

TITLE IV – HEALTH ORDINANCES

CHAPTER 32

SLUDGE DISPOSAL

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32.01 DEFINITIONS.

For the purpose of this chapter, the following terms and words are defined.

1. “Applicant” means any person who owns, operates or is in possession of real property upon which sludge is proposed to be disposed.
2. “Application Site” means the property upon which sludge is to be disposed. For the purpose of this chapter, one application site may consist of several acres of land, provided they are contiguous. Parcels of land, divided by a road, river, stream, creek or pond, immediately adjacent to each other shall be considered to be contiguous.
3. “Disposal” means the discharge, deposit, injection, dumping, spilling, leaking or placing of any sludge, solid waste or hazardous waste into or on any land or water so that any constituent thereof may enter the environment or be emitted into the air or discharged into any waters, including groundwaters.
4. “Disposer” means any person who engages in the act of disposal of sludge.
5. “Flood Plain” means, for the purposes of this chapter, the flood plains of the County as shown on the official County Zoning Map.
6. “Generator” means any person whose act or process produces sludge.
7. “Hauler” means any person transporting sludge.
8. “Incorporation” means to work sludge into the subsurface of the soil by plowing, disking, injecting or other means.
9. “Injection” means to force or introduce liquid sludge into soil.

10. "Sanitarian" means the Warren County Environmental Health.
11. "Sludge" means any solid, semi-solid or liquid waste generated from a municipal or commercial wastewater treatment plant, air pollution control facility or any other entity operating under a NPDES permit which has been treated by a process to significantly reduce pathogens by one of the following methods:
  - A. Aerobic Digestion. The process is conducted by agitating sludge with air or oxygen to maintain aerobic conditions at residence times ranging from sixty (60) days at 15°C to forty (40) days at 20°C, with a volatile solids reduction of at least thirty-eight percent (38%).
  - B. Air Drying. Liquid sludge is allowed to drain and/or dry on under-drained sand beds or paved or unpaved basins in which the sludge is at a depth of nine (9) inches. A minimum of three (3) months is needed, two (2) months of which temperatures average on a daily basis above 0°C.
  - C. Anerobic Digestion. The process is conducted in the absence of air at residence times ranging from sixty (60) days at 20°C to fifteen (15) days at 35°C to 55°C, with a volatile solids reduction of at least thirty-eight percent (38%).
  - D. Composting. Composting of sewage sludge shall not be allowed in Warren County.
  - E. Lime Stabilization. Not allowed in Warren County
  - F. Other Methods. Other methods or operating conditions may be acceptable if pathogens and vector attraction of the waste (volatile solids) are reduced to an extent equivalent to the reduction achieved by any of the above methods.
12. "Storage" means the temporary holding of sludge in a structure.
13. Agronomic rate is the application rate designed to provide the amount of nitrogen needed by the crop grown on the land and to minimize the amount of nitrogen that passes to the ground water.
14. Cumulative Pollutant is the maximum amount of an inorganic pollutant that can be applied to an area of land.

32.02 PERMIT REQUIRED.

It is unlawful for any person to use any land, premises or property in the County for the storage and/or disposal of sludge without first having made application for and securing a permit to do so. The permit shall be issued by the Sanitarian pursuant to the procedures listed in this chapter. No permit shall be required for a digester or lagoon which has been authorized by the Department of Natural Resources and has complied with the County Zoning Ordinance and Subdivision Ordinance.

32.03 STATE PERMITS.

Warren County adopts the State of Iowa Regulation on sludge Section 567-67 in its entirety, for any governing agency or persons applying on less than 200 acres of land per year. Any governing agency or persons that apply on more than 200 acres per year will be subject to Warren County sludge regulation Chapter 32. Prior to the application of sludge in Warren County, a person or governing agency shall notify the Sanitarian at least six (6) weeks in advance of such application. Notification shall include application location and approximately the number of acres necessary for the application.

