~~(2) The quantity of sludge released and the quantity of sludge recovered, in gallons and wet tons;~~
- ~~(3) The quantity and final disposition of any sludge not recovered;~~
- ~~(4) The name, address and telephone number of the driver involved (if sludge release occurs during transport);~~
- ~~(5) The name, address and telephone number of the facility or site that generated the sludge;~~
- ~~(6) The approximate distance to any surface waters and storm drains within 100 feet of the spill;~~
- ~~(7) The actions taken to control the extent of the spill and minimize the environmental impact; and~~
- ~~(8) Future actions necessary to clean up the spill, if applicable.~~

(C) Submit a certified letter to the Department within five (5) days of the release that includes but is not limited to the information required in Rule 20(B) signed by the owner of the facility or site where the release occurred. In the event that the release occurred during transport, the transporter shall submit the certified letter.

#### **RULE ~~20~~21. EXISTING FACILITIES OR SITES**

~~(A)~~ All facilities or sites that are operating on the effective date of these rules and regulations (the "existing facilities") may continue to operate in compliance with their current Orders of Approval, which shall remain in full force and effect unless suspended or revoked by the ~~Commissioner~~Director in accordance with Rule ~~22~~23 of these rules and regulations.

~~(B) All existing facilities shall apply for the issuance of an Order of Approval, in compliance with these rules and regulations, within six (6) months of the effective date of these rules and regulations unless required to do so earlier due to the suspension or revocation of its Order of Approval or the modification of operation of the subject Facility or Site.~~

#### **RULE ~~21~~22. VARIANCES**

(A) Any owner or applicant may submit a written request to the ~~Commissioner~~Director for a variance from some or all provisions of these rules and regulations.

(B) The owner or applicant shall have the burden of proving by clear and convincing evidence that a variance should be granted because alternative design or operating standards or alternative methods proposed in the variance application fulfill the purposes of the rules and regulations from which the variance is requested and shall have no adverse effect on public health and the environment.

~~(C) The Director may require that the applicant provide Notice~~notification of ~~the Commissioner's initiation of proceedings to review a any~~ request for a variance ~~shall be provided by the applicant~~ to all potentially affected parties as determined by the ~~Commissioner~~Director. At a minimum, the applicant ~~shall~~may be required to notify all ~~owners of land abutting~~ingers of the proposed facility ~~theor site of the proposed activity~~. The ~~Commissioner~~Director ~~shall~~may schedule a public hearing as required pursuant to Rhode Island General Laws Chapter 42-35 to solicit public comment prior to rendering a decision on the variance request. The applicant shall be required to pay the expenses for notice and hearing.

(D) The ~~Commissioner~~Director's decision to grant or deny a variance shall be in writing and may, as a condition of granting the variance, impose appropriate requirements necessary to protect the public health and environment.

(E) Issuance of a variance pursuant to this rule does not relieve the holder of the variance from complying with requirements of these rules and regulations which have not been the subject of a variance.

#### **RULE ~~22~~23. DENIAL, SUSPENSION, REVOCATION OF APPROVAL**

(A) The ~~Commissioner~~Director may suspend or revoke, in whole or in part, an approval for cause, including, but not limited to:

- (1) Failure to comply with these rules and regulations;
- (2) Refusal to permit a reasonable inspection;
- (3) Information indicating that the facility or site may result in probable harm to the environment or pose a threat to the health, safety and/or welfare of the public;
- (4) The information on the Application for Order of Approval or in any other material in support of the application is found to be false, misleading, or erroneous; or
- (5) Failure to comply with any conditions or provisions of the Order of Approval.

