Subsurface Sewage Disposal

Panhandle Health District

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Environmental Health Program Manager

What is Panhandle Health District?

- 1 of 7 Idaho Health Districts formed in 1970
- Not a state agency. It is a "single purpose" District, similar to School Districts
- PHD serves the 5 northern counties of Idaho
- Locally governed by a Board of Health
- <u>Funding Sources:</u>
  State
  County
  Fees
  Grants / Contracts / Other

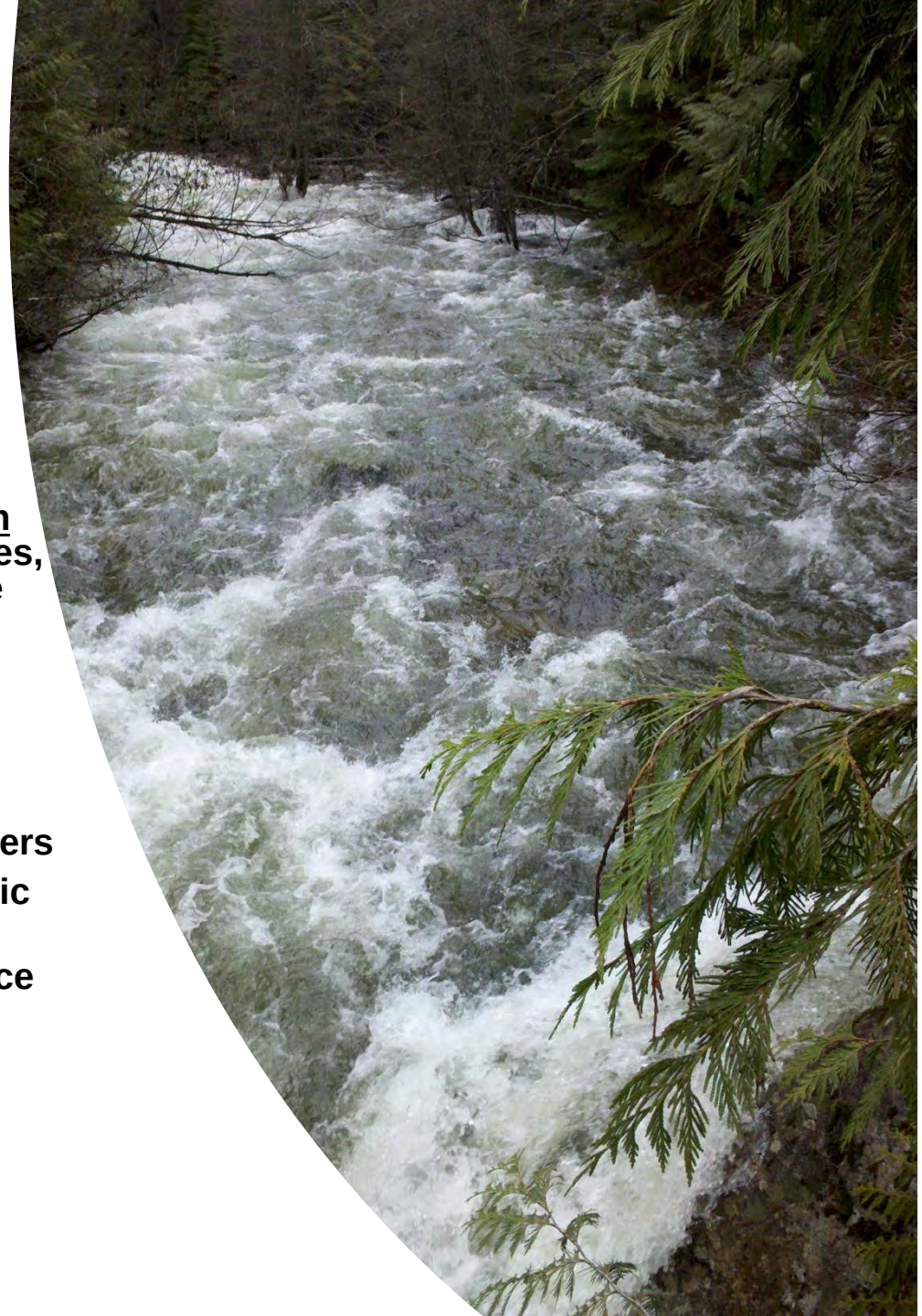
Public Health
Prevent. Promote. Protect.
Panhandle Health District

Environmental Health

Definition: The art and science of the protection of good health, the promotion of aesthetic values, the prevention of disease and injury though the control of environmental factors and the reduction of potential hazards – physical, biological, chemical and radiological.

Realtors and Evironmental Health:

- **1st line of communication with property owners**
- **High % of buyers with no knowledge of septic systems**
- **Educated realtors can make a huge difference for their clients and the environment**
- **Educated realtors are good for business**



What is Wastewater?

"Any combination of liquid or water … containing blackwater, greywater or commercial or industrial pollutants; and sewage. "

~IDAPA
58.01.03.003.36

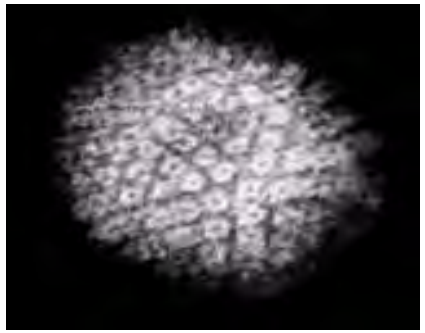
Idaho rules apply to all wastewater generated on a property!

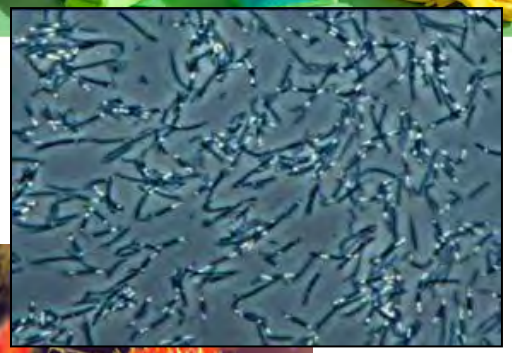
- **Composting toilets, outhouses, etc. only address black waste and do not make every property "buildable"**
- **Applies to all properties, including seasonal and recreational**

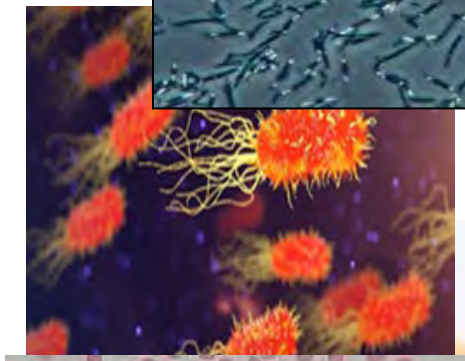
Why Do Wastewater Disposal Regulations Exist ?

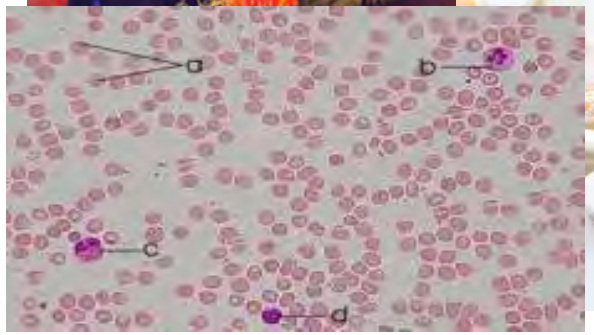
- To keep inadequately treated sewage away from human and animal contact and to prevent disease.
- To reduce levels of disease causing bacteria and viruses discharged to the environment.
- To prevent ground and surface water contamination.

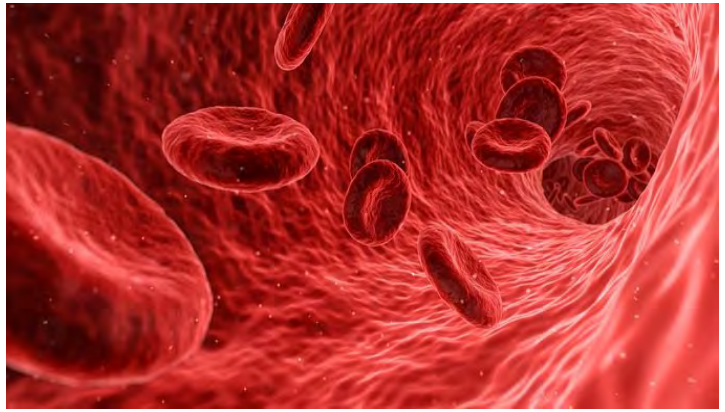
Contaminants in Wastewater:







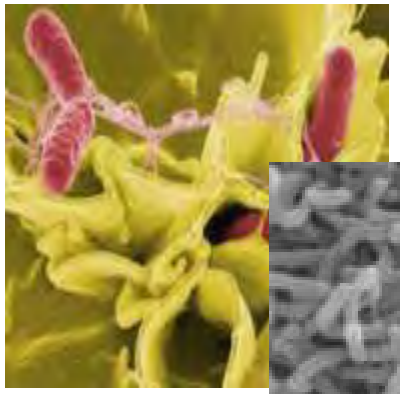


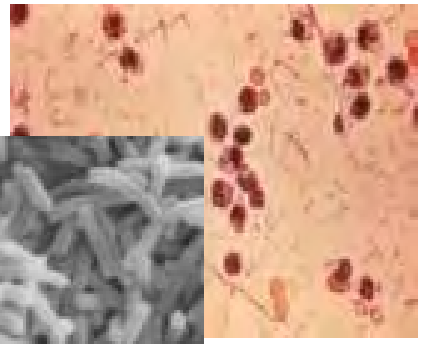


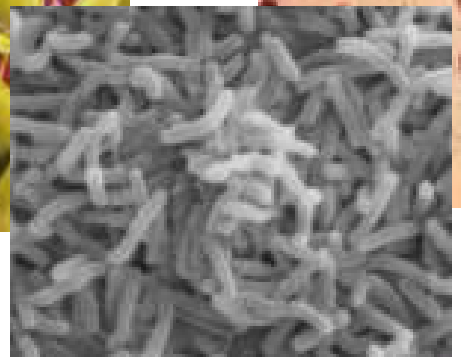
- Bacteria
- Viruses
- Parasites
- Blood
- Chemicals
- Nutrients
- Pharmaceuticals
- Antibiotics
- Personal Care Products
- Steroids
- Natural & Synthetic Hormones
- Nonprescription Drugs.
- Detergents
- Fire Retardants
- Pesticides

Some Wastewater Pathogens

- E. coli 0157:H7
- Hepatitis A,B,C viruses
- Norwalk viruses
- Amoebic dysentery
- Tapeworms
- Pseudomonas
- Salmonella
- Shigella
- Cholera
- Giardia
- Cryptosporidium
- Trichinosis
- Tetanus

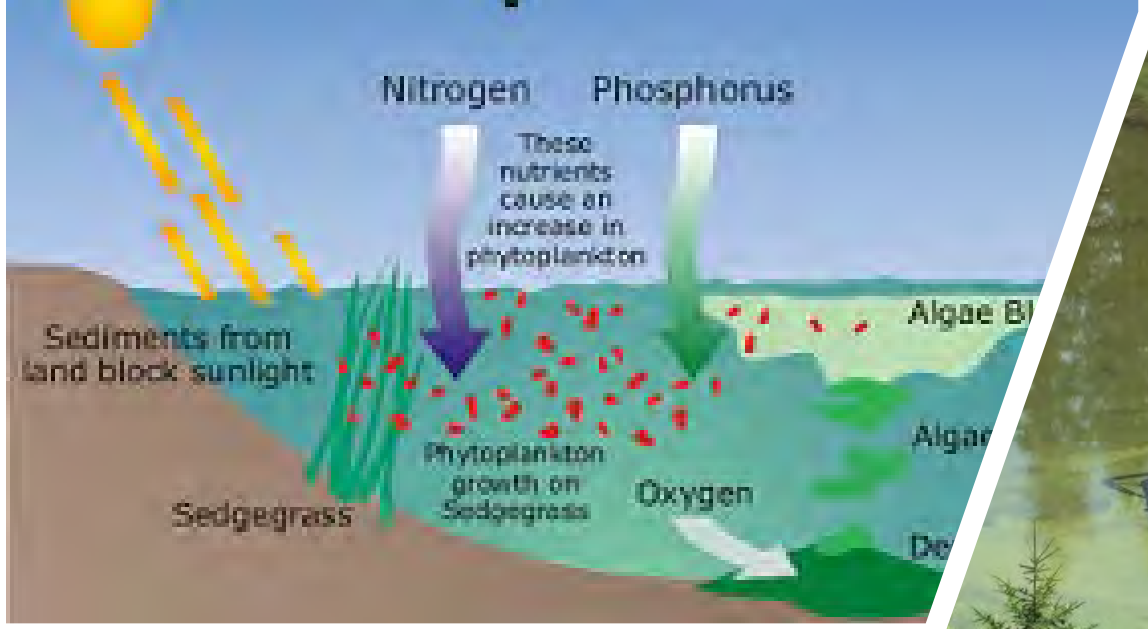






Effects of Illness Caused by Wastewater Pathogens

- Diarrhea
- Fever
- Vomiting
- Chills
- Abdominal Cramping
- Nausea
- Headaches
- Jaundice
- Muscle Aches
- Bloody Stools
- Liver Damage
- Intestinal Damage
- Kidney Failure
- Partial Paralysis
- Lung Infections
- Skin & Eye Infections
- Arthritis
- Death



Impacts of Nutrients on Surface Water

Prevalence of Illness Caused by Waterborne Organisms

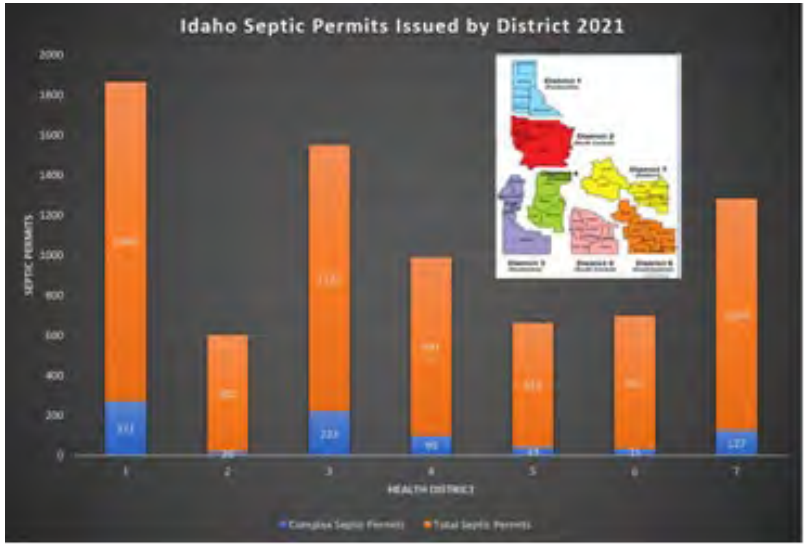
- **3.4 million people die as a result of water related diseases** (World Health Org)
- **It is the leading cause of disease & death around the world.**

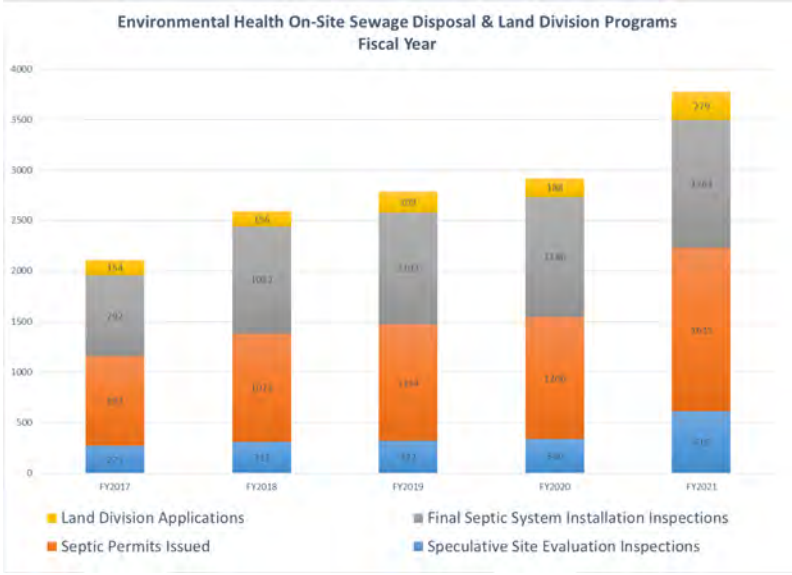
- **6,939 annual total deaths from 13 diseases caused by pathogens that can be transmitted by water**
  - 91% associated with three environmental pathogens: *Legionella* (Legionnaires' disease) (250 deaths), NTM (1,216 deaths), *Pseudomonas*-related pneumonia (1,618 deaths) & septicemia (3,217 deaths)
  - 7% associated with seven pathogens transmitted by the fecal–oral route: *Campylobacter, Cryptosporidium, E. coli, Giardia*, Hepatitis A, *Salmonella* non-typhoidal, and *Shigella*
- **477,000 annual Emergency Dept. visits for 13 diseases caused by pathogens that can be transmitted by water**

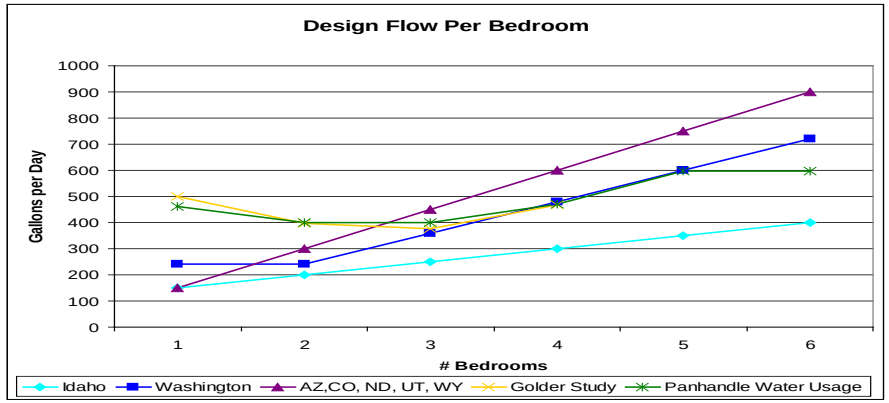
CDA Stats for 2017 Waterborne Disease Burden Data

How Much Wastewater ?