32.04 APPLICATION FOR PERMIT.

All applications for permits to store and/or dispose of sludge shall be signed by the applicant and agent of the generator and shall be filed with the Sanitarian on approved forms, together with a filing fee as determined in Section 32.06 of this chapter. The application shall include the following:

1. The name, mailing address and telephone number of the applicant. If the applicant is not the titleholder of the application site, at least one of the titleholders, or contract vendors, shall verify (sign) the application attesting to the truth and accuracy of all facts and information presented with the application.
2. The name, mailing address and telephone number of an authorized agent for the generator.
3. The name, mailing address and telephone number of an authorized agent for the disposer. The generator shall inform the Sanitarian of any subsequent change in disposers.
4. The name, mailing address and telephone number of an authorized agent for the hauler. The generator shall inform the Sanitarian of any subsequent change in haulers.
5. The by legal description, topographic map, and a soils map of the sludge application and/or storage site (this is not to be construed as requiring a survey) which shall include:

- A. The location and names, including telephone numbers and mailing addresses, of the owners or occupants of any residence, business or facility, and owners (including contract vendors and contract vendees) of any other real property within one thousand (1,000) feet of the site boundary.
- B. The location of any stream, river, lake, creek or pond within one thousand (1,000) feet of the site boundary.
- C. The location of all known wells, private or public, within one thousand (1,000) feet of the site boundary.
- D. The location of all known field tile intakes within five hundred feet (500') of the site.
6. The current and anticipated future use of the proposed site for the next five (5) years.
7. A description of the intended method of disposal of sludge at the site.
8. Construction of storage or disposal facilities shall not commence until the plans and specifications are approved by the Department of Natural Resources. The location of said facilities must comply with all applicable requirements of the Department of Natural Resources and the County Zoning Ordinance and Subdivision Ordinance.
9. The mode of transportation of sludge to the application and/or storage site.
10. A soil analysis shall be submitted in order to determine the suitability of the site for sludge application. The location of samples taken for analysis shall be at the discretion of the Sanitarian. Such analysis shall include those items contained in Section 32.10(2) of this chapter. Prior to any subsequent applications of sludge, a new soil analysis shall be submitted to the Sanitarian's office for approval. The analysis shall include pH, total nitrogen, available phosphorus, and available potassium, and the following metals: arsenic, cadmium, chromium, copper, lead, mercury, molybdenum, nickel, selenium and zinc. Said analysis shall conform to IAC Section 67.3 (455B).
11. A description of the method used to process sludge, pursuant to Section 32.01(11).
12. A chemical analysis of the sludge shall be submitted by the generator prior to each application in order to determine if the sludge is environmentally safe. Such analysis shall be submitted pursuant to Section 32.10(3).

13. Fees are payable at the time of application.
14. An analysis of each well shall be submitted. Such analysis is to include nitrate and coliform bacteria.

32.05 NOTIFICATION TO PROPERTY OWNERS AND/OR NEIGHBORS.

1. If a permit application is in proper order, the Sanitarian shall, within five (5) working days after filing, notify those persons identified in Section 32.04(5)(A).
2. Persons so notified may respond as to the accuracy of the information contained in the application. If a response is to be made, it shall be made within twenty (20) calendar days after the date of the Sanitarian's letter.
3. The Sanitarian shall approve or deny the permit within thirty-five (35) days after receipt of the application.
4. After application of sewage sludge the land shall be posted with a sign for thirty (30) days.

32.06 FEES.

1. Permit Fees. There shall be a non-refundable and non-transferable permit fee of seventy-five dollars (\$75.00) plus one dollar (\$1.00) per acre, or part thereof. The fee is to accompany the permit application.
2. Application Fees. There shall be a fee of two dollars (\$2.00) per acre, or part thereof, submitted for each application of sludge. Fees are due at the time of application.
3. Testing Fees. The County shall not be obligated or liable for the cost of any tests done in connection with any of the requirements of this chapter.

32.07 EXPIRATION OF PERMIT.

The permit for the disposal and/or storage of sludge shall be valid from the date of issuance for five (5) calendar years.

32.08 RECORDING OF PERMITS.

The Sanitarian shall record all permits for the storage and/or disposal of sludge in the office of the County Recorder.

32.09 CONDITIONS FOR DISPOSAL AND/OR STORAGE.

No person shall allow the disposal and/or storage of any sludge at any place except at a permitted application or storage site.

32.10 REGULATIONS GOVERNING DISPOSAL, STORAGE & INCORPORATION.

These regulations shall govern the disposal, storage and incorporation of sludge in the County, and any failure to fully comply with these regulations and any other application regulations or ordinances shall be sufficient grounds for suspension or revocation of the permit.