- (B) Whenever the ~~Commissioner~~Director determines that a facility or site is not being operated in conformance with these rules and regulations or the Order of Approval, the ~~Commissioner~~Director may order the owner to take appropriate corrective action necessary to secure compliance with these rules and regulations and to order closure of said facility or site.
- (C) The ~~Commissioner~~Director may deny an application for failure to satisfy the requirements of these rules and regulations.
- (D) A notice of suspension or revocation of an approval or the denial of an application shall be in the form of a letter notifying the owner or operator of the facility or site or subsequent transferee of the suspension, revocation, or denial and the reasons for the suspension, revocation, or denial.
- (E) Any person served with a notice of suspension or revocation of an approval or the denial of an application may request an adjudicatory hearing to contest the suspension, revocation or denial as set forth in Rule 243 of these rules and regulations. A notice of suspension, revocation or denial automatically becomes a final order of the ~~Commissioner~~Director enforceable in Superior Court upon failure to file a timely request for said adjudicatory hearing (as described in Rule 243).

#### **RULE ~~2324~~. PENALTIES**

Penalties may be assessed in accordance with Rhode Island General Laws Chapters 46-12, 23-18.9, 23-19.-1, 42-17.-1, 42-17.6, and the Department's "Regulations for the Assessment of Administrative Penalties" for any violation of these rules and regulations.

#### **RULE 2425. APPEALS**

##### (A) General

The procedures for appeal of Departmental decisions pursuant to the provisions of ~~Section~~Chapter 42-35 of the R.I. General Laws are contained in both "Administrative Rules of Practice and Procedure for the Department of Environmental Management Administrative Adjudication Division for Environmental Matters" and the "Administrative Rules of Practice & Procedure for the Department of Environmental Management. "

##### (B) Appeal Procedure for Approval Denials

Any person whose approval application is denied may appeal to the Director for review of the decision on which the denial is based by filing an appeal with DEM/Administrative Adjudication.

###### (1) Filing of Appeal

All appeals shall be in writing and shall be filed with and received by DEM/Administrative Adjudication within thirty (30) days after the effective date of the denial of the subject application. See R.I. General Laws § 42-17.7-9.

###### (2) Contents of Appeal

Every appeal shall contain a detailed basis upon which the appeal is taken.

###### (3) Notice of Administrative Hearing

Upon the filing of an appeal with DEM/Administrative Adjudication, and once the hearing schedule allows, DEM/Administrative Adjudication shall notify by first class mail those persons as determined by the ~~Commissioner~~Director pursuant to ~~Rule 7(E)~~ of the date, time and place of the adjudicatory hearing, in conformance with R.I. General Laws Section 42-35-9, as amended.

(C) Appeal Procedure for Notice of Violations

Any person who has received a Notice of Violation (NOV) alleging violation of these rules and Rregulations, or whose approval has been suspended or revoked may appeal to the Commissioner~~Director~~ for review of the decision on which the NOV, suspension or revocation is based by filing an appeal with DEM/Administrative Adjudication.

(1) Filing of Appeal

All appeals shall be in writing and shall be filed with and received by DEM/Administrative Adjudication within ~~ten-twenty~~ (20) days after the date of receipt of the subject NOV, suspension or revocation. See R.I. General Laws § 42-17.7-9.

(2) Contents of Appeal

Every appeal shall contain a detailed basis upon which the appeal is taken. See R.I. General Laws § 42-17.7-9.

**RULE ~~2526~~. SEVERABILITY**

If any provision of these rules and regulations, or the application thereof to any person or circumstances, is held invalid by a court of competent jurisdiction, the validity of the remainder of the rules and regulations shall not be affected thereby.

**RULE ~~2627~~. SUPERSEDED RULES AND REGULATIONS**

On the effective date of these rules and regulations, all previous rules and regulations, and any policies regarding the administration and enforcement of sewage sludge management~~treatment, disposal, utilization and transportation~~ shall be superseded. However, any enforcement action taken by, or application submitted to, the Department prior to the effective date of these rules and regulations shall be governed by the rules and regulations in effect at the time the enforcement action was taken, or application filed.

