

# ONSITE SEWAGE DISPOSAL SYSTEMS

Jeff McDaniel, Environmental Health Manager, TJHD  
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# Objectives

- ① Prevent disease transmission
- ① Treatment options
- ① Disposal methods
- ① Operation and maintenance
- ① Conventional vs. alternative
- ① How systems fail

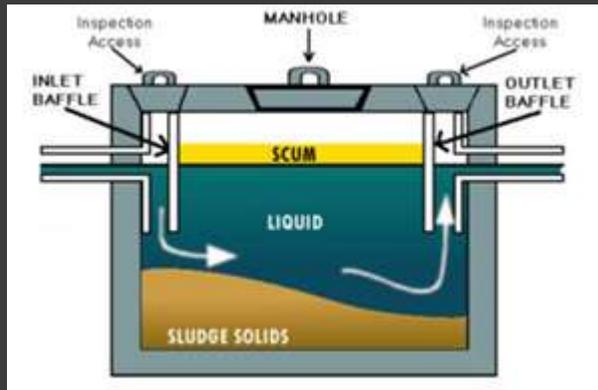
# What's in wastewater?

- ① Water
- ① Solid materials
- ① Bacteria
- ① Viruses
- ① Chemicals

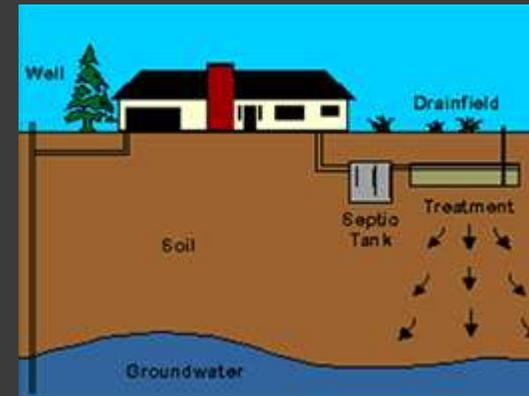
# How Much Treatment?



