



## Land Application of Septage

Office of Land Quality – Solid Waste Permits

317-232-8603 • 800-451-6027

[www.idem.IN.gov](http://www.idem.IN.gov)

100 N. Senate Ave., Indianapolis, IN 46204

### Introduction:

The Septage Permitting Program evaluates and permits activities related to the pumping, hauling, transporting, storing, treating, and land applying of septage. Septage must be managed according to [IC 13-18-12](#) and the rules in [327 IAC 7.1](#). Septage is defined in [IC 13-11-2-199.2](#) as human excreta, water, scum, sludge, sewage, incidental or accidental seepage from sewage disposal systems; retained contents of sewage holding tanks and portable sanitary unit; grease, fats and retained wastes from grease traps or interceptors; human wastes carried in liquid from ordinary living processes.

Servicing or maintaining a publicly owned wastewater treatment facility or transporting wastewater from a publicly owned wastewater treatment facility are activities that do not require a person to obtain a permit from the Septage Permitting Program.

### Land Application of Septage:

Land application is the disposal of domestic septage, grease, or a combination of domestic septage and grease by injection or incorporation into the soil for a beneficial use to agricultural land on which a food crop, an animal feed crop, or a fiber crop is grown. The term also includes land used as pasture.

Injection is the placement of domestic septage, grease, or a combination of domestic septage and grease beneath the surface of the soil in the crop root zone, using equipment specifically designed for this purpose. Incorporation is the mixing of domestic septage, grease, or a combination of domestic septage and grease with the surface soil, using standard agricultural practices such as tillage [within six hours after applying to the soil surface](#).

Land application sites must be posted with “No Trespassing” signs along all access points to the site and be clearly marked every one hundred yards at its boundaries by flags or other boundary markers.

Persons who wish to land apply septage must submit to IDEM an Application for a Septage Management Land Application Site Permit (State Form [#50403](#)) in addition to an Application for Septage Management Business Permit (State Form [#50399](#)) and, when applicable, an Application for a Septage Management Storage/Treatment Facility Permit (State Form [#50402](#)). Renewal applications must be submitted prior to the expiration date of the existing permit. Septage permits are non-transferable.

A completed application form for land application activities must include:

- Contact information of the property owner and a statement signed by the property owner that grants permission to dispose of septage on the property and acknowledges crop and use limitations for land used for land application of septage.
- An accurate drawing or aerial photograph that clearly delineates the proposed application site and area within ¼-mile of the site in all directions. This drawing must clearly and accurately indicate the location of all features of interest outlined in the “Setbacks” table in the following section.
- Facts demonstrating the site is not located in a sensitive area and has restricted access and not used by the public during normal work or recreational activities.
- The location of the site including section/township/range numbers, civil township, and county name as well as number of acres of area available for the application site after setbacks have been taken into consideration.
- A soil survey map classifying the soils within the proposed site, the depth to water table from the land surface, the depth to the bedrock from the land surface, and soil test that includes pH and phosphorus concentration.
- Identification of the septage to be land applied on the site and estimated annual amount of septage to be applied at the site.
- The total amount of septage that has been applied to the site in all previous years.
- A plan indicating what crops are to be grown on the site during the effective period of the permit or if the site will be pastureland or set aside.
- A list of potentially affected persons for each land application site and a notarized affidavit concerning notification requirements to affected persons.

**Setbacks:**

Feature	Application Distance From Feature
Property lines or easements, rock outcrops, sinkholes or undrained depressions, drainage inlets and tile systems	50 feet
Lakes, ponds, streams, intermittent waterways, surface water impoundments, wetlands, or other bodies of water	100 feet
Public roads	200 feet
Potable water supplies	500 feet
Residences, places of business and public gathering places	500 feet
Historic sites, critical habitat of endangered or threatened species, public water supply well or public water supply surface intake	1,000 feet

**Pathogen and Vector Attraction Reduction:**

Domestic septage, grease, or a combination of domestic septage and grease must be treated with lime to reduce pathogens and vector attraction prior to land application. The pH must be raised to 12 or higher and must remain at 12 or higher for at least thirty minutes for loads of only domestic septage. For loads of grease and a combination of domestic septage and grease, the pH must be raised to 12 or higher and must remain at 12 or higher for at least two hours. If the pH does not reach 12 or maintain at least 12, you may need to add more lime and start the process over. Note: **The pH adjustment is not required for loads containing only grease trap waste. Pathogen reduction is only required for human waste.**

The temperature of the septage must be monitored at the time the pH is monitored. The temperature should be 25 °C (77 °F) when the pH is at 12. If the temperature is above 25 °C, the pH must be adjusted up 0.03 units for each degree above 25 °C. For temperatures below 25 °C, the pH must be adjusted down 0.03 units for each degree below 25 °C.

**Soil Analyses:**

All soil tests must consist of one composite sample per every 20 acres, with each composite consisting of 20 representative subsamples, include the extraction method if analyzed for phosphorus, be analyzed for pH, and be analyzed by a laboratory accredited by the North American Proficiency Testing ([NAPT](#)) Program.