**RULE ~~2728~~. EFFECTIVE DATE**

The foregoing "Rules and Regulations ~~for the Treatment, Disposal, Utilization, and Transportation of~~ Sewage Sludge ~~Management~~", after due notice, are hereby adopted and filed with the Secretary of State this \_\_\_\_\_ day of \_\_\_\_\_, ~~19-2009~~, to become effective twenty (20) days thereafter, in accordance with the provisions of Chapters 46-12, 42-17.-1, 42-35, 23-18.-9 and 23-19.-1 of the General Laws of Rhode Island of 1956, as amended.

~~Frederick J. Vincent, Acting Commissioner~~ W. Michael Sullivan, Director  
Department of Environmental Management

Notice Given On: ~~October 16, 1996~~

Public Hearing Held: ~~Not Applicable~~

Filing Date:

Effective Date:

**APPENDIX 1**



**DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF WATER RESOURCES**

**APPLICATION FOR ORDER OF APPROVAL**

**THIS SECTION TO BE COMPLETED BY THE PREPARER**

Name of Preparer \_\_\_\_\_ Contact Person \_\_\_\_\_

Address \_\_\_\_\_ City \_\_\_\_\_ State \_\_\_\_\_ Phone \_\_\_\_\_

Type of Material \_\_\_\_\_

Amount \_\_\_\_\_ Frequency of Disposal \_\_\_\_\_

Specific Method and Routing of Material \_\_\_\_\_

Material Analysis Performed By: \_\_\_\_\_

I, \_\_\_\_\_, hereby state that I have been authorized by the above mentioned preparer or agent of the preparer to sign this document and declare that the information in this section is true and correct.

Signature \_\_\_\_\_ Date \_\_\_\_\_

**THIS SECTION TO BE COMPLETED BY THE TRANSPORTER**

Name of Transporter \_\_\_\_\_ Contact Person \_\_\_\_\_

Address \_\_\_\_\_ City \_\_\_\_\_ State \_\_\_\_\_ Phone \_\_\_\_\_

I, \_\_\_\_\_, hereby state that I have been authorized by the above mentioned transporter or agent of the transporter to sign this document and declare that the material described above by the preparer will be transported in the method and routing described above.

Signature \_\_\_\_\_ Date \_\_\_\_\_

**THIS SECTION TO BE COMPLETED BY THE OWNER OF THE FACILITY OR SITE**

Name of Owner \_\_\_\_\_ Contact Person \_\_\_\_\_

Address \_\_\_\_\_ City \_\_\_\_\_ State \_\_\_\_\_ Phone \_\_\_\_\_

I, \_\_\_\_\_, hereby state that I have been authorized by the owner of the above mentioned facility or site or the agent of the facility or site to sign this document and declare that the material described above will be disposed, distributed or utilized in the manner set forward in the application.

Signature \_\_\_\_\_ Date \_\_\_\_\_

**APPENDIX 2**

**SITE INFORMATION SHEET**

**APPLICATION INFORMATION**

Name of Applicant \_\_\_\_\_ Date \_\_\_\_\_

Mailing Address \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Telephone Number \_\_\_\_\_

**SITE INFORMATION**

Owner of Site \_\_\_\_\_

Location of Site \_\_\_\_\_

Size of Site \_\_\_\_\_

Proximity of Site to: Surface Water \_\_\_\_\_ Buildings \_\_\_\_\_ Drinking Water Wells \_\_\_\_\_

Average Depth to Groundwater on Site \_\_\_\_\_

Average Slope of Land on Site \_\_\_\_\_

Name of Publicly or Privately Owned Treatment Works  
Furnishing Sludge, Composted Sludge or Treated Sludge \_\_\_\_\_

Describe Use(s) of Sludge, Composted Sludge or Treated Sludge (e.g. Agriculture, Landfill Cover, etc.)