1. Disposal Guidelines. The disposal of sludge, at a minimum, shall comply with the guidelines of the Department of Natural Resources, and the United States Environmental Protection Agency, as described in Section 567, Chapter 67 of the Iowa Administrative Code and in U.S. EPA 430/9-77-004, Construction Grants Requirements, October, 1977, and subsequent revisions except where this ordinance is more restrictive. The application rate shall not exceed two (2) tons dry weight per acre per year. Authorized sludge disposal methods in the County are:
  - A. Injection. For disposal of sludge by injection, the sludge shall not contain more than ten percent (10%) solids. The sludge shall be injected to a depth ranging from four (4) to eight (8) inches.
  - B. Flood Plain. All sludge that is to be applied to a flood plain (as defined or designated on the Official County Zoning Map) or on land with slopes greater than five percent (5%) shall be injected.
2. Soil Analysis Requirement. The analysis shall include:
  - A. Soil pH. Soil pH shall be maintained at a minimum of 6.5 and maximum of 8.4 for each application site.
  - B. Heavy Metals. Heavy metals as noted in Appendix A.
  - C. Water Table. A determination shall be made, for each application site, as to the depth of the water table, as directed by the County Sanitarian.
3. Sludge Analysis Requirement. A chemical analysis of the sludge shall be submitted by the generator prior to each application for the chemicals listed in the Iowa Administrative Code Chapter 67.3(455B).
  - A. The analysis is to be performed by the University of Iowa Hygienic Laboratory other than laboratories operated by generators. The analysis shall be made from at least three grab samples collected from a representative portion of storage site sludge to be hauled to the application site.

- B. A description of where the sludge samples were taken for analysis shall be submitted.
  - C. The names of personnel collecting the samples and the manner in which they were obtained shall be provided. (grab sample or composite sample)
4. Noncompliance. Noncompliance with any requirements or conditions of this chapter shall be sufficient grounds to revoke the permit. The permit may be revoked by the County Sanitarian. Upon such revocation, removal and proper disposal of the sludge shall be completed within ninety-six (96) hours after receipt of notice. The generator, applicant, hauler and disposer are jointly and severally liable for all costs incurred for said removal and proper disposal.
5. Restrictions:
- A. Sludge shall not be applied to soils listed in Appendix B of this chapter.
  - B. Sludge shall not be applied to frozen ground.
  - C. Sludge shall not be applied during periods of precipitation.
  - D. Sludge shall not be applied to ground that is saturated, has ponded water, snow cover (unless injected), or which has a water table of less than five (5) feet.
  - E. Sludge shall not be applied within five hundred (500) feet of an incorporated city, village, town, residence, business, facility, land frequented by the public such as churches, schools, state or county parks, conservation or recreation areas, nor within five hundred (500) feet of any well, nor within five hundred (500) feet of any stream, river, creek, lake or pond, nor within five hundred (500) feet of a public water well supply.
  - F. Sludge shall not be stored within five hundred (500) feet of an incorporated city, village, town, residence, business, facility, or land frequented by the public such as churches, schools, state or county parks, conservation or recreation areas, nor within five hundred (500) feet of any stream, river, creek, lake or pond, nor within one thousand (1,000) feet of a public water well supply. A permit to establish a storage area must be obtained according to the County Zoning Ordinance; and in conformance with the Department of Natural Resources guidelines. Storage of sludge shall be in a pile no more than four (4) feet deep at its highest point.
  - G. Grain crops shall not be harvested for sixty (60) days after sludge application. Grazing and forage harvest shall not be allowed for sixty (60) days after sludge application. Sewage sludge shall not be applied to pasture or hay land in Warren County.
  - H. All vehicles hauling sludge must be watertight and covered.
  - I. Sludge shall not be applied to land with more than 9% slope.
  - J. Sewage sludge shall not be used in any form of composting in Warren County.

- K. Class III sewage sludge shall not be allowed in Warren County.
- L. Incineration ash from sewage sludge not allowed in Warren County.

### 32.11 COUNTY LIABILITY.

The County, its agents and employees shall not be liable to any person for claims of damages, injuries or losses resulting from any dangerous or hazardous condition.