- Bedrooms used to estimate residential wastewater flow in Idaho (150 gpd/1 bedroom, 50 gpd for each additional)
- Idaho flow estimates lower than other states & measured flows from homes in Panhandle
- 1600 new systems x 250 gpd ~ 4000,000 gallons **per day** from new systems alone!



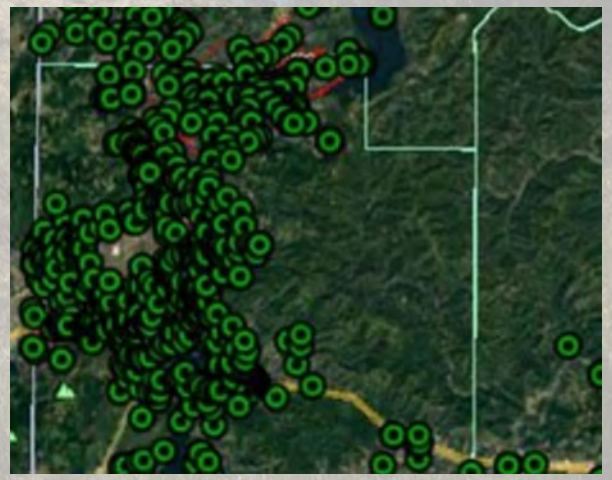




Septic permits in the Idaho Panhandle

- Sewer serves a small portion of North Idaho
- 14% of State's population (2010 census)
- 9% of State's surface area
- 33% of State's surface water
- 1600 permits in 2021*, peak of 2400 permits in 2005
- 23% of Septic Permits issued in Idaho (2021)
- 33% of Complex Permits issued in Idaho

Public Sewer systems



*2018 Kootenai septic permits

Importance of Septic Permits

- **Protect our clean water and public health**
- **Once septic systems are installed, we live with them for decades**
- **Majority of septic permitted sites will not be connected to a sewer system**
- **Once a public health problem exists, it is very difficult to correct**
- **Desirability of living in Northern Idaho is directly related to environmental quality**
- **Long term viability of the real estate and building industry depends on clean water**

Idaho Landowner Responsibilities

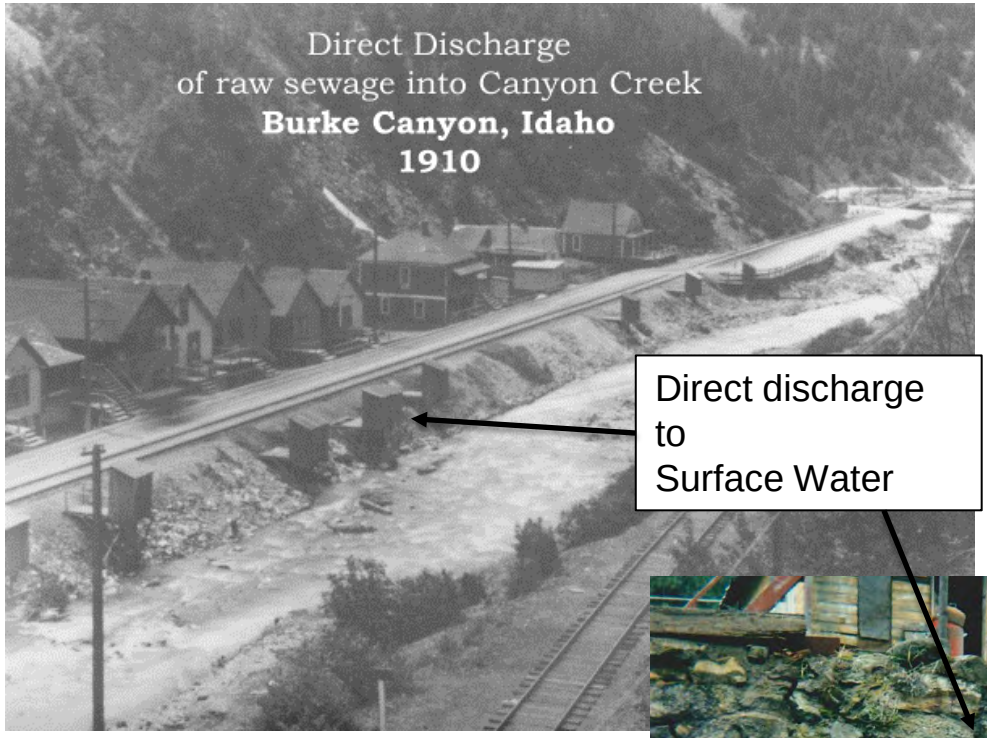
Responsibilities

- ✓ Every owner of real property is jointly and individually responsible for:
- ✓ Storing, treating, and disposing of blackwaste and wastewater generated on that property.
  - ✓ Connecting to an approved wastewater system or facility.
  - ✓ Obtaining necessary permits and approvals for installation

Violation a misdemeanor with fines up to $10,000 or $1,000 per day

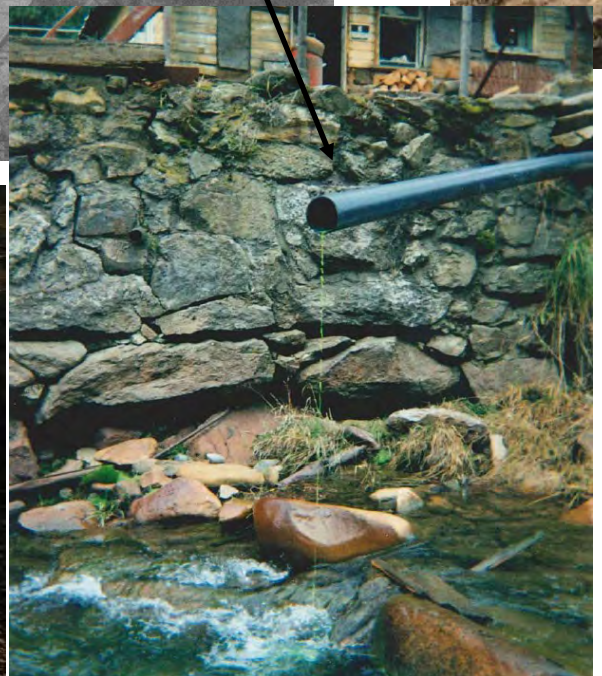
vs

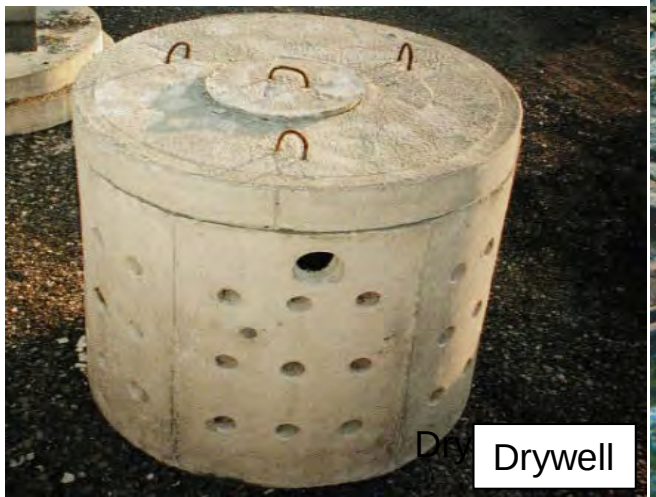
Historic Wastewater Disposal Systems



Direct discharge to Surface Water

Leaky metal tank



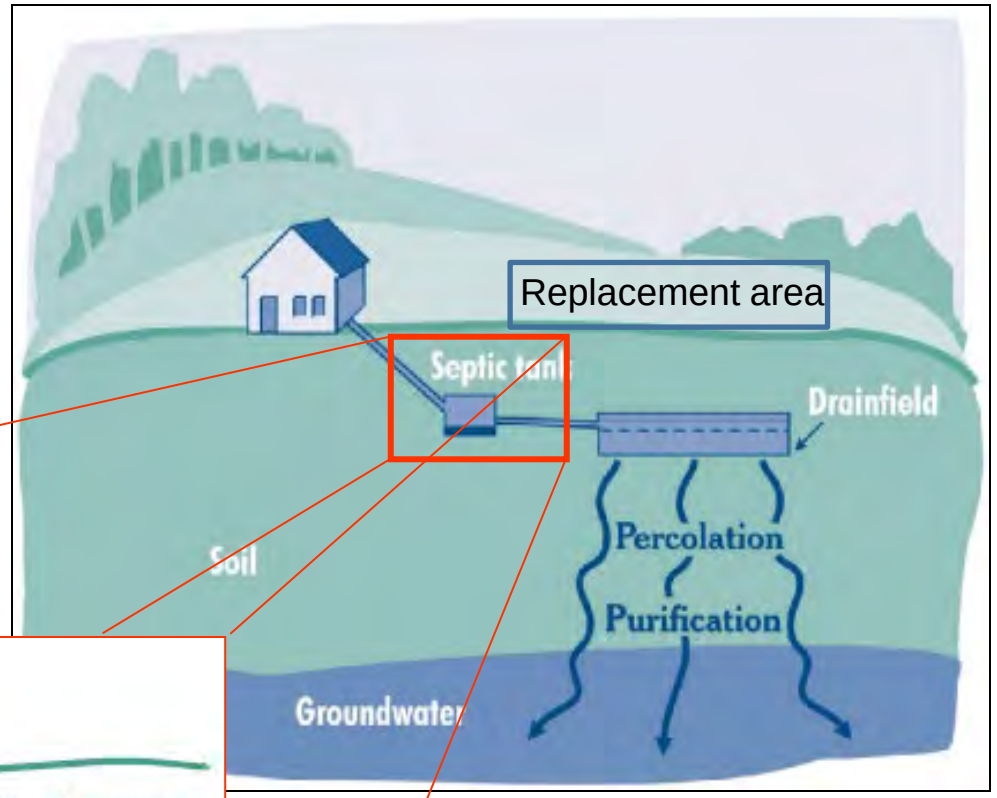


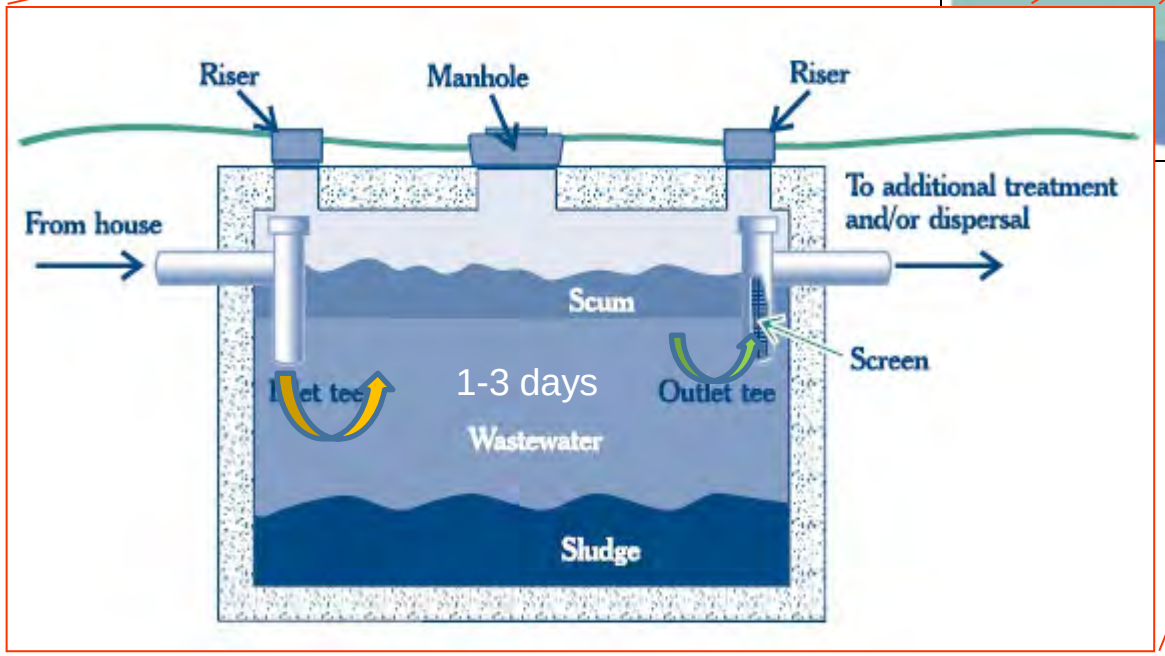
Drywell

Cesspool

How Septic Systems Protect Public Health:

- **The septic tank separates the sewage and provides storage. Provides Anearobic treatment.**
- **Many disease-causing organisms are destroyed and never leave the septic tank.**





The drainfield discharges the wastewater to the soil, bacteria and soil work together to treat effluent through aerobic treatment.

