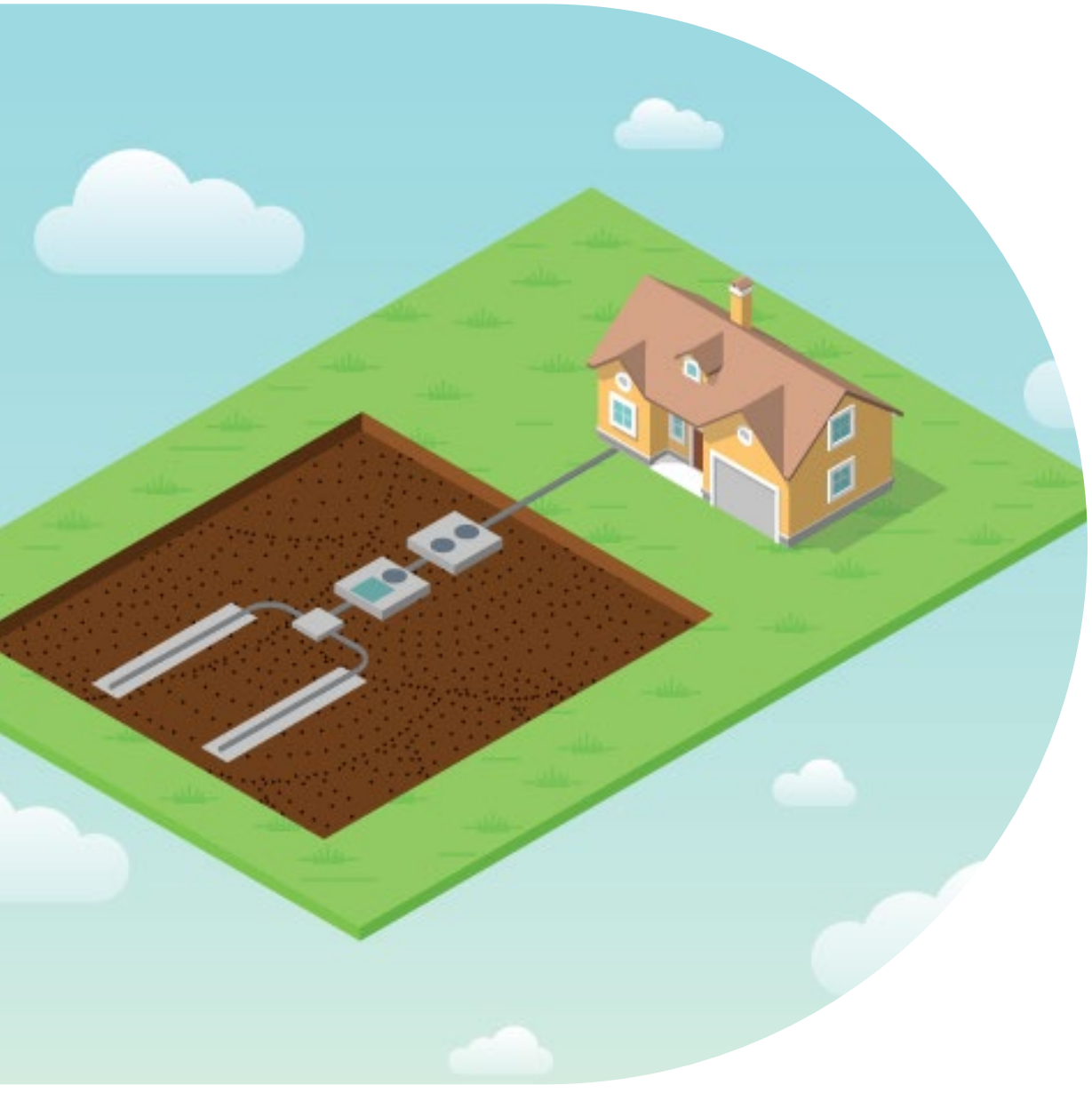
STATE OF IDAHO
DEPARTMENT OF
ENVIRONMENTAL QUALITY

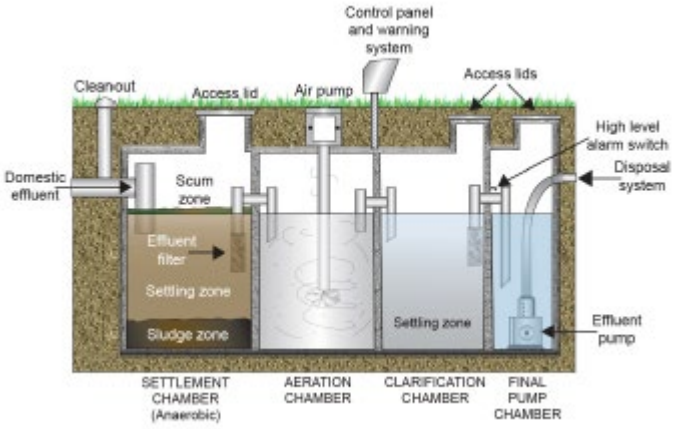
# Aerobic Treatment Systems and Drainfields: What You Need to Know

*For homeowners, real estate professionals, and developers*

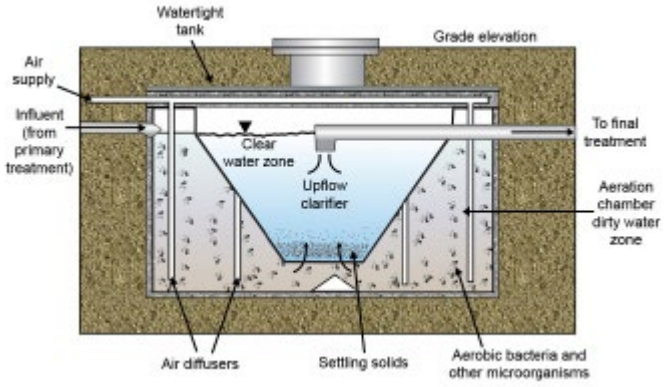


# What is an Aerobic Treatment System?

*An aerobic treatment system is a form of on-site wastewater treatment that is used to augment a traditional septic system in areas of ground water sensitivity.*




Like septic systems, aerobic systems must have a tank to settle out nonbiogradable solids and float oils, fats, and greases. Unlike septic systems, aerobic systems mix air with the clarified effluent, so oxygen-loving bacteria can quickly clear up the remaining nutrients prior to discharge to the drainfield.