### 32.12 VIOLATIONS AND PENALTIES.

The Sanitarian shall be allowed access to the application sites and/or storage sites for the purpose of enforcement and verification. Denial of access may be cause for automatic suspension and/or revocation of any permit. Any person violating any of the provisions contained in this chapter shall be deemed guilty of a simple misdemeanor and a County Infraction per Chapter 2 of this Code of Ordinance. Each and every day that the violation exists, after initial notification, shall constitute a separate offense. Each separate provision of this chapter violated shall constitute a separate offense. After three (3) violations of any kind, during the year, the person who is deemed to be in violation shall be considered to be a habitual violator. Habitual violators shall be prohibited from taking part in any facet of sludge disposal in the County for a period of one (1) year. Nothing herein contained shall prevent the County from taking such other lawful action as deemed necessary to prevent or remedy any violation.

### 32.13 APPEALS OF DECISIONS OF THE SANITARIAN.

Any aggrieved person may appeal a decision of the Sanitarian to the Appeals Board in accordance with this section. Filing of an appeal shall not delay action taken by the Sanitarian.

1. Appointment and Terms of Appeals Board. An Appeals Board is hereby created. The Board of Appeals shall consist of five (5) members appointed by the Board of Supervisors for staggered terms of three (3) years. Vacancies shall be filled for the unexpired term of any member whose term becomes vacant.
2. Organization. The Appeals Board shall organize and adopt rules of procedure. All meetings of the Appeals Board shall be held at the call of the chairperson and/or Sanitarian and at such time and place within the County as Sanitarian and at such time and place within the County as the Appeals Board may determine. All meetings of the Appeals Board shall be open to the public. The Appeals Board shall keep complete records of its hearings and other official actions. Every rule, regulation, amendment or repeal thereof and every order, requirement or decision of the Appeals Board shall be filed in the office of the Appeals Board and shall be a public record. The presence of three (3) members of the Appeals Board shall be necessary to constitute a quorum.

3. Powers and Duties. The Appeals Board shall have the duty to hear appeals where it is alleged there is an error in any decision made by the Sanitarian in the enforcement of this chapter. The Appeals Board shall have the power to grant temporary relief in unusual and/or extraordinary circumstances whenever sludge cannot be applied under the provisions contained in this chapter. However, no waiver shall be granted that is in conflict with the Iowa Administrative Code or with any EPA regulations.
4. Appeals. An appeal shall be made within ten (10) days after the decision of the Sanitarian by filing with the Sanitarian a notice of appeal specifying the grounds thereof. The Sanitarian shall transmit to the Appeals Board all papers constituting the record upon which the action appealed was taken. Each appeal shall be accompanied by a check payable to the County Treasurer, or a cash payment, of one hundred dollars (\$100.00).
5. Hearings. The Appeals Board shall fix a reasonable time for the hearing on the appeal and shall give ten (10) days' notice by first class mail to all persons contained in Section 32.04(5)(A) and shall make a decision within a reasonable time after the appeal is submitted. The concurring vote of a majority of those members present and voting shall be necessary to reverse any decision of the Sanitarian.
6. Decision of the Appeals Board. Any person aggrieved by any decision of the Appeals Board may present to a court of record a petition, duly verified, setting forth that such decision is illegal, in whole or in part, specifying the grounds of the illegality. Such petition shall be presented to the court within thirty (30) days after the decision of the Appeals Board. Whenever any application for an appeal of any decision of the Sanitarian shall have been denied by the Appeals Board, then no new application covering the same matter shall be filed with or considered by the Appeals Board, unless new evidence has been introduced, until one (1) year shall have elapsed from the date of the first appeal.

#### 32.14 SEVERABILITY.

If any section, provision or part of this ordinance is adjudged invalid or unconstitutional, such adjudication will not affect the validity of this ordinance as a whole or any section, provision or part thereof not adjudged invalid or unconstitutional.