Balance of Disposal and Treatment

Disposal:

- A properly functioning septic system can dispose of all wastewater generated on a site
- Prevents sewage backup into home or overflow on ground

Treatment:

- Protects surface and groundwater
- Eliminates pathogens and nutrients

Site Evaluations

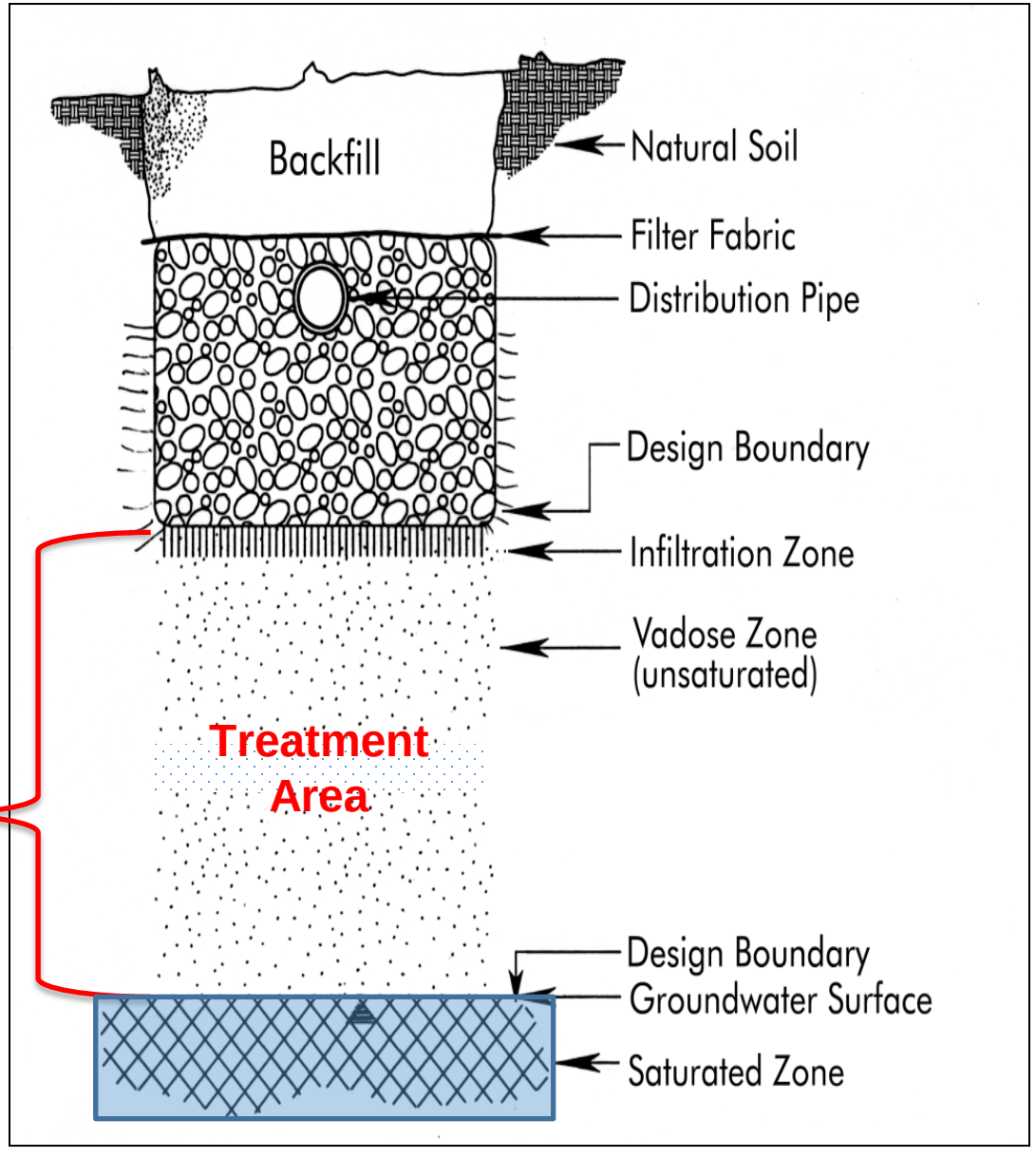
&

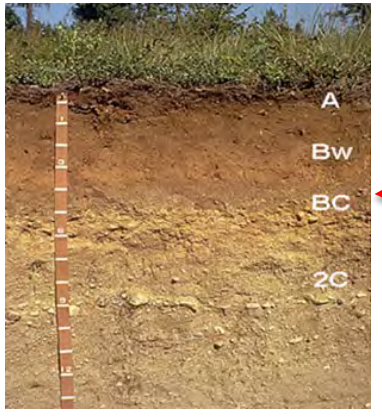
Features Of Concern

Septic Systems and Soils Work Together

Adequate and consistent soils are necessary to reduce or eliminate pathogens.

Destruction of pathogens occurs in the top 4 feet of soil.



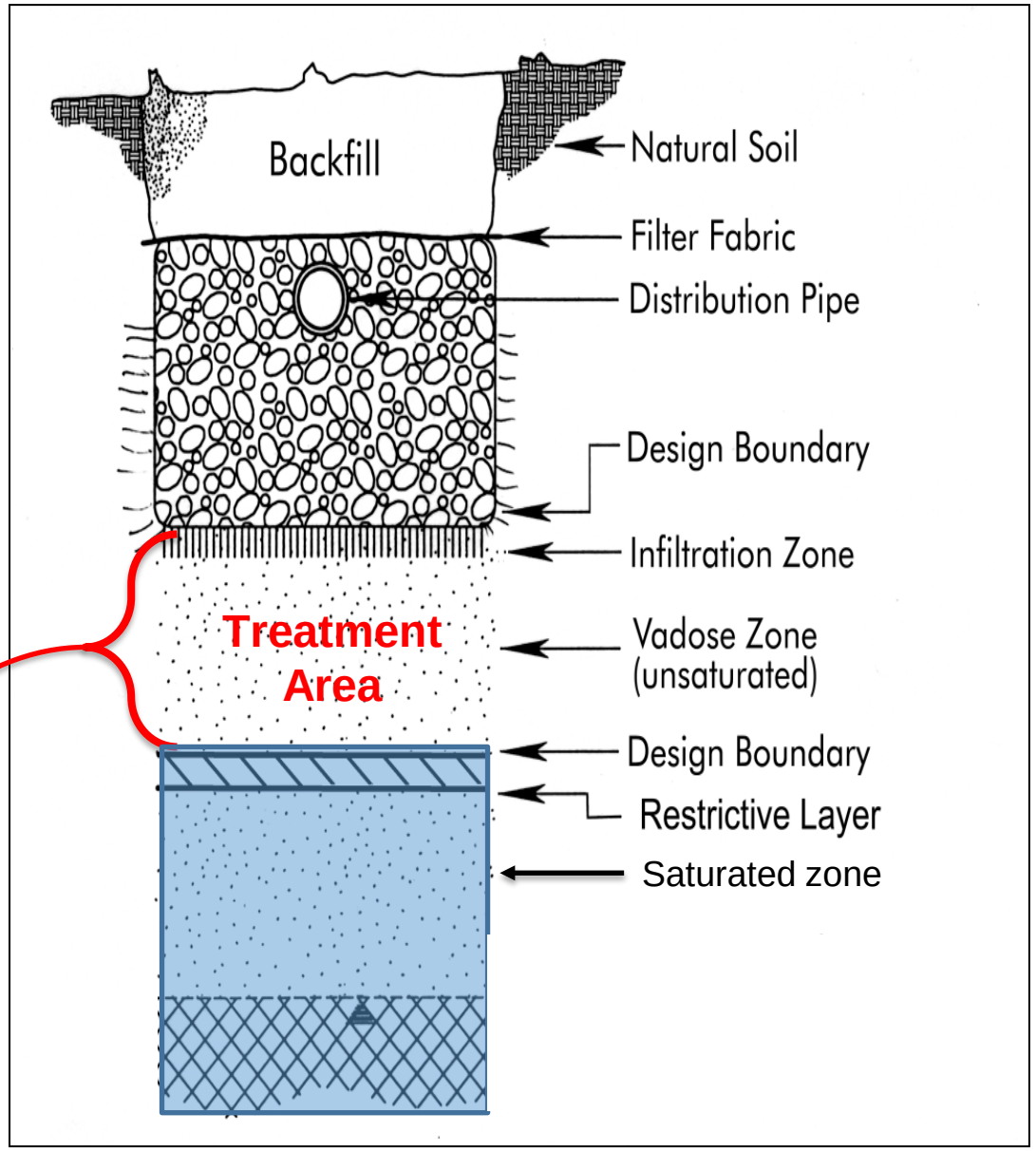


Standard systems

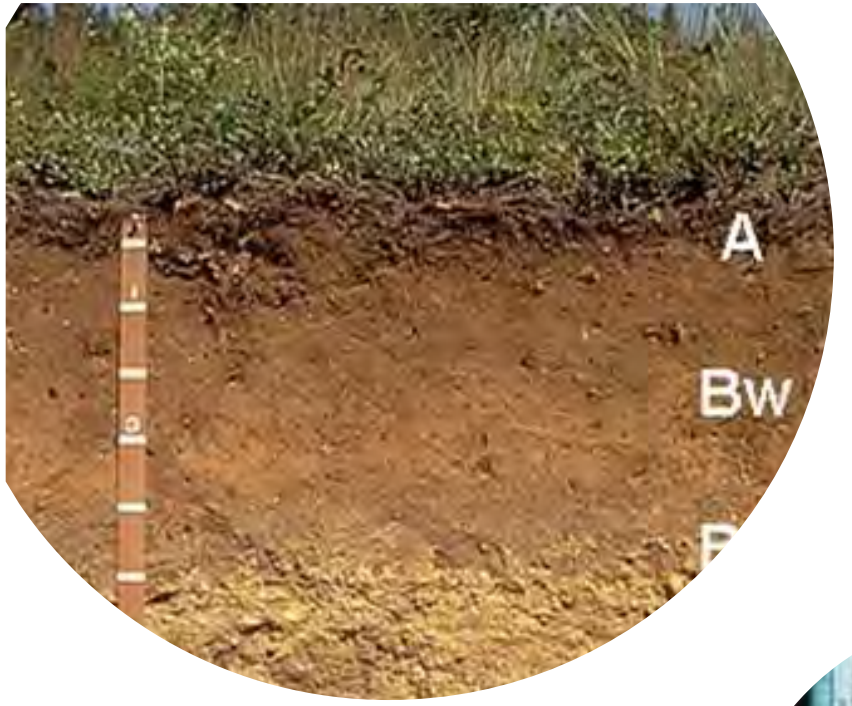
Use of Alternative Systems in Limited Soil

Soil that is too shallow, too tight, too loose, fractures in rock, and groundwater…. reduce the *treatment* of the sewage.

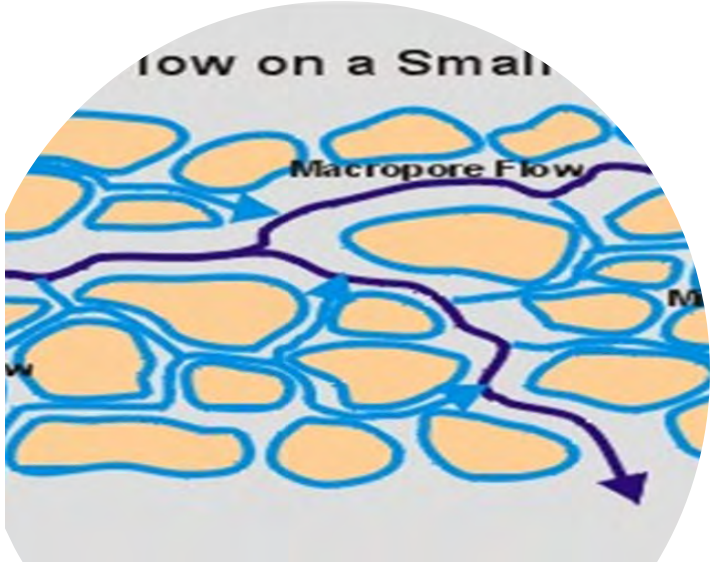
Alternative systems are used to provide additional treatment



Alternative systems

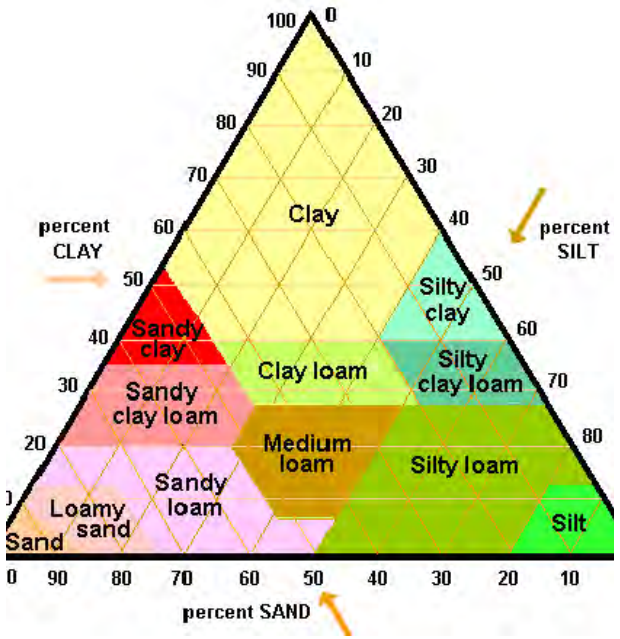


Soils and Wastewater Treatment



- Soils are the most critical component of the on-site sewage disposal system
- Soils provide <u>treatment</u> and <u>disposal</u> of wastewater
- Septic systems rely on Oxygen and unsaturated soils for treatment
- Anearobic conditions cause system failure and groundwater contamination

Soil Types and Treatment



- (A) Sands good permeability / poor treatment (As a general rule)

  300ft setback to surface water

- (B) Loam soils (equal mixture) – good permeability / good treatment

  200ft setback to surface water

- (C) Clay loam soil (more clay, but< ~40% clay)- poor permeability / good treatment

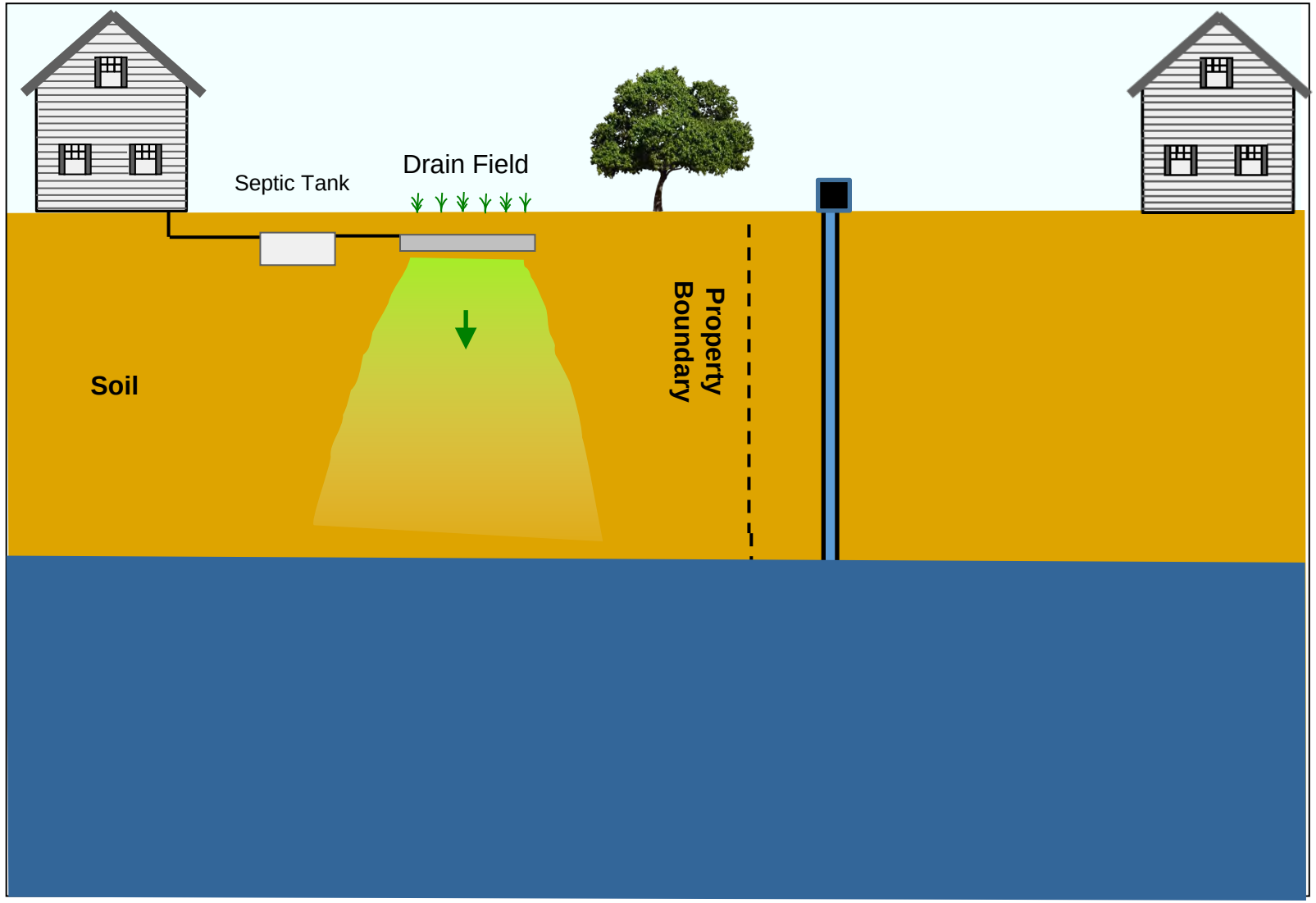
  100ft setback to surface water

Table 2-5. Minimum effective soil depth (feet) by soil design subgroup to the limiting layer.