Adding oxygen yields a higher degree of treatment, making aerobic treatment a potential option when a septic system is not possible because of limited space, poor soil characteristics, or high ground water.

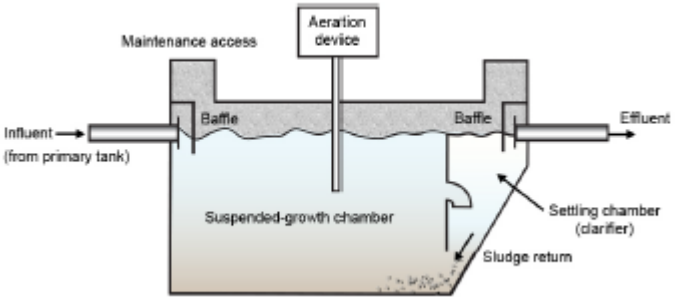
# Types of Aerobic Systems

*Aerobic treatment systems adapted for on-site use include suspended growth, fixed film, and trickling filter units.*

## Suspended Growth Unit

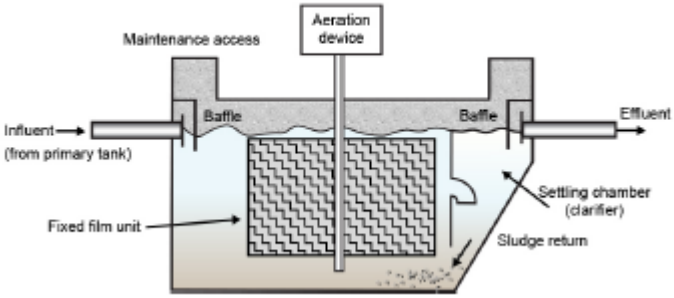
In a suspended growth unit, microorganisms that break down wastes are suspended in the wastewater and consume pollutants to create additional biological mass (biomass), releasing carbon dioxide, water, and energy as byproducts.

Biomass exiting the treatment chamber settles and returns while clarified wastewater effluent proceeds to a drainfield for final treatment.