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**ADDITIONAL INFORMATION**

(Please Attach the Following)

- ~~TCLP Results for Sludge, Composted Sludge or Treated Sludge, if applicable (see Appendix 6)~~
- ~~Sludge, Composted Sludge or Treated Sludge Analysis (see Appendix 7 and Appendix 8)~~
- ~~USGS Map of site Indicating Storage Areas, if applying to distribute Class A Biosolids~~

## APPENDIX 31

### PROCESSES TO SIGNIFICANTLY REDUCE PATHOGENS

(A) Aerobic Digestion

The process is conducted by agitating sludge with air or oxygen to maintain aerobic conditions at residence times ranging from 60 days at 15°C to 40 days at 20°C.

(B) Air Drying

Sludge is dried on sand beds or on paved or unpaved basins. A minimum of three months is needed, two months of which temperatures average on a daily basis above 0°C.

(C) Anaerobic Digestion

The process is conducted in the absence of air at residence times ranging from 60 days at 20°C to 15 days at 35°C to 55°C.

(D) Composting

Either the within-vessel, static aerated pile or windrow composting method is used to maintain the temperature of the sludge at 40°C or higher for 5 days. For 4 hours during the 5-day period, the temperature in the compost pile exceeds 55°C.

(E) Lime Stabilization

Sufficient lime is added to the sludge to produce a pH of 12 after 2 hours of contact. pH measurements shall be performed at 25°C or corrected to 25°C.

(F) Other Methods

Other methods or operating conditions, if accepted by the U.S. Environmental Protection Agency, may be ~~utilized~~used if pathogens are reduced to an extent equivalent to the reduction achieved by any of the above methods.

## APPENDIX 42

### PROCESSES TO FURTHER REDUCE PATHOGENS

(A) Composting

Using either the within-vessel composting method or the static aerated pile composting method, the temperature of the sewage sludge is maintained at 55°C or greater for three days. Using the windrow composting method, the temperature of the sewage sludge is maintained at 55°C or greater for at least 15 days. During the period when the compost is maintained at 55°C or greater, there shall be a minimum of five turnings of the windrow.

(B) Heat Drying

Sewage sludge is dried by direct or indirect contact with hot gases to reduce the moisture content of the sewage sludge to 10 percent or lower. Either the temperature of the sewage sludge particles exceed 80°C or the wet bulb temperature of the gas in contact with the sludge at the point where it leaves the dryer exceeds 80°C.

(C) Heat Treatment

Liquid sludge is heated to a temperature of 180°C or higher for 30 minutes.

(D) Thermophilic Aerobic Digestion

Liquid sludge is agitated with air or oxygen to maintain aerobic conditions at residence times of 10 days at 55°C to 60°C.

(E) Beta Ray Irradiation

Sludge is irradiated with beta rays from an accelerator at dosages of at least 1.0 megarad at room temperature (ca. 20°C).

(F) Gamma Ray Irradiation

Sludge is irradiated with gamma rays from certain isotopes, such as Cobalt 60 and Cesium 137 at room temperature (ca. 20°C).

(G) Pasteurization

Sludge is maintained at a minimum temperature of 70°C for at least 30 minutes.

(H) Other Methods

Other methods or operating conditions if acceptable by the U.S. Environmental Protection Agency may be ~~utilized~~used if pathogens are reduced to an extent equivalent to the reduction achieved by any of the above methods.

## APPENDIX 53

### VECTOR ATTRACTION REDUCTION REQUIREMENTS

(A) Reduction in Volatile Solids Content

The mass of volatile solids in the sewage sludge shall be reduced by a minimum of 38 percent (see calculation procedures in "Environmental Regulations and Technology--Control of Pathogens and Vector Attraction in Sewage Sludge", EPA-625/R-92/013, 1992, U.S. Environmental Protection Agency, Cincinnati, Ohio 45268).

(B) Additional Digestion of Anaerobically Digested Biosolids

When the 38 percent volatile solids reduction requirement in option A cannot be met for an anaerobically digested sewage sludge, vector attraction reduction can be demonstrated by digesting a portion of the previously digested sewage sludge anaerobically in the laboratory in a bench-scale unit for 40 additional days at a temperature between 30°C and 37°C. When at the end of the 40 days, the volatile solids in the sewage sludge at the beginning of that period is reduced by less than 17 percent, vector attraction reduction is achieved.