Limiting Layer	Soil Design Subgroup (feet)					
	A-1	A-2	B-1	B-2	C-1	C-2
Fractured bedrock or other porous layer	6	5	4	3	3	2.5
Normal high ground water	6	5	4	3	3	2.5
Seasonal high ground water	1	1	1	1	1	1

Contamination of ground water can impact others…

It’s important to have adequate soil depth for effective treatment of wastewater.



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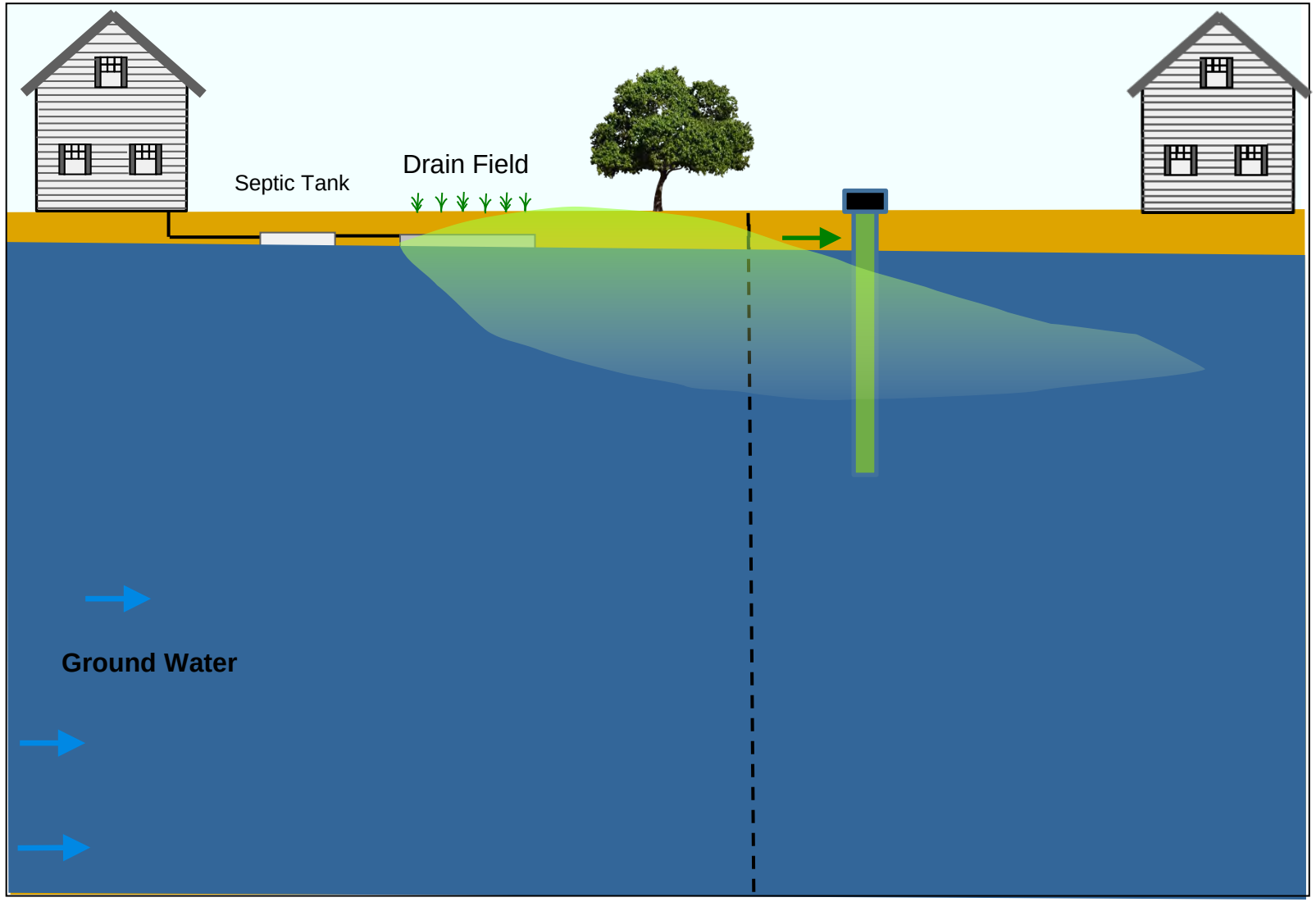
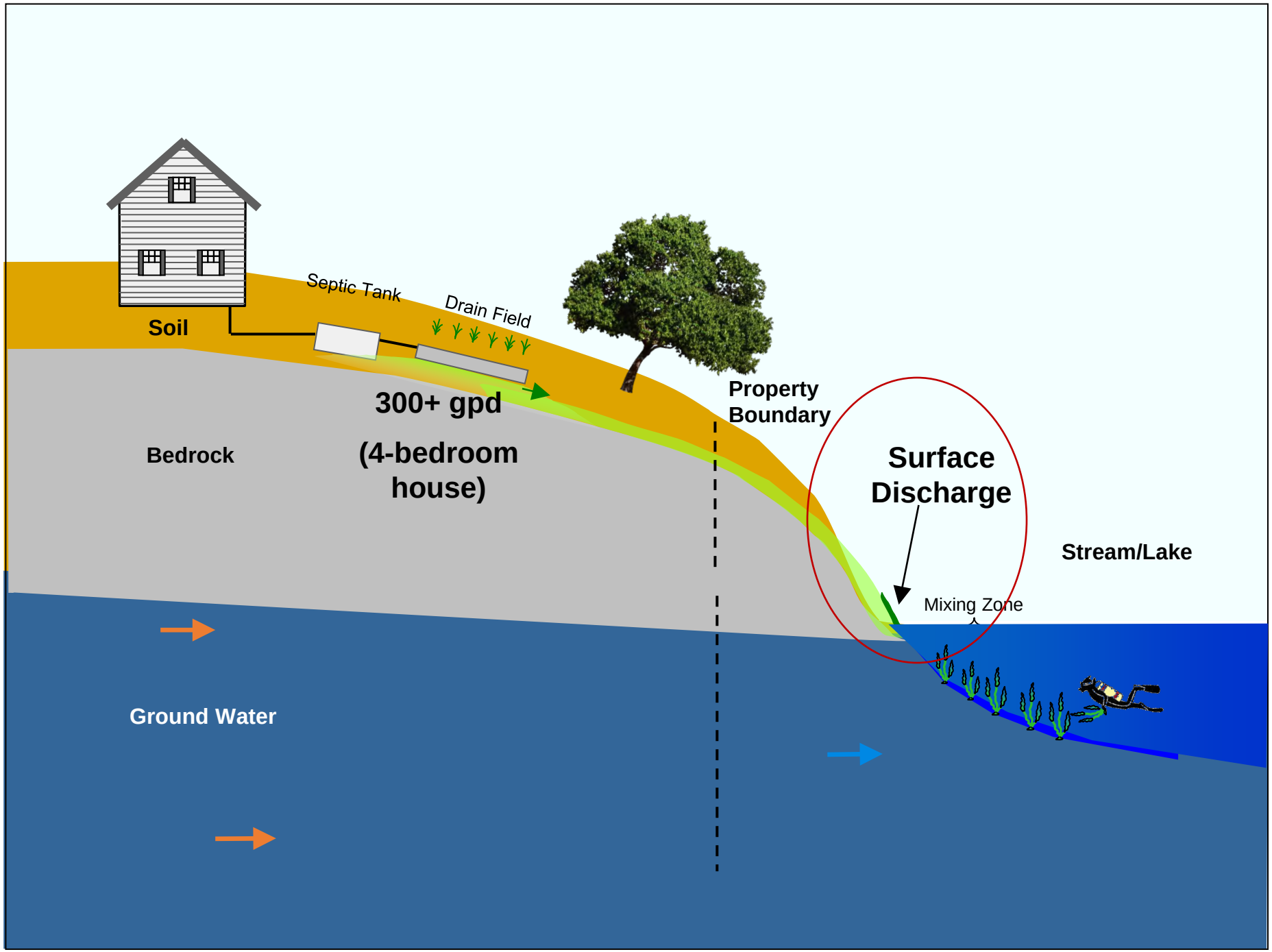
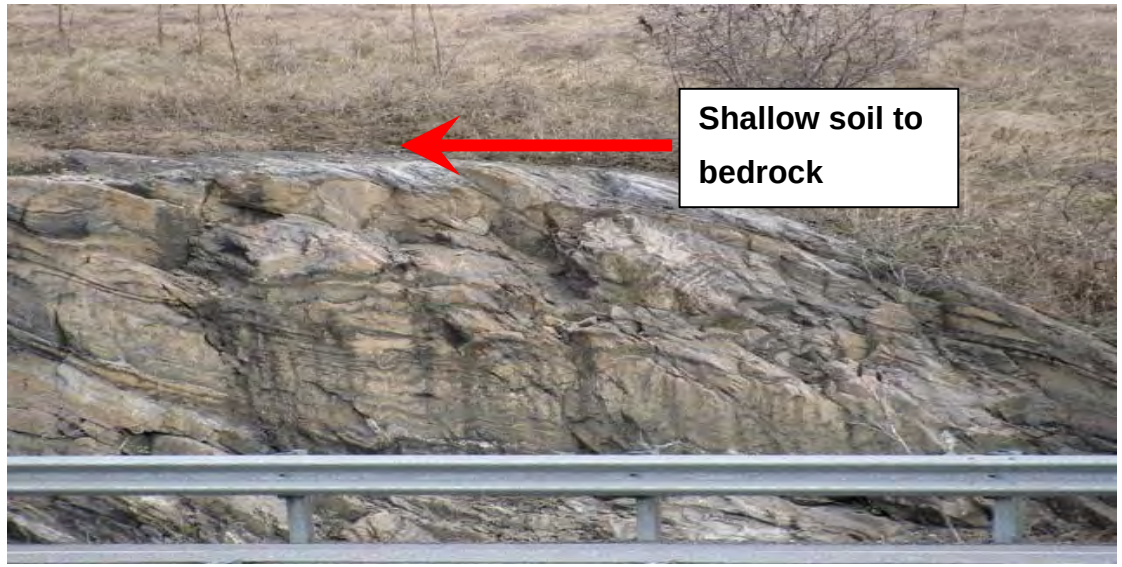


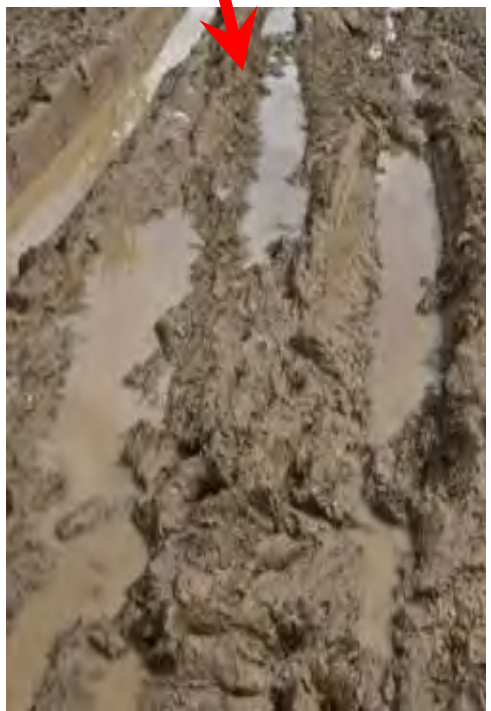

Soil
Septic Tank
Drain Field
300+ gpd
(4-bedroom house)
Bedrock
Property Boundary
Surface Discharge
Stream/Lake
Mixing Zone
Ground Water

Unsuitable Soils

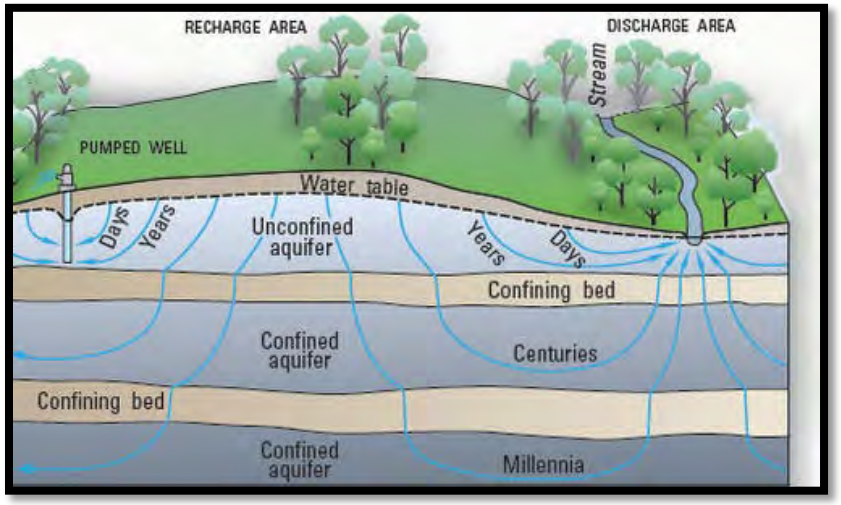
- Gravel
- Coarse Sand
- All Clays
- Organic Muck
- Claypan
- Hardpan
- Duripan
- Bedrock

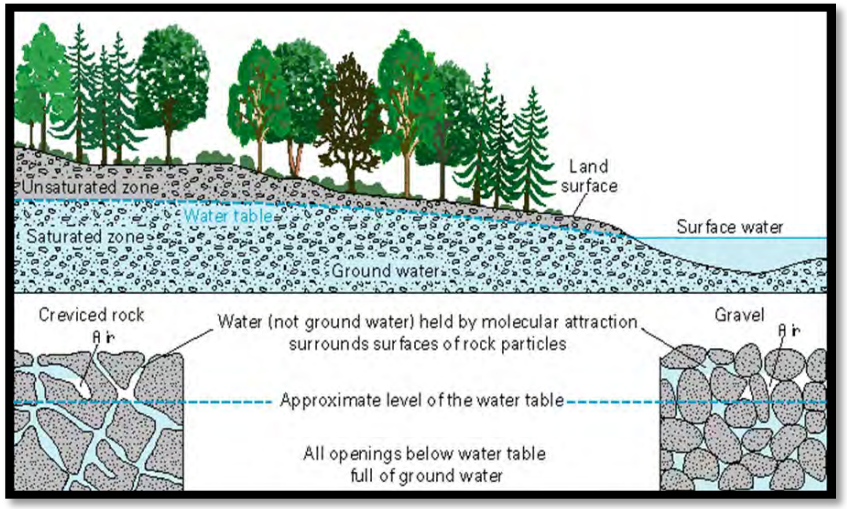


Impermeable soils



Groundwater

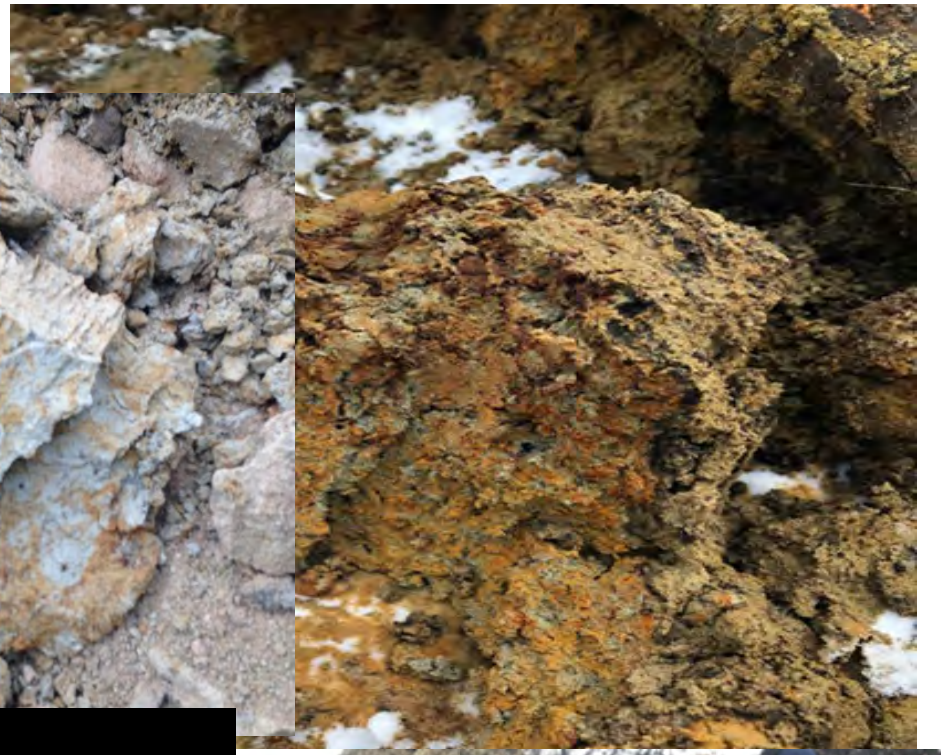




- **40% of the U.S. domestic water supply originates from groundwater (92% of Idaho)**
- **Over 40 million people use groundwater as their drinking water via private wells**
- Viruses that reach groundwater can travel at least 220 feet vertically and 1,338 feet laterally.
- Fecal coliform bacteria can move 2 feet downward and 50 feet longitudinally 1 hour after being injected into saturated soils.
- 70% of water-borne illness outbreaks in the US are associated with ground water.