# Treatment (Conventional)

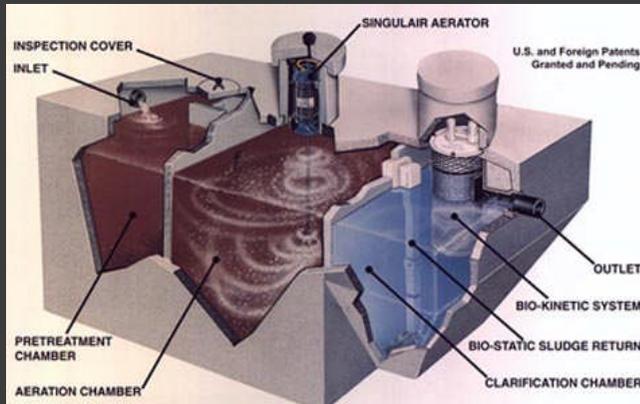


Septic Tank

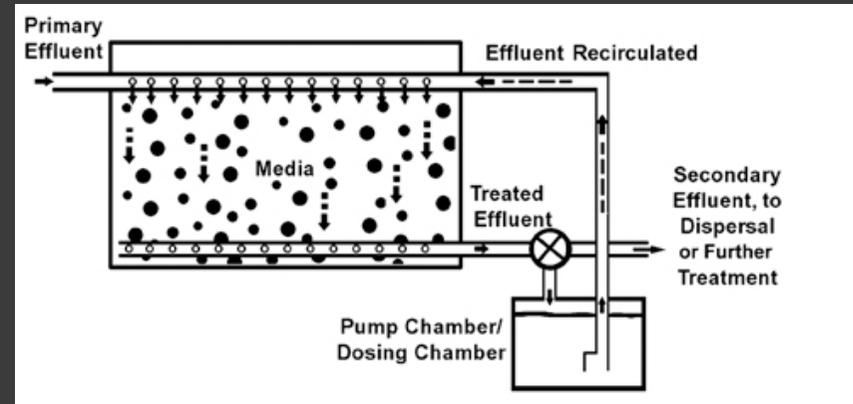


Drainfield

# Treatment (Alternative) (Cleaner effluent)

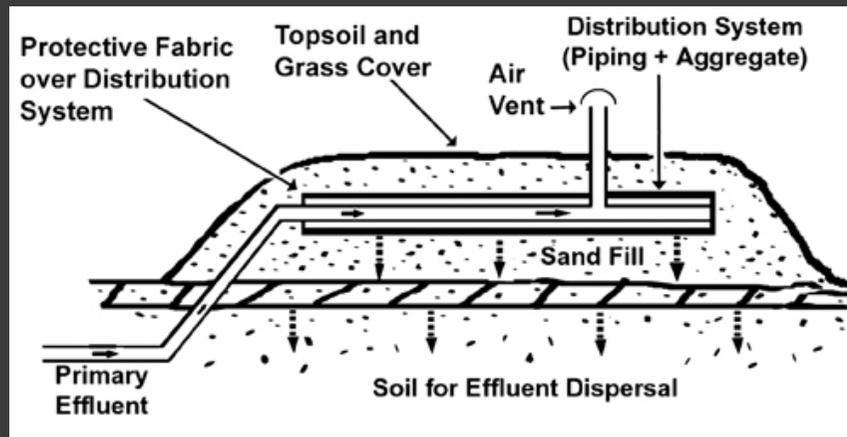


**Aerobic Treatment**  
(Suspended Growth)



**Fixed Media Treatment**  
(Attached Growth)

# More Alternative Treatment



Mound

# Disposal Methods

- ① Trenches
- ① Beds
- ① Drip
- ① Discharge
- ① Spray

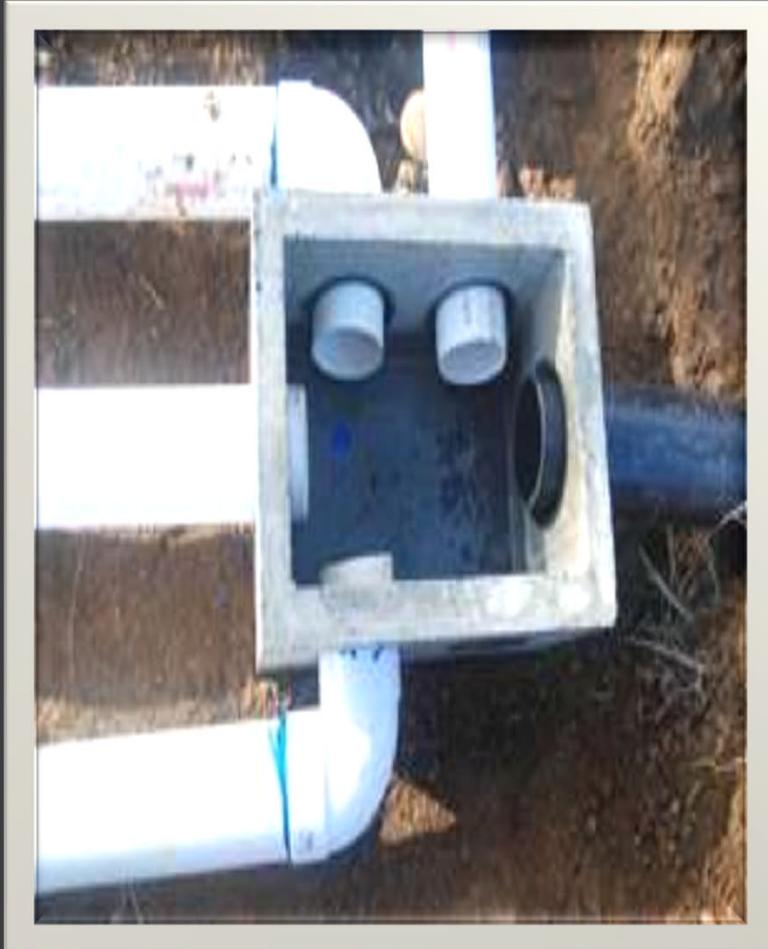
# CONVENTIONAL SEPTIC SYSTEM



New Septic Tank Installation

# Distribution Boxes

## Concrete Box



## Plastic Box





Gravel Trench Installation