APPENDIX B TO CHAPTER 32  
SOILS THAT ARE NOT AVAILABLE  
FOR THE DISPOSAL OF SLUDGE

Because of Unacceptable or Questionable  
 Permeability, Topographic Conditions,  
 Erosion or Similar Problems

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SMS #	SOIL NAME
24F2	SHELBY CLAY LOAM, 18-25 percent slopes, ME*
63C2	CHELSEA LOAMY FINE SAND, 5-9 percent slopes, ME
63D2	CHELSEA LOAMY FINE SAND, 9-18 percent slopes, ME
65E	LINDLEY LOAM, 14-18 percent slopes
65E3	LINDLEY SOILS, 14-18 percent slopes, SE*
65F	LINDLEY LOAM, 18-25 percent slopes
65G	LINDLEY LOAM, 25-40 percent slopes
T76B	LADOGA SILT LOAM BENCHES, 2-5 percent slopes
T76C2	LAGODA SILT LOAM BENCHES, 5-9 percent slopes, ME
93E2	ADAIR-SHELBY CLAY LOAMS, 14-18 percent slopes, ME
93E3	ADAIR-SHELBY CLAY LOAMS, 14-18 percent slopes, SE
94E2	MYSTIC-CALEB COMPLEX, 14-18 percent slopes, ME
T119	MUSCATINE SILTY CLAY LOAM BENCHES, 0-2 percent slopes
T120B	TAMA SILTY CLAY LOAM BENCHES, 2-5 percent slopes
T162B	DOWNS SILTY LOAM BENCHES, 2-5 percent slopes
163F2	FAYETTE SILT LOAM, 18-25 percent slopes, ME
179E2	GARA LOAM, 14-18 percent slopes, ME
179F2	GARA LOAM, 18-25 percent slopes, ME
179G	GARA LOAM, 25-40 percent slopes
185D2	BAUER SILT LOAM, 9-14 percent slopes, ME
185E2	BAUER SILT LOAM, 14-18 percent slopes, ME
185E3	BAUER SOILS, 14-18 percent slopes, SE
C220	NODAWAY SILT LOAM, CHANNELED, 0-2 percent slopes
313D	GOSPORT SILT LOAM, 9-14 percent slopes
313E	GOSPORT SILT LOAM, 14-18 percent slopes
313E3	GOSPORT SOILS, 14-18 percent slopes, SE
313F	GOSPORT SILT LOAM, 18-35 percent slopes
315	ALLUVIAL LAND
C315	ALLUVIAL LAND, CHANNELED
T370	SHARPSBURG SILTY CLAY LOAM BENCHES, 0-2 percent slopes
T370B	SHARPS BURG SILTY CLAY LOAM BENCHES, 2-5 percent slopes
T370C	SHARPSBURG SILTY CLAY LOAM BENCHES, 5-9 percent slopes
427C2	LADOGA-CHELSEA COMPLEX, 5-9 percent slopes, ME
427D2	LADOGA-CHELSEA COMPLES, 9-14 percent slopes, ME
478	STEEP ROCK LAND, 20-40 percent slopes
822D2	LAMONI SILTY CLAY LOAM, 9-14 percent slopes, ME
822D3	LAMONI SOILS, 9-14 percent slopes, SE
993E2	ARMSTRONG-GARA LOAMS, 14-18 percent slopes, ME
993E3	ARMSTRONG-GARA CLAY LOAMS, 14-18 percent slopes, SE

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\*ME: Moderately Eroded

\*SE: Severely Eroded

**APPENDIX A TO CHAPTER 32**

TABLE 1 – POLLUTANT CONCENTRATIONS

<u>Pollutant</u>	<u>Monthly Average Concentration (milligrams per Kilogram)*</u>	<u>Warren County</u>
Arsenic	41	20
Cadmium	39	20
Chromium	1200	1000
Copper	1500	1000
Lead	300	200
Mercury	17	10
Molybdenum	8	18
Nickel	420	200
Selenium	36	20
Zinc	2800	1000

\*Dry weight basis

TABLE 4 – CUMULATIVE POLLUTANT LOADING RATES

<u>Pollutant</u>	<u>Cumulative Pollutant Kilograms per hectare</u>	<u>Loading Rate pounds per acre</u>
Arsenic	41	36
Cadmium	39	34
Chromium	3000	2670
Copper	1500	1335
Lead	300	267
Mercury	17	15
Molybdenum	18	16
Nickel	420	373
Selenium	100	89
Zinc	2800	2490

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