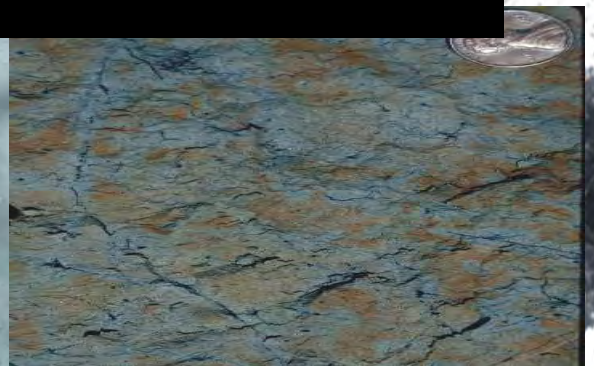
Soil Mottling in Testholes

- Can Indicate Fluctuating Ground Water Tables.
- Spring Monitoring may be required to determine actual Ground Water levels - Prior to Permit Issuance.



PHD Must Verify that Ground Water Setbacks can be met - Prior to Permit Issuance.

Requisite Setbacks vary with Soil Type.



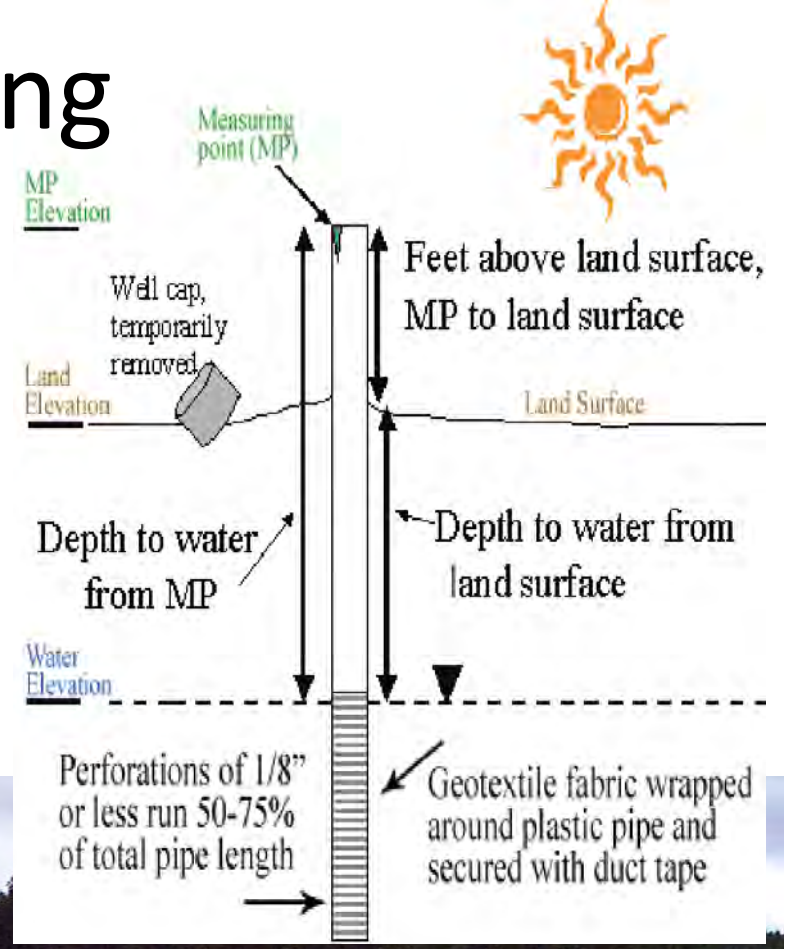
Groundwater Monitoring

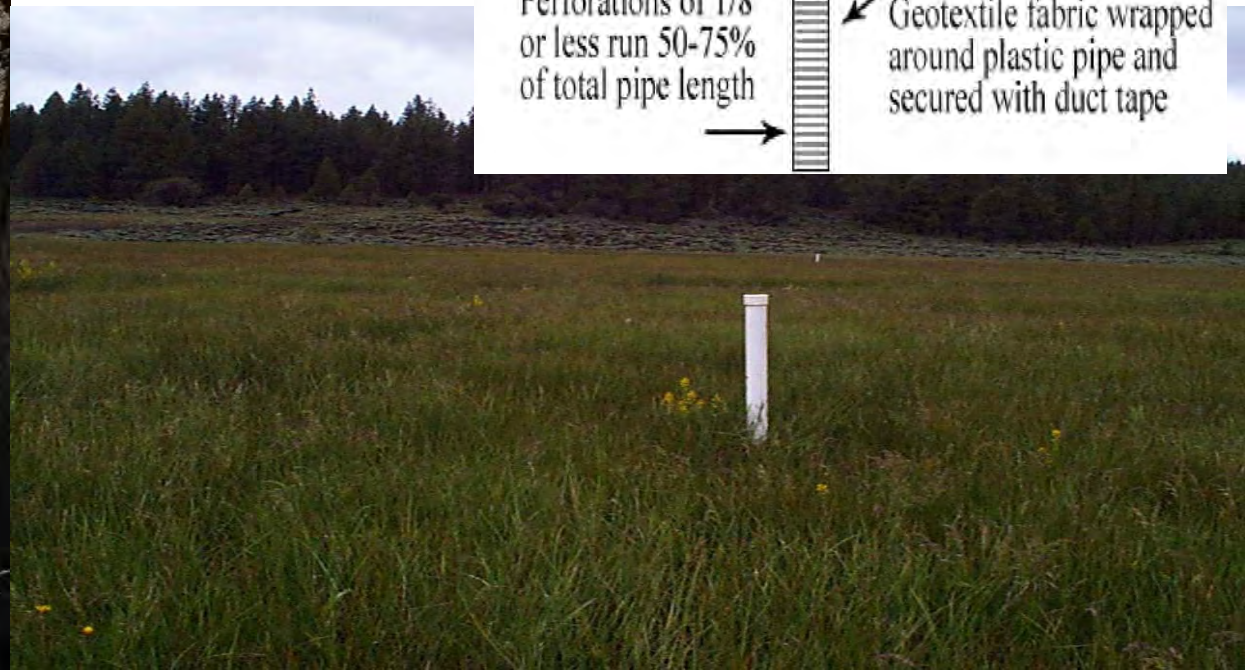
Groundwater monitoring could be required in the spring to determine normal and seasonal ground water levels.

<u>Normal</u>: 6 weeks or more per year

<u>Seasonal</u>: One week per year

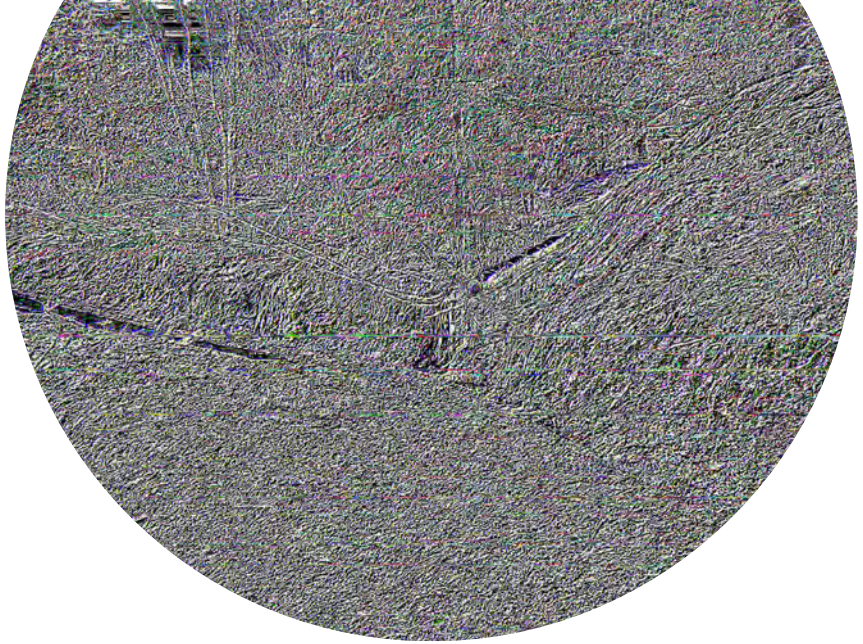
***<u>Prior</u>* to <u>Approval</u> of a Site for Septic**





Surface Water in Idaho

- **State Water Surface Area** - 880 Square Miles
- **Number of Lakes** - More than 2,000 — 1,228 of which have been named
- **Largest Lake** - Pend Oreille — 148 Square Miles
- **Deepest Lake** - Pend Oreille — sounded to a depth of 1,140 feet
- **Miles of Streams and Rivers** - 93,000 miles
- **Number of Named Streams and Rivers** - 8,941 plus 1,478 named springs
- **Average Annual Precipitation** - Varies from less than 10 to more than 60 inches.



Surface Water is more than lakes & rivers….

Temporary *surface water exists continuously for less than two (2) months a year.*
(Requires 50ft setback)
Intermittent *surface water exists continuously for more than two (2) months but not more than six (6) months a year.*
(Requires 100ft, 200ft or 300ft setback)
Permanent *surface water exists continuously for six (6) months a year.* ***(Requires 100ft, 200ft or 300ft setback)***

PHD Site Evaluations

After PHD has received a completed Application, its time for the Site Evaluation & Testholes.

PHD will first look for:

Wet Soils/Drainages - can be judged by standing water &/or vegetation

Bedrock - outcrops can indicate shallow soils

Slopes

Property Lines! PHD staff must be able to clearly observe the **correct property lines**

Note:

- **If a Survey is necessary to locate property lines, it is best done prior to scheduling a Site Evaluation w/ PHD.**
- **apps & gps on smart phones have accuracy concerns**
- **It is the Applicants Responsibility to Clearly and Accurately identify property lines on the site & on the Septic Application Plot Plan.**

Before PHD even comes out, a site can tell you a lot……

Some Sites May Appear Acceptable…

But they are under water part of the year…

WINTER SITE EVALUATIONS

- Snow, ice, frozen ground, site access issues
- It may not be possible to provide accurate determinations when evaluating potential drainfield sites.
- Snow can hide well heads, rock outcroppings, small water courses, springs etc.
- Frozen ground can prevent accurate determinations of soil type as well as affect groundwater movement.
- Further fieldwork may be necessary after the site features become visible.
- Generally, PHD will not conduct winter site evaluations.

Plan Ahead!

Types of Septic Systems in Idaho

Standard
Capping Fill
Steep Slope (Required on slopes between 20-45%, system installed deeper, no reduction)
Sand Mound (Requires Engineered Designs)
Extended Treatment Package System **(Pre-treatment)** (Must be on DEQ Approved List and Requires O&M)
Recirculating Gravel Filter or Intermittent Sand Filter (Pre-treatment), Drip Distribution (Requires Engineered Designs)
Drip Distribution **(Requires Engineered Design, saves space)**

SEPTIC TANKS

- 1000 gallons serves up to four (4) bedrooms.
- Add 250 gallons for every bedroom over four (4).
- Vented tees or baffles
- Risers Required if deeper than 24”

INLET & OUTLET BAFFLES

- Baffles help prevent solids from leaving the tank and entering the drainfield.
- Solids should settle and remain in the tank.
- Some drainfield failures are caused by solids entering the drainfield.

For a septic system to function long-term, septic tanks should be pumped periodically and baffles should be inspected.

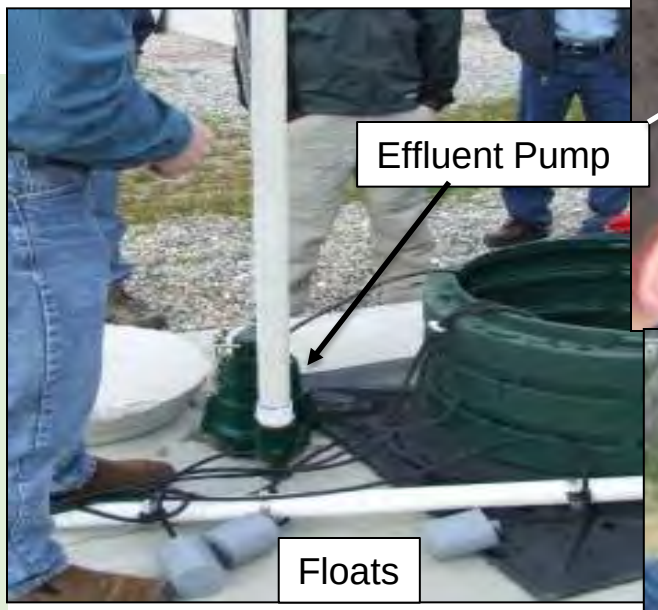
Septic Tanks And Pumps

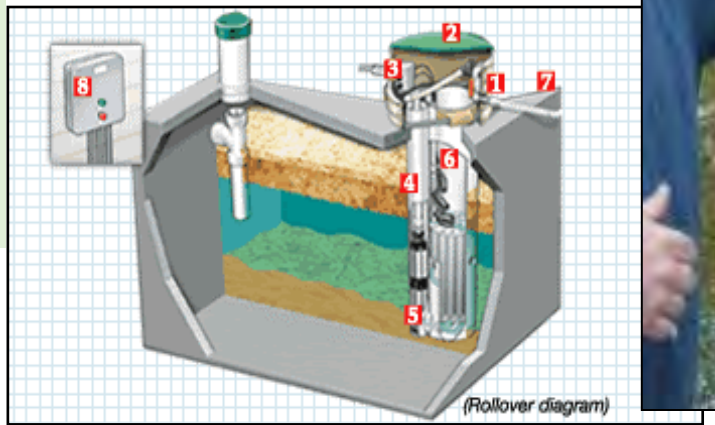
- Easy Access for maintenance
- Alarm & Shut off switch (<50 ft away)
- Electrical permit/inspected

*It is *very* important for a homeowner to know if they have a pump and what maintenance needs to be done:

* In-tank Pump vaults and effluent filters require periodic cleaning.

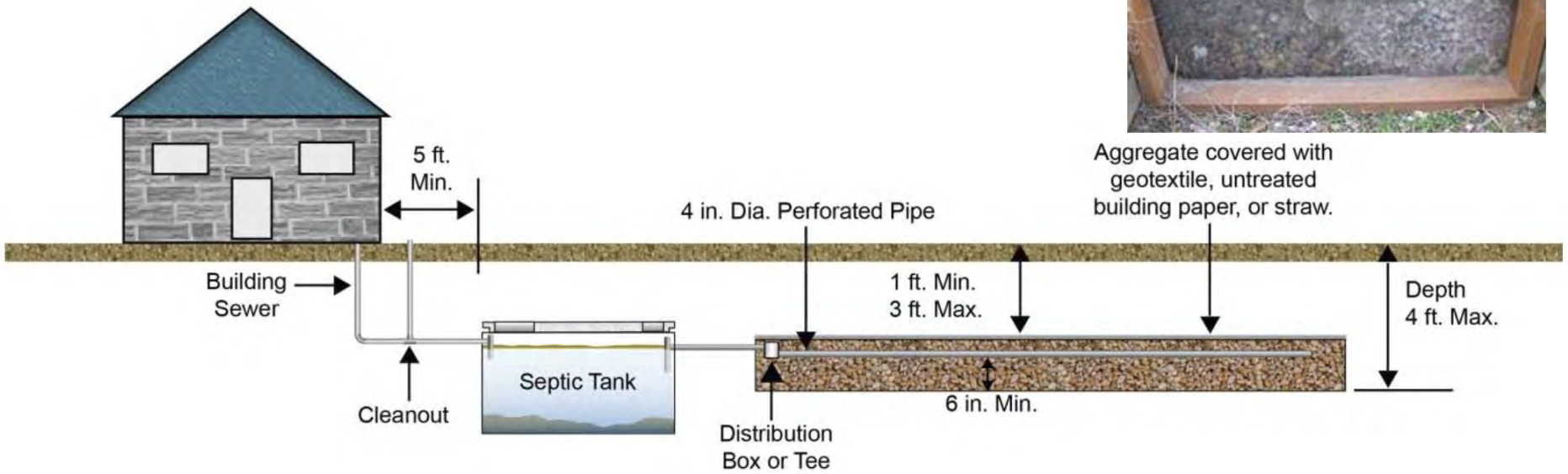
*If the pump is not on, or it's broken, the tank will overflow and sewage will overflow or back up into the home.