A soil test that includes the phosphorus concentration in the soil of each land application site must be analyzed within six months of an application submittal.

Once you have land applied a cumulative total of 200,000 gallons of septage per acre on any one site, you must cease land application at that site. If you wish to continue land application to that site, you must notify IDEM prior to further application and submit heavy metals analyses of a representative soil sample for IDEM review and approval.

**Loading Rates:**

Phosphorus Concentration	PROJECTED CROP for the next growing season							
	Corn	Soybean	Alfalfa	Wheat	Hay	Grass	Pasture	Set Aside*
50 ppm or less (ppm=parts per million)	53,000 gal/acre	38,000 gal/acre	38,000 gal/acre	38,000 gal/acre	38,000 gal/acre	19,000 gal/acre	19,000 gal/acre	19,000 gal/acre
51 ppm – 100 ppm	12,000 gal/acre	9,000 gal/acre	13,000 gal/acre	10,400 gal/acre	11,200 gal/acre	11,200 gal/acre	11,200 gal/acre	Prohibited
101 ppm – 200 ppm	8,000 gal/acre	6,000 gal/acre	8,700 gal/acre	7,000 gal/acre	7,500 gal/acre	7,500 gal/acre	7,500 gal/acre	Prohibited

\* Set Aside: No crop grown that season.

**Prohibitions:**

- Surface application is prohibited.
- Unloading or dumping of septage from stationary vehicles is prohibited.
- Land applying the contents of chemical toilets or Type III marine sanitation device is prohibited.
- Land application to sites with a soil concentration of phosphorus greater than 200 parts per million is prohibited.

- Land application when the surface soil temperature is less than 32 °F is prohibited.
- Land application to a site when the moisture holding capacity of the soil has been exceeded is prohibited.
- Land application is prohibited on any site where biosolids or animal manure is being land applied.

### **Limitations and Restrictions Regarding Land Use and Crop Management:**

Where domestic septage, grease, or a combination of domestic septage and grease has been land applied:

- Access to the site by the public must be prohibited for twelve months following the last land application.
- Access to the site by animals whose products are consumed by humans must be prevented for at least thirty days following the last land application.
- Food crops for direct human consumption must not be grown for eighteen months following the last land application.

Where domestic septage or a combination of domestic septage and grease has been land applied:

- Food crops with harvested parts that touch the domestic septage or combination of domestic septage and grease and soil mixture and are totally aboveground must not be harvested for fourteen months after the last land application.
- Food crops with harvested parts below the surface of the land must not be harvested for 38 months after the last land application when the septage remains on the surface for less than four months prior to incorporation into the soil.
- Animal feed, fiber, and those food crops whose harvested parts do not touch the land surface must not be harvested for thirty days after the last land application.
- Turf grown on land where the septage is applied must not be harvested for one year after the last application of the septage when the harvested turf is placed on either a lawn or land with a high potential for public exposure.

### **Quarterly Reports:**

A quarterly land application report for each site must be submitted no later than one week after the end of each calendar quarter. Quarters end on March 31, June 30, September 30 and December 31 of each year. Quarterly reports must be submitted on State Form [#50397](#). A quarterly report must be submitted even if no land application activities occurred during the quarter.

For each day septage is land applied, the following must be recorded:

- Business name.
- Business permit number.
- The site identification number.
- A map identifying the area of the site where septage was applied.
- County in which septage is applied.
- The date septage is applied to each site.
- The volume, in gallons, at which septage is applied to each site.
- The type of septage load applied.
- The method of application.
- Number of acres used.
- The projected or site use, if no crop is grown.
- The nitrogen requirement of the crop or vegetation to be grown on the site.
- pH adjustment documentation that includes pH and duration.

### **IDEM's Role:**

IDEM is responsible for protecting human health and the environment while providing for safe industrial, agricultural, commercial, and governmental operations vital to a prosperous economy, and oversees the requirements for the removal, transport, storage, treatment, and disposal of septage from sewage disposal systems. Copies of permitting and recordkeeping must be retained for five years and made available to representatives of the Commissioner for inspection.

### **Additional Information:**

- All forms listed are available on the IDEM Agency Forms page: [idem.IN.gov/idem/forms/idem-agency-forms/#olq\\_septage](http://idem.IN.gov/idem/forms/idem-agency-forms/#olq_septage)
- To receive email or text updates every time IDEM posts new information, subscribe to IDEM updates at [idem.IN.gov/pages/subscribe](http://idem.IN.gov/pages/subscribe). Provide an email address or phone number.
- IDEM Virtual File Cabinet at [vfc.idem.IN.gov/DocumentSearch.aspx](http://vfc.idem.IN.gov/DocumentSearch.aspx)
- For more information on regulations for septage, please visit IDEM's website at [idem.IN.gov/idem/waste/waste-industries/septage-management/](http://idem.IN.gov/idem/waste/waste-industries/septage-management/)
- For questions and concerns, please contact Program Administrator Kate Garvey at 317-233-5552 or [KRGarve@idem.IN.gov](mailto:KRGarve@idem.IN.gov).