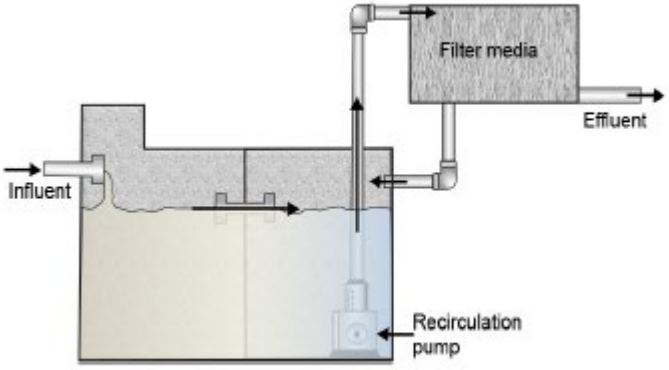

## Fixed Film Unit

In a fixed film unit, microorganisms are attached to an inert structure, such as a plastic lattice, where they consume waste, converting it into nonpolluting biomass and byproducts.




## Trickling Filter Unit

In a trickling filter unit, the microorganisms grown on media contained in a tank, and the pretreated wastewater is sprayed over this media. As the water trickles down, the microorganisms consume the pollutants.



# Advantages and Disadvantages of Aerobic Treatment Units

## Advantages of aerobic treatment units include the following:

- A higher level of treatment than septic systems, which may make a smaller drainfield possible
- May work when the soil or ground water level will not support a standard septic system
- Help reduce environmental impacts

## Disadvantages of aerobic treatment units may include the following:

- Additional expense for equipment and maintenance
- Additional complexity, including the need for electricity

# Operations and Maintenance Requirements

In Idaho, aerobic treatment systems are referred to as extended treatment package systems (ETPSs). According to the "Individual/Subsurface Sewage Disposal Rules and Rules for Cleaning of Septic Tanks" (IDAPA 58.01.03), property owners with an ETPS installed on their property must have all operation, maintenance, and monitoring (OMM) requirements specified in the permit completed by June 30th each year by a certified service provider, including effluent sampling if required by the permit. The certified service provider must submit an annual report by July 31st of each year demonstrating that the system is working as designed.

Permit requirements for ETPSs transfer with ownership changes. Before transferring ownership of a property with an ETPS, the system owner must notify all transferees of the ETPS OMM requirements.

As with standard septic systems, the owner of an aerobic treatment system should do the following:

- Use water efficiently to avoid overloading the system
- Avoid flushing materials that can clog the system such as diapers, cat litter, cigarette filters, feminine hygiene products, cotton swabs, dental floss, and paper towels
- Minimize flushing of chemicals that can kill microorganisms in the system

# For more information

## Idaho Department of Environmental Quality

1410 N. Hilton, Boise, ID 83706
(208) 373-0502

**DEQ Septic and Septage page, including a list of service providers:**
*https://www.deq.idaho.gov/water-quality/wastewater/septic-and-septage/*

**Idaho Technical Guidance Manual:**
*https://www.deq.idaho.gov/public-information/advisory-groups-and-committees/septic-technical-guidance-committee/*

## US Environmental Protection Agency

*https://www.epa.gov/septic/septicsmart-homeowners*
*https://www3.epa.gov/npdes/pubs/homeowner_guide_long_customize.pdf*

## Idaho Public Health Districts

*https://healthandwelfare.idaho.gov/health-wellness/community-health/public-health-districts*

**Panhandle Health District**
8500 N. Atlas Road, Hayden, ID 83835
(208) 415-5100
*https://panhandlehealthdistrict.org/*

**North Central Health District**
215 10th Street, Lewiston, ID 83501
(208) 799-3100
*https://idahopublichealth.com/*

**Southwest District Health**
13307 Miami Lane, Caldwell, ID 83607
(208) 455-5400
*https://phd3.idaho.gov/*

**Central District Health**
707 North Armstrong Place, Boise, ID 83704
(208) 375-5211
*https://cdhd.idaho.gov/*

**South Central Public Health District**
1020 Washington Street North, Twin Falls, ID 83301
(208) 737-5900
*https://phd5.idaho.gov/*

**Southeastern Idaho Public Health**
1901 Alvin Ricken Drive, Pocatello, ID 83201
(208) 233-9080
*https://siphidaho.org/*

**Eastern Idaho Public Health**
1250 Hollipark Drive, Idaho Falls, ID 83401
(208) 523-5382
*https://eiph.idaho.gov/*

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