Standard Drainfield Trench

- Perforated pipe and drainrock trenches distribute wastewater to soil
- Length of trench based on the bottom square footage of drainfield
- Example: 3’ wide by 100’ long trench = 300 ft^2 = 3’ wide trench x 100 ft
- Trenches installed level, max. trench length 100’

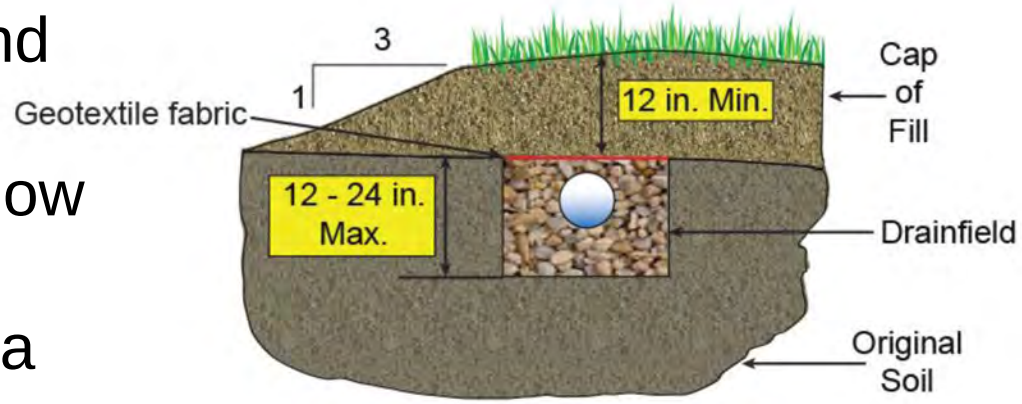


Gravelless Drainfield (EZ Flow and Dome Chambers)

- 25% size reduction compared to drainrock system
- **Follow the contour of the land**
- Reduction does not apply in 6’ wide trenches, beds, or steep slope systems
- Previously sized at 40% reduction
- Reduction does not apply to steep slope, 6’ wide trenches, absorption beds

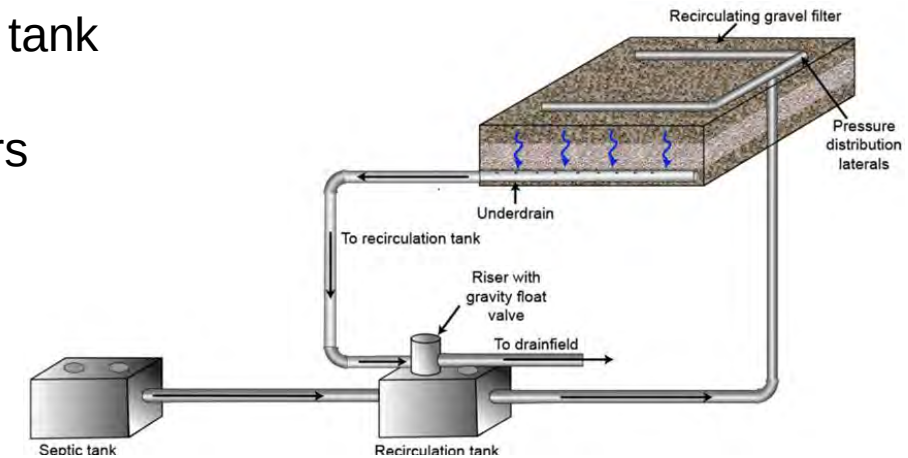
Capping Fill

- Drainfield 3-12” deep and capped with topsoil
- Used in areas with shallow soil depth
- Footprint is bigger than a standard drainfield
- Pump may be required



Pre-treatment Systems

- Provide additional treatment between septic tank and drainfield
- Allow for reduced separation to limiting layers (groundwater, etc)
- Do <u>not</u> reduce setbacks to surface water
- Engineered or packaged systems
- Operation & Maintenance Required



Effective Soil Depth

Limiting Layer	Soil Group A	Soil Group B	Soil Group C
Impermeable Layer	2	2	2
Fractured Rock or Very Porous Layer	1	1	1
Normal High Ground Water	1	1	1
Seasonal High Ground Water	1	1	1

Advantex ETPS Unit

Intermittent sand filter

Proprietary Wastewater Treatment Products

Presby AES

- New TGM section for “Black Box” technologies that provide treatment *and* disposal
- Allow for same reduction in effective soil depth as pre-treatment (Table 4-21)
- Use pre-treatment loading rates (Table 4-22)
- Combination of proprietary product and sand provide additional treatment and storage
- Do <u>not</u> reduce surface water setbacks

Infiltrator ATL

Eljen GSF

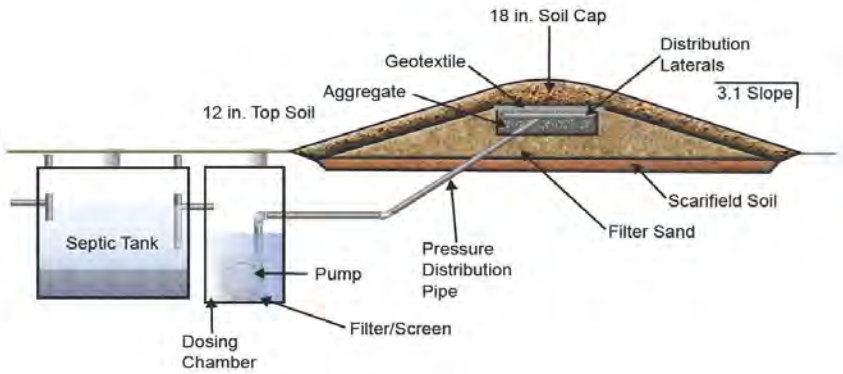
Oscar LowE Flow

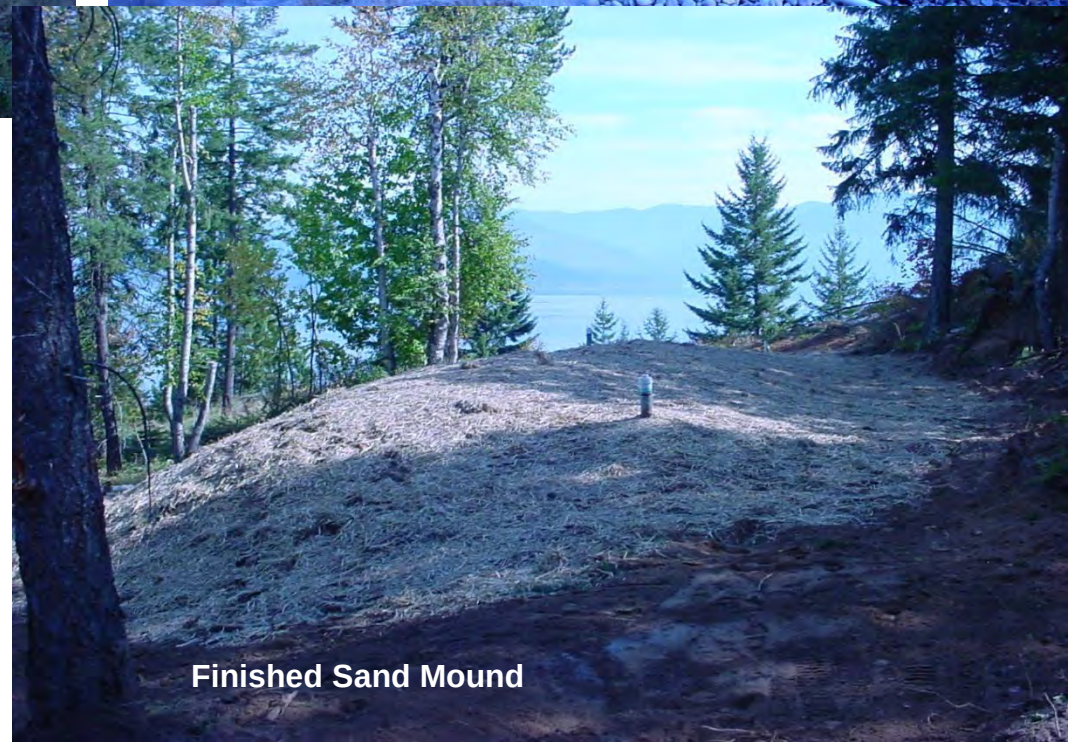
Sand Mounds

Bringing in the sand and creating the mound

Pressure Testing the system prior to cover

Sand Mounds elevate drainfields above limiting layers such as groundwater and bedrock.





Finished Sand Mound

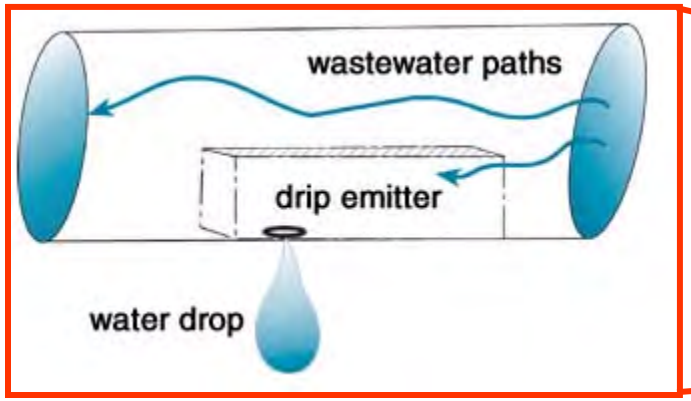
Drip Distribution System

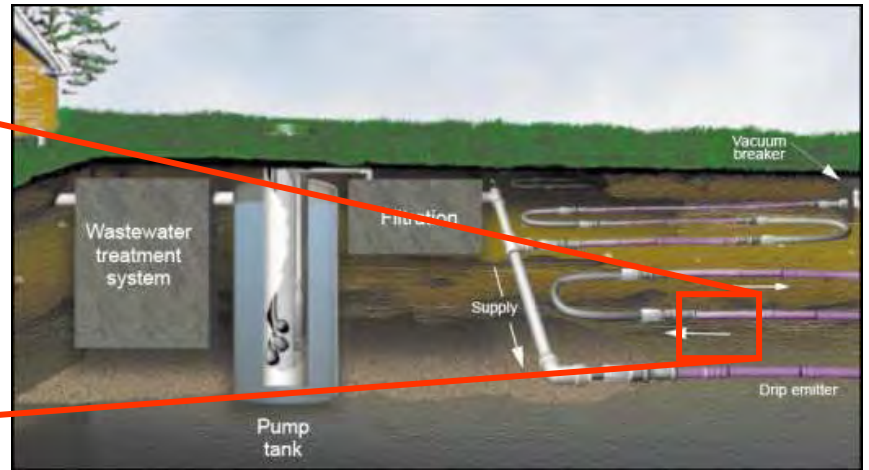
Conditions of Approval:

1. Must meet all required setbacks
2. Engineering required
3. Does not decrease surface water setbacks
4. Can be installed up to 45% slope

Benefits of Drip Systems:

- Less overall soil depth required
- Takes up less area
- Effluent applied directly to root zone, providing better treatment





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Keith Pitsch | Sales Manager, Loan Depot

PHD

Septic Permit

Processes

PHD Septic Fees (Mar. 2019)

New Septic Permit

Intended use known (proposed structures/bedrooms)
Septic system installation to serve new use
$950 fee
Can be renewed for $100

Repair Permit

Used to repair a failed 'legal system' (existing septic permit or verified vested right)
$300 fee

Central / LSAS Permit

Multiple dwellings
$150 review fee
$2.50 per gallon/day fee (based on design flow above 2500 gpd)

Speculative Site Evaluation

Used for Site Information Only & General Planning – good information before you buy!
Not a Permit.
$400 fee can be applied towards permit fees if applied for within one year from issue

Expansion Permit

Used to expand an existing system (bedroom addition, increase in flows etc)
$400 fee

Septic Tank, Vault Privy, Pit Privy, Grey Water Sump, Incinerator Toilet,

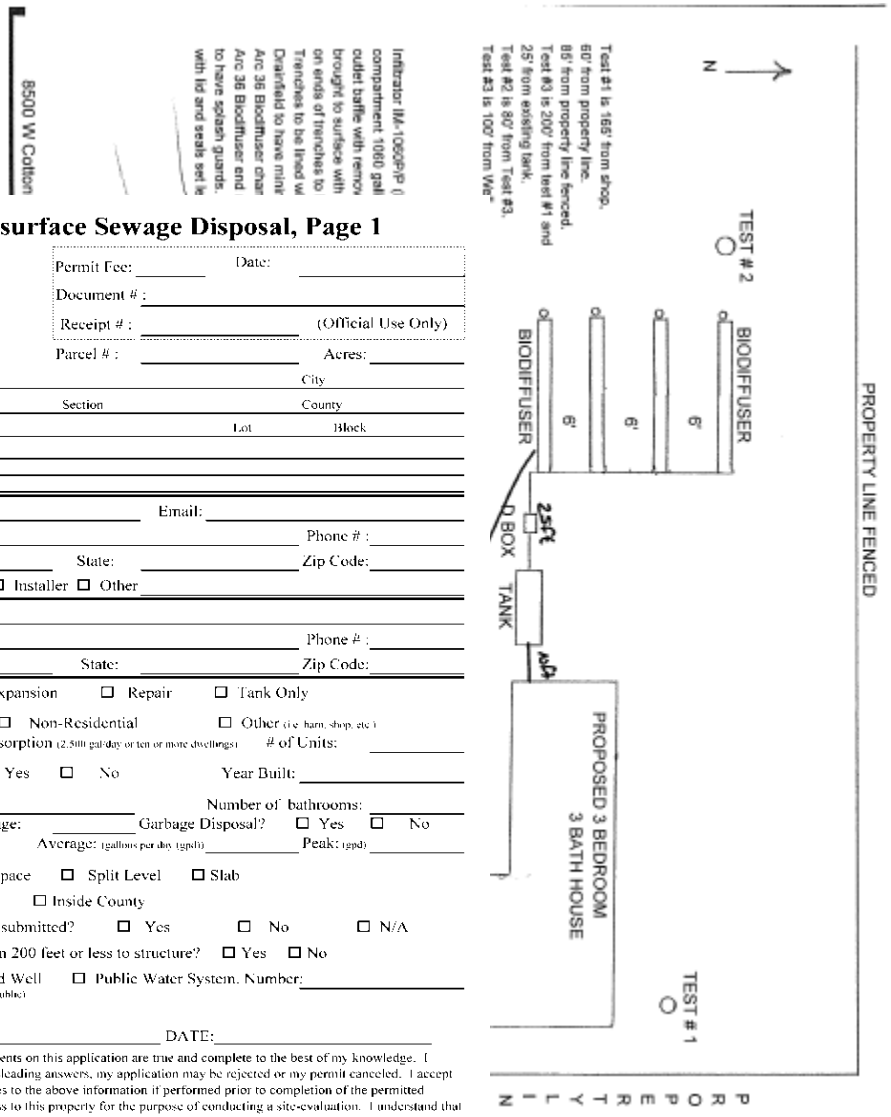
Composting Toilet Permit:

Tanks used to connect to an existing drainfield (community system or individual)
Tanks used to replace damaged or failing tanks
Privys, Incinerator Toilets, Grey Water Sumps, Composting Toilets
$250 fee

PHD Application

Applicant Must Submit a <u>Completed Application &</u> Detailed <u>Plot Plan</u> Showing:

- ✓ **Proposed drainfield location(s)**
- ✓ **All features of concern: creeks, ditches, wells, cutbanks, scarps, property lines etc….**
- ✓ **Proposed Use: # of structures, # of bedrooms, type of use, etc.**
- ✓ **<u>Good Directions</u>**



APPLICATION-Subsurface Sewage Disposal, Page 1

Public Health
Idaho Public Health Districts

Permit Fee: _____ Date: _____
Document # : _____
Receipt # : _____ (Official Use Only)
Parcel # : _____ Acres: _____