# E-Z Flow



# Chamber Installation



# ALTERNATIVE SEWAGE DISPOSAL SYSTEM



**Sand Mound**





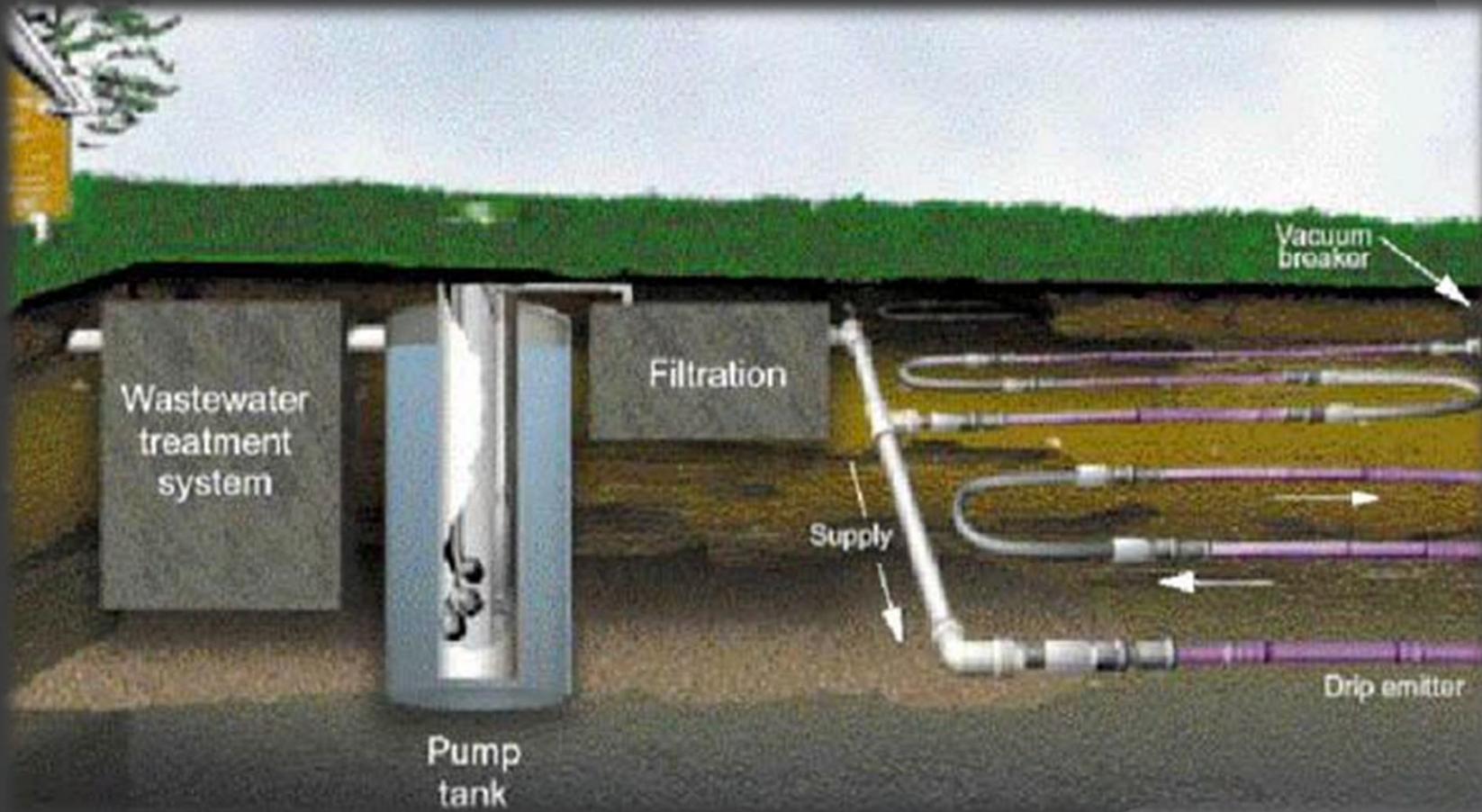
Peat Moss Chamber



**Peat Moss**



# Drip Dispersal





**NORWECO.**  
SUBSURFACE DRIP  
DISPOSAL SYSTEM

# What is a failure

- ⦿ On the ground surface
- ⦿ Backing into the house
- ⦿ Into groundwater or streams w/o treatment
- ⦿ Causes
  - Mechanical
  - Lack of absorption
  - Too much water from the home
  - Leaking plumbing
  - Improper drainage

# Drainfield Failure



# Operation and Maintenance

- Septic systems
- Alternative systems

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