(C) Additional Digestion of Aerobically Digested Biosolids

When the 38 percent volatile solids reduction requirement in option A cannot be met for an aerobically digested sewage sludge, vector attraction reduction can be demonstrated by digesting a portion of the previously digested sewage sludge that has a percent solids of 2 percent or less aerobically in the laboratory in a bench-scale unit for 30 additional days at 20°C. When at the end of the 30 days, the volatile solids in the sewage sludge at the beginning of that period is reduced by less than 15 percent, vector attraction reduction is achieved.

(D) Specific Oxygen Uptake Rate (SOUR) for Aerobically Digested Biosolids

The specific oxygen uptake rate (SOUR) for sewage sludge treated in an aerobic process shall be equal to or less than 1.5 milligrams of oxygen per hour per gram of total solids (dry weight basis) at a temperature of 20°C.

(E) Aerobic Processes at Greater Than 40°C

Sewage sludge shall be treated in an aerobic process for 14 days or longer. During that time, the temperature of the sewage sludge shall be higher than 40°C and the average temperature of the sewage sludge shall be higher than 45°C.

(F) Addition of Alkaline Material

The pH of sewage sludge shall be raised to 12 or higher by alkali addition and, without the addition of more alkali, shall remain at 12 or higher for two hours and then at 11.5 or higher for an additional 22 hours. pH measurements shall be performed at 25°C or corrected to 25°C.

(G) Moisture Reduction of Biosolids Containing No Unstabilized Solids

Sewage sludge shall not contain unstabilized solids generated during primary treatment and the solids content of the sewage sludge shall be at least 75 percent before the sewage sludge is mixed with other materials. The solids content of the sewage sludge shall be achieved by removing water, not by adding inert materials.

(H) Moisture Reduction of Biosolids Containing Unstabilized Solids

Solids content of the sewage sludge shall be at least 90 percent, regardless of whether the sewage sludge is from primary treatment. The solids content of the sewage sludge shall be achieved by removing water, not by adding inert materials.

The sewage sludge shall not be exposed to high humidity prior to use or disposal to prevent the outer surface of the sewage sludge from gaining moisture content.

(I) Biosolids Injection

- (1) Sewage sludge shall be injected below the surface of the land, and
- (2) No significant amount of the sewage sludge shall be present on the land surface within 1 hour after the sewage sludge is injected, and
- (3) When the sewage sludge that is injected below the surface of the land meets the pathogen limits in Appendix 7, the sewage sludge shall be injected below the land surface within 8 hours after being discharged from the pathogen reduction process.

(J) Incorporation of Biosolids into the Soil

- (1) Sewage sludge applied to the land surface or placed on a surface disposal site shall be incorporated into the soil within 6 hours after application to or placement on the land, and
- (2) When sewage sludge that is incorporated into the soil meets the pathogen limits in Appendix 7, the sewage sludge shall be applied to or placed on the land within 8 hours after being discharged from the pathogen reduction process.