Property Address (If available): _____ City _____
Legal Description: Township _____ Range _____ Section _____ County _____
Subdivision: _____ Lot _____ Block _____
Directions (nearest crossroad): _____

Applicants Name: _____ Email: _____
Mailing Address: _____ Phone # : _____
City : _____ State: _____ Zip Code: _____
Applicant is : ☐ Landowner ☐ Contractor ☐ Installer ☐ Other _____

Owners Name : _____
Mailing Address : _____ Phone # : _____
City : _____ State: _____ Zip Code: _____

Type of Septic Installation : ☐ New ☐ Expansion ☐ Repair ☐ Tank Only

Proposed Usage : ☐ Residential ☐ Non-Residential ☐ Other (i.e. barn, shop, etc.)
☐ Central (more than two dwellings) ☐ Large Soil Absorption (2,500 gal/day or ten or more dwellings) # of Units: _____

Is there an existing structure on this parcel? ☐ Yes ☐ No Year Built: _____

Number of Bedrooms: (residential only) _____ Number of bathrooms: _____
Number of People: _____ Square Footage: _____ Garbage Disposal? ☐ Yes ☐ No
Non-Residential Flow Design: Average: (gallons per day (gpd)) _____ Peak: (gpd) _____

Foundation Type : ☐ Basement ☐ Crawl Space ☐ Split Level ☐ Slab

Property is located : ☐ Inside City ☐ Inside County

Zoning certificate or other county documentation submitted? ☐ Yes ☐ No ☐ N/A

City sewer or central wastewater collection system 200 feet or less to structure? ☐ Yes ☐ No

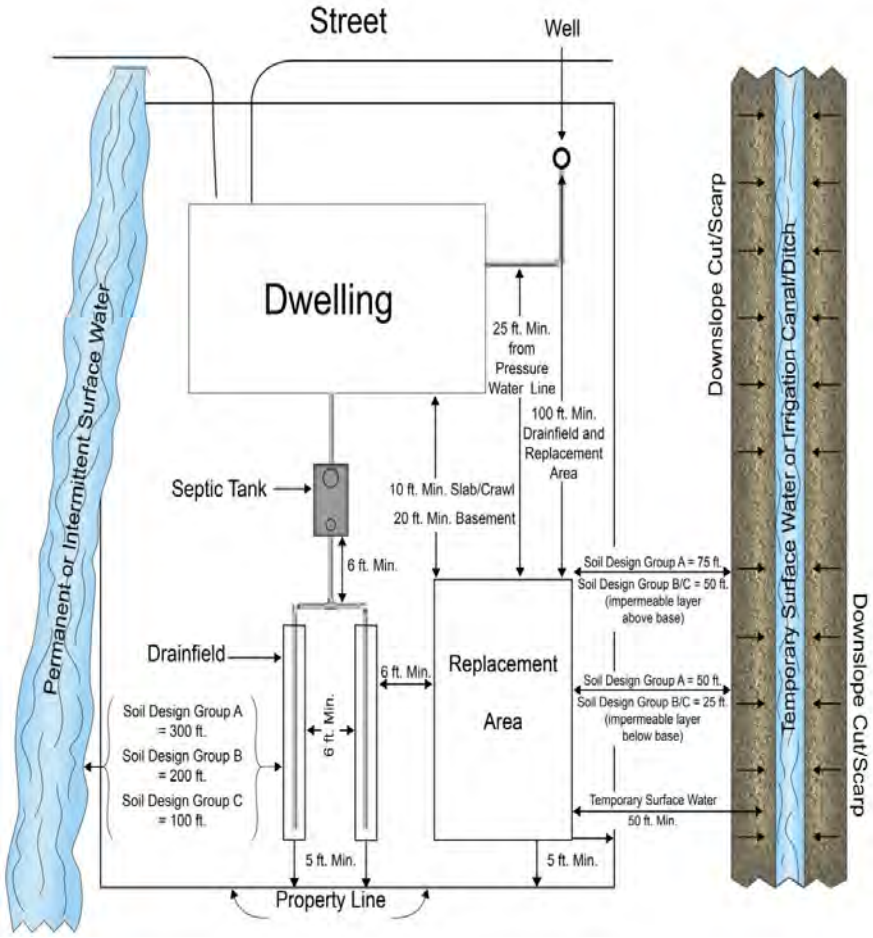
Water Supply : ☐ Private Well ☐ Shared Well (Non-Public) ☐ Public Water System. Number: _____

SIGNATURE: _____ DATE: _____

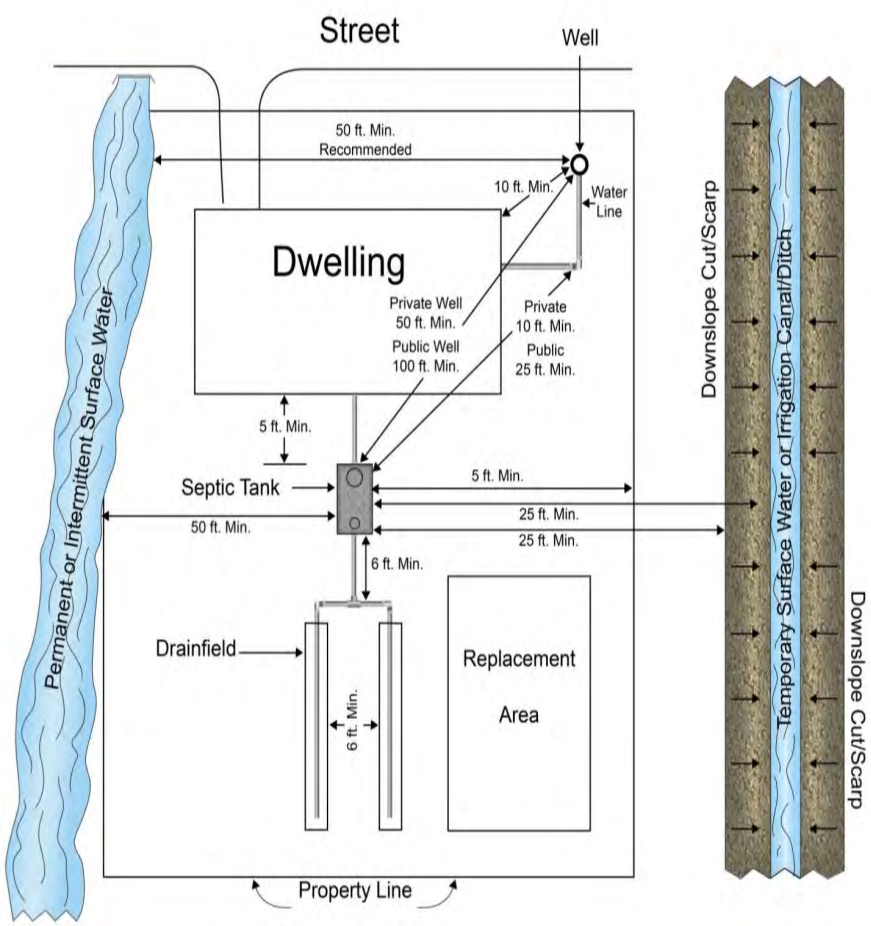
By my signature above, I certify that all answers and statements on this application are true and complete to the best of my knowledge. I understand that should evaluation disclose untruthful or misleading answers, my application may be rejected or my permit canceled. I accept the responsibility to notify the Health District of any changes to the above information if performed prior to completion of the permitted system. I hereby authorize the Health District to have access to this property for the purpose of conducting a site-evaluation. I understand that this application and the subsequent permit is non-transferable between property owners and/or project sites. I understand that the application will expire one (1) year from date of purchase. The permit, when issued, may be renewed if the renewal is applied for on or before the expiration date.

Revision Date: 06/22/2010 Page 1

Required Setbacks for Septic Permits in Idaho



Drainfield Setbacks



Septic Tank Setbacks

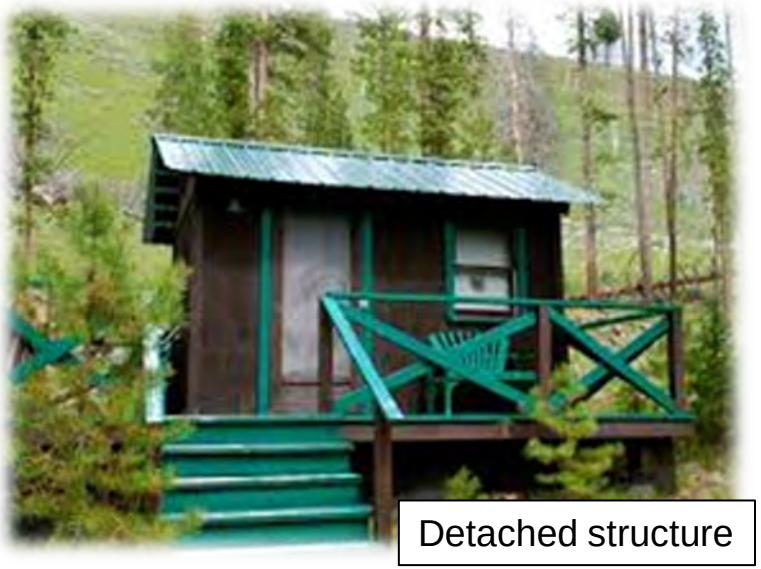
Bedroom Sizing:

- Privacy for the occupant
- Primarily used for sleeping
- Two (2) or more methods of ingress/egress
- Local building department may designate any additional room as a bedroom (i.e. loft)
- Plan ahead for future expansion

What *is* a bedroom?

Detached Structures:

- Add flow to property even if structure is dry
- Design flow based on classification
- Could be classified as dwellings
- May not be possible in all areas (aquifer, community system, etc)



Detached structure

Potential Requirements in the Permitting Process:

- ❑ Survey to locate property lines
- ❑ Staking of the proposed Primary and Replacement drainfields on tight sites
- ❑ Multiple site visits
- ❑ Easements: Prepared by an Attorney, monumented, surveyed, recorded
- ❑ Updated Plot Plan
- ❑ Engineered Designs
- ❑ Ground water or surface water monitoring –conducted through the next spring season.

Plan Ahead!

Septic Permit Example

PERMIT-Subsurface Sewage Disposal

Public Health
Idaho Public Health Districts

Panhandle Health District
8500 N. ATLAS
HAYDEN, ID 83835
(208) 415-5200

Permit # : 16-28-134262
Date : 07/19/2017
Parcel # : 049000040060
Doc ID # :

Applicant's Name: EDWARDS SMITH CONSTRUCTION LLC
Owners Name: BSCR LIVING TRUST
Property Address: 8166 W CANOE LP , COEUR D ALENE, ID 83814

Legal Description		Township 48N	Range 04W	Section 18
Subdivision:	LENZ LAKEWOOD PARK, LT 6 BK 4	Lot 06	Block 04	Size(acres): 0.263

Type of Installation	Type of System (check all that apply)			Water Supply
X New System	☐ Absorption Bed	☐ Gravelless Drainfield	☐ Pressurized DF	
☐ Expansion	☐ Capping Fill	☐ Gray Water Sump	☐ Pump/Gravity	☐ Private
☐ Repair	☐ Central System	☐ Gray Water System	☐ Recirculating GF	X Shared
☐ Tank Only	☐ Composting Toilet	☐ Holding Tank	☐ RV Dump Station	☐ Public
	X Drip Distribution	☐ Incinerator Toilet	☐ Sand Mound	
	☐ ETPS	☐ Individual Lagoon	☐ Seepage Pit	Water Source
	☐ Experimental	☐ Intermittent SF	X Steep Slope Drainfield	
☐ Basic System	☐ Extra Drainrock	☐ Intrench SF	☐ Two Cell Lagoon	
X Complex System	☐ Evapotranspiration	☐ LSAS	☐ Vault Privy	X Well
	☐ Gravel Drainfield	☐ Pit Privy	☐ Other (see below)	☐ Spring

Condition of Approval:

This permit is for a shared steep slope drip distribution system within the easement on lot 6, block 3 of Lenz Lakewood Park to service a 4 bedroom residence on lot 5, block 4; the existing two bedroom residence on lot 6, block 4; and a proposed 3 bedroom residence on lot 5, block 4. Septic system must be installed as shown on the approved engineered plans dated 6/12/2017 (see attached). Complete and accurate record drawings and specifications depicting the actual construction must be submitted to this office within thirty (30) days after the completion of the construction. Alternately, if the construction was conducted in compliance with the approved plans and specifications, a statement to that effect may be submitted. The drip field must be installed to a depth of 6 to 18 inches with a final cover of 12 inches. This system is designed without pre-treatment and must contain a 100-115 micron filter prior to the drip field. A recorded copy of the record of survey for the easement must be submitted to this office prior to final approval. Water Service lines must be double encased if located within 25 feet of a drainfield. Sewer lines/ effluent lines must be double encased under roadways. No parking, driving, structures or livestock over the drainfield or replacement area. Manufacturer's recommendations must be followed on all components.
Unless otherwise stated within this permit, all requirements of IDAPA 58.01.03 shall be met on system installation.
Per IDAPA 41.01.01.100.05.b.- A drainfield that is installed, inspected and approved shall be valid to be connected to under the conditions of the original permit for which it was issued, for five (5) years from the date of permit application, provided that the site and its surroundings are not substantially modified.

Single Family Dwelling			4,3, Bedrooms
Design Flow			750 Gallons Per Day
Soil Type (USDA)	B-2	Loading Rate 0.45	Adjusted Loading Rate
The minimum septic tank capacity is:			2900 Gallons
The minimum effective drainfield absorption area is:			1667 Square Feet
The drainfield can be no closer to permanent/intermittent surface water than:			200 Feet

Note: (Final approval of this permit requires inspection of the uncovered system.)

All plans, specifications, and conditions contained in the approved permit application are hereby incorporated into, and are enforceable as part of the permit. The permit will expire one (1) year from date of issuance. The permit may be renewed if the renewal is applied for on or before the expiration date.

EHS Signature

JASON PEPPIN
EHS

07/19/2017
Date

Issue Date
*Permit expires one year from issue date.

Type of Installation

Type of System

Permit Conditions

Approved use

Soil Type

Septic Tank Size

Drainfield Size

Surface Water Setback

Septic Permit Search

www.phd1.idaho.gov

http://www2.phd1.idaho.gov/septic2007/search.html

Miscellaneous Information

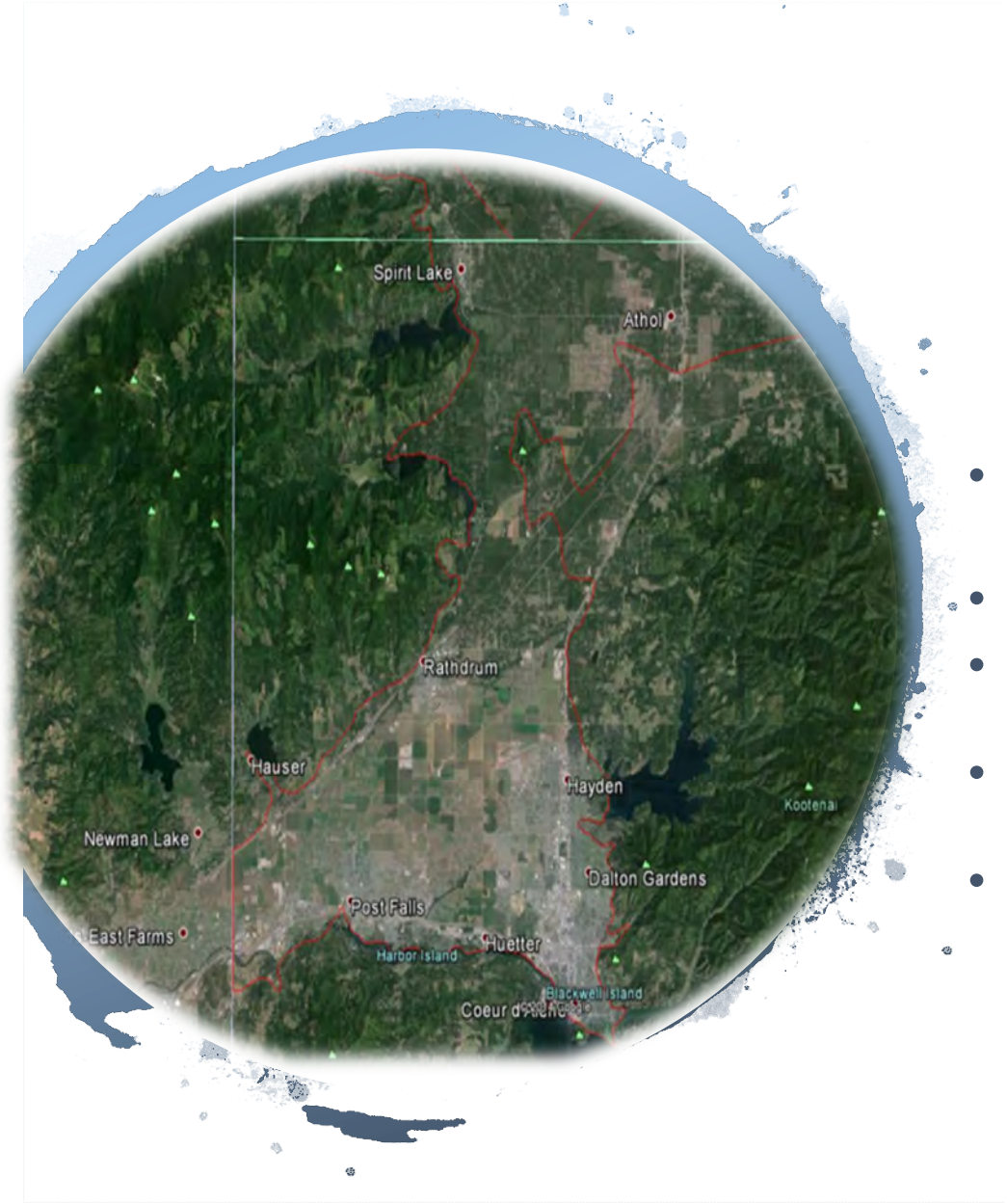
Vested Rights

- Structures with on-site sewage disposal systems installed prior to 1973 have a vested right for the *original use*
- Assessors Records used to establish use (age of structure, #of bedrooms)
- Any septic system installed without a permit after 1973 = illegal system
- Site must meet standards to add bedrooms
- Replacement area and setbacks preserved to increase size

Abandoned Systems

A system is considered abandoned if it has not received wastewater flow for TWO YEARS OR MORE.