**APPENDIX 64**

**MAXIMUM CONCENTRATION OF CONTAMINANTS  
FOR THE TOXICITY CHARACTERISTIC LEACHATE PROCEDURE**

<b>EPA Hazardous Waste Number</b>	<b>Contaminant</b>	<b>Regulatory Limit (mg/L)</b>
D004	Arsenic	5.0
D005	Barium	100.0
D018	Benzene	0.5
D006	Cadmium	1.0
D019	Carbon tetrachloride	0.5
D020	Chlordane	0.03
D021	Chlorobenzene	100.0
D022	Chloroform	6.0
D007	Chromium	5.0
D023	o-Cresol	200.0
D024	m-Cresol	200.0
D025	p-Cresol	200.0
D026	Cresol	200.0
D016	2,4-D	10.0
D027	1,4-Dichlorobenzene	7.5
D028	1,2-Dichloroethane	0.5
D029	1,1-Dichloroethylene	0.7
D030	2,4-Dinitrotoluene	0.13
D012	Endrin	0.02
D031	Heptachlor (and its hydroxide)	0.008
D032	Hexachlorobenzene	0.13
D033	Hexachlorobutadiene	0.5
D034	Hexachloroethane	3.0
D008	Lead	5.0
D013	Lindane	0.4
D009	Mercury	0.2
D014	Methoxychlor	10.0
D035	Methyl ethyl ketone	200.0
D036	Nitrobenzene	2.0
D037	Pentachlorophenol	100.0
D038	Pyridine	5.0
D010	Selenium	1.0
D011	Silver	5.0
D039	Tetrachloroethylene	0.7
D015	Toxaphene	0.5
D040	Trichloroethylene	0.5
D041	2,4,5-Trichlorophenol	400.0
D042	2,4,6-Trichlorophenol	2.0
D017	2,4,5-TP (Silvex)	1.0
D043	Vinyl chloride	0.2

APPENDIX 75

CLASS A BIOSOLIDS LIMITS

(A) Metals

METAL	LIMIT, mg/kg (dry weight)
Arsenic	41
Cadmium	39
Chromium	1200
Copper	1500
Lead	300
Mercury	17
Molybdenum	75
Nickel	420
Selenium	36
Zinc	2800

(B) Pathogens

The following pathogen limit must be met:

PATHOGEN	LIMIT
Fecal Coliform Bacteria	Less than 1000 Most Probable Number per 1 gram of total solids (dry weight)

Pathogen reduction must take place before or at the same time as vector attraction reduction except when options F through J in Appendix 5 are used.

**APPENDIX 86**

**CLASS B BIOSOLIDS LIMITS**

(A) Metals

<b>METAL</b>	<b>LIMIT, mg/kg (dry weight)</b>
Arsenic	75
Cadmium	85
Chromium	3000
Copper	4300
Lead	840
Mercury	57
Molybdenum	75
Nickel	420
Selenium	100
Zinc	7500

(B) Characteristics

<b>CHARACTERISTICS</b>
Ratio of Sludge to Bulking Agent (if applicable)
Density of Composted Sludge (if applicable)
Moisture Content (%)
Total Volatile Solids (%)
Ammonia Nitrogen (%)
Nitrate Nitrogen (%)
Total Nitrogen (%)
Available Phosphoric Acid (%)
Soluble Potash (%)
Specific Conductivity
PH

**APPENDIX 97**

**MAXIMUM CUMULATIVE LOADING RATES**

<b>METAL</b>	<b>DRY TONS PER ACRE</b>
Arsenic	<u>41 kg As/hectare</u> ( ___ ppm As) x 0.002
Cadmium	<u>39 kg Cd/hectare</u> ( ___ ppm Cd) x 0.002
Chromium	<u>3000 kg Cr/hectare</u> ( ___ ppm Cr) x 0.002
Copper	<u>1500 kg Cu/hectare</u> ( ___ ppm Cu) x 0.002
Lead	<u>300 kg Pb/hectare</u> ( ___ ppm Pb) x 0.002
Mercury	<u>17 kg Hg/hectare</u> ( ___ ppm Hg) x 0.002
Nickel	<u>420 kg Ni/hectare</u> ( ___ ppm Ni) x 0.002
Selenium	<u>100 kg Se/hectare</u> ( ___ ppm Se) x 0.002
Zinc	<u>2800 kg Zn/hectare</u> ( ___ ppm Zn) x 0.002

The parts per million of each metal are provided in the sludge, Composted sludge or treated sludge analyses.

The lowest value is chosen from the above nine (9) calculations as the maximum cumulative tons of sludge, Composted or treated sludge which can be applied per acre.