- New structure requires connection to a permitted system that meets current standards
- Site must meet standards for a new permit to be possible



Septic Systems over the Aquifer

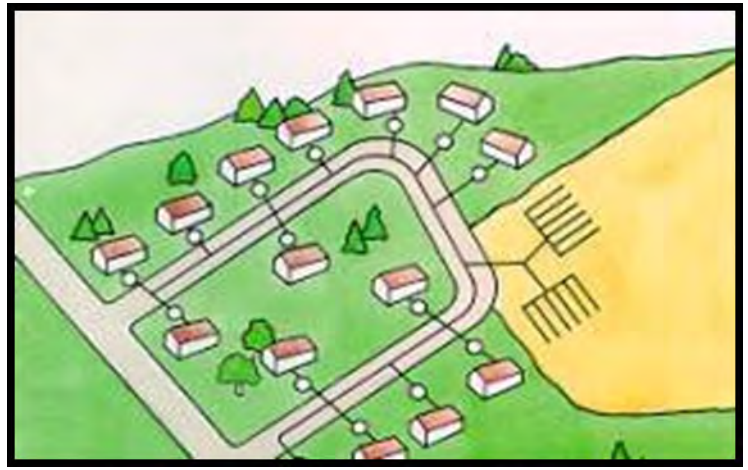
- “5 Acre Rule” limits one residence / 5 acres.
- Accessory Living Units Not Allowed
- Applies to all parcels created after 1977.
- Commercial use limited to 250 gallons per day/5acres.
- Test holes now required on aquifer parcels.

Easements

- Required for any septic components on a separate parcel
- Protection for both property owners
- Run with the property
- Drafted by an attorney, surveyed, monumented, recorded
- Recorded easement before permit issued
- Record of survey before final approval

Shared and Central systems

- Every connection based on specific use
- Make sure system will allow what your client wants to build (# of bedrooms, ALU, etc)
- Tank only permit and will serve letter may be required
- Good information to know:
  - Where is the system?
  - How many bedrooms per connection?
  - Who Maintains the system?
  - Any specific requirements? (easements, etc)



Land Development:

1) Testholes and site evaluations conducted for Land Development are **not an "Approval"** for a Septic Permit.

1) Lifting Sanitary Restrictions for a Plat **does not guarantee that a lot will be buildable.**

1) Site Conditions and/or Rules or Guidance *may have changed* from the time when PHD assessed the land for the Land Development/Platting process to the time someone applies for a Septic Permit.

1) PHD cannot determine if a site is ***currently*** suitable for septic unless a Speculative Site Evaluation (information only, not a permit) or a Septic Permit is applied for, and all requisite steps, including field work, are complete.
2) The Septic Permit process is the only way to determine if a site is suitable for a specific use.

***Tip – Don't assume that old information or word-of-mouth information guarantee's PHD will issue a Septic Permit today.**

Dry Cabin Scenarios

Blackwater Disposal Options

- Composting Toilet (4.4)
- Sealed Vault Privy (4.29)
- Pit Privy (4.17)
- No Water Under Pressure, no plumbing

Graywater Disposal Options

- Gray water System (4.13)
  - Does *not* include toilets, kitchen sinks, dishwashers, washing machines, water softeners.
  - Require approval from Plumbing Bureau
  - Still require connection to approved system/sewer
- Gray Water Sump (4.12)
  - Hand Carried Wastewater only
  - Limited to 10 gpd
  - Seasonal dwellings, camp sites

Kootenai County LOC Permits

LOC Permits
Do Not Require a Review/Sign-Off by Panhandle Health District
to verify Septic Suitability of the Site.

- **It is the Responsibility of the Landowner to ensure their proposed structure will not compromise their Septic System or future Replacement Drainfield area.**

- **It is the Responsibility of the Landowner to ensure that a parcel can support septic, if they intend on building a wastewater-generating structure. And this should be done Prior to Contruction of a wastewater generating structure.**

- **All Wastewater (greywater, blackwater etc) in Idaho must have an approved disposal method.**

- **A Landowner should contact PHD if they are unsure whether their proposed structure will compromise their septic system or impact their compliance with State Sewage Rules.**
- **Idaho Rules for Individual/Subsurface sewage disposal apply regardless of county requirements**

It is Wise to Plan for basic Sanitary Services Prior to Construction!
Proper Planning Can Prevent Problems!!!

Commercial/Industrial Wastewater Flows

Commercial/industrial wastewater must meet clarified domestic wastewater characteristics as described in the TGM prior to discharge to the drainfield.

Establishing the nature and quantity of the wastewater is the responsibility of the property owner.

The property owner or their representative will submit the estimated flows in writing in support of the permit application.

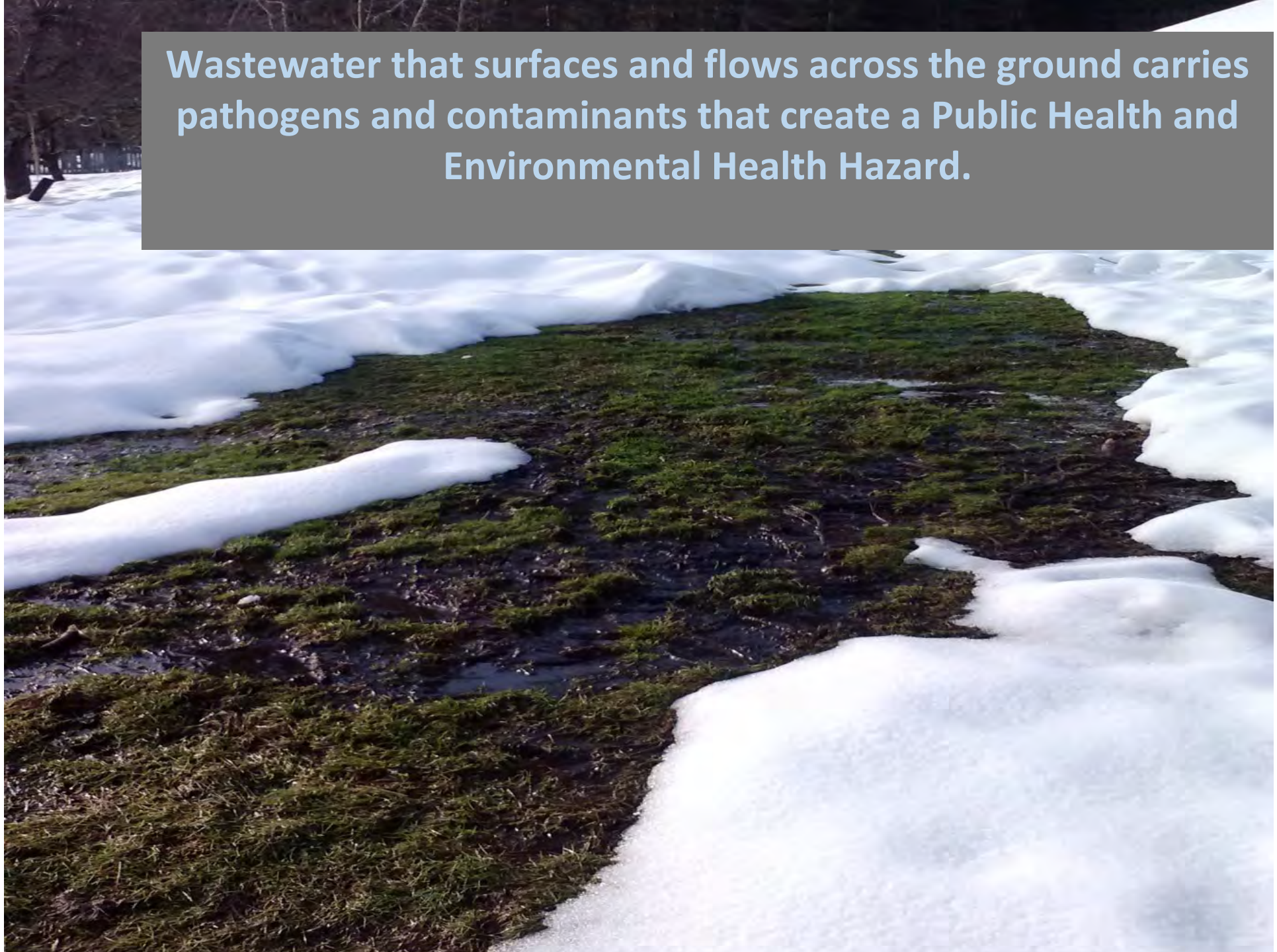
What Happens When Things Go Wrong???

Failed Systems

- **<u>Step #1:</u> Apply for a Repair Permit from PHD prior to any work**
- **<u>Step #2:</u> Site Suitability & Evaluation process with test holes**

<u>Failing System</u>. Any system which exhibits one (1) or more of the following characteristics:

1) **The system does not meet the intent of these regulations as stated in Subsection 004.01.**
2) **The system fails to accept blackwaste and wastewater.**
3) **The system discharges blackwaste or wastewater into the waters of the State of Idaho or onto the ground surface.**



Wastewater that surfaces and flows across the ground carries pathogens and contaminants that create a Public Health and Environmental Health Hazard.

Failed Old Systems

- Notice Black material that has formed
- Bio-mat that prevents effluent from moving down through soils after 15 to 20 years of use (depending on soil classification & usage)

The drainfield is saturated and cannot accept wastewater.
A hose & pump
are being used to
<u>discharge untreated wastewater from the septic tank directly into the wetland/creek.</u>
This is a Violation of IDAPA 58.01.03.

<u>System has Failed. Repair Permit Required.</u>

CLOSE TO HOME

BY JOHN McPHERSON

In Summary…

In Idaho, there are properties with:

- **Permitted systems (legal)**
- **Unpermitted systems (illegal)**
- **Vested systems (pre-73, with verification)**

Septic Permits are required from 1973 to present

- **There are valuable pieces of information that one should consider, *prior* to buying or selling a parcel of land……..**

- **North Idaho draws many people who have never lived with a Well as their drinking water source; nor a Septic System for handling their Wastewater Disposal.**

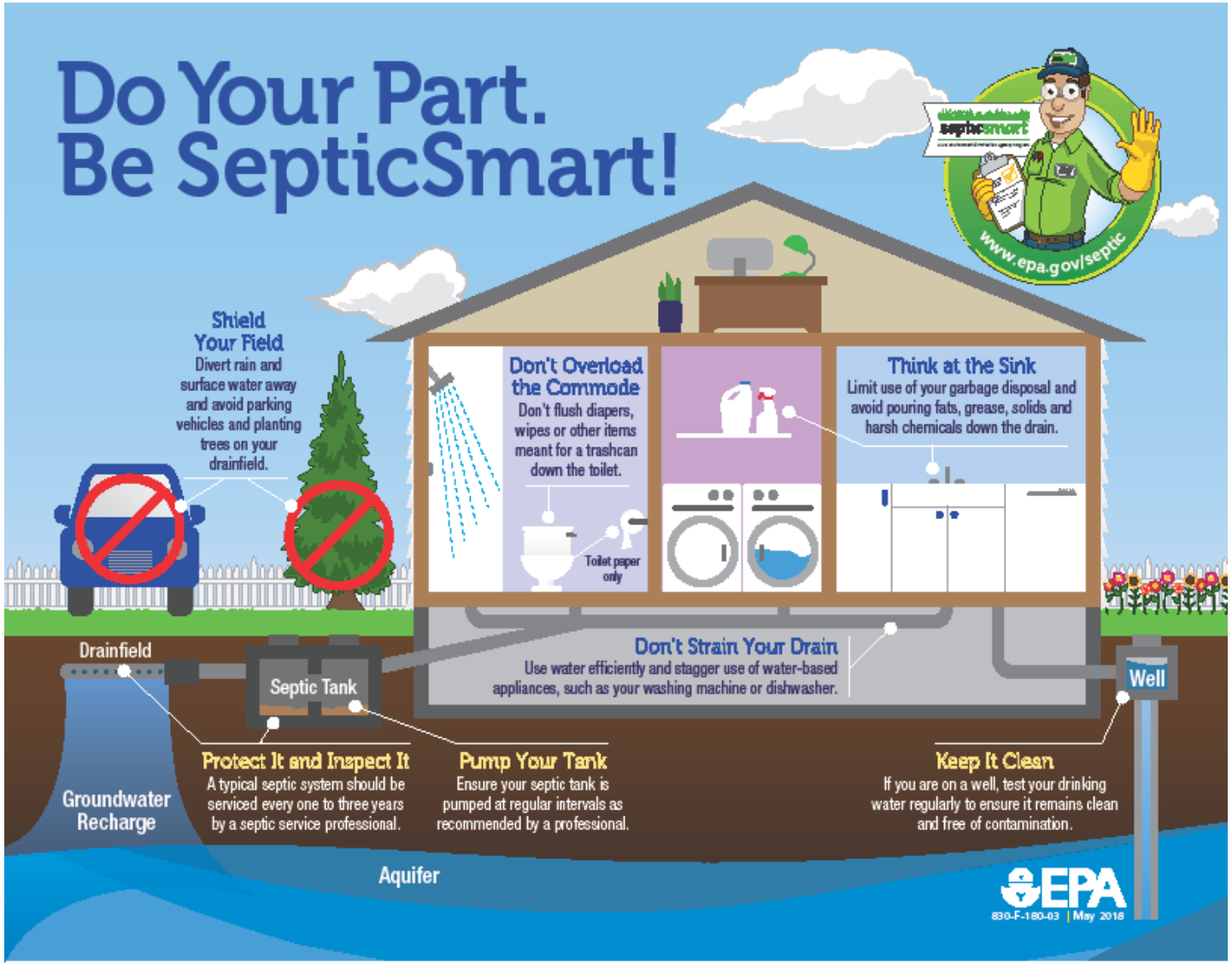
- **These people count on local professionals to help them obtain accurate information.**

Important Things to Know:

- What is a Septic System & how does it work?
- Where is the Septic System located
- When was the Tank last pumped?
- Is the Septic System legal/permitted for current and planned use?
- Does the tank have a pump to maintain?
- Is the Septic System an Alternative System requiring operation and maintenance?
- Is the tank connected to a community system, municipal system, shared drainfield, or a drainfield located in an easement?
- What & Where is the water source (well, spring, surface water…)?
- Has the water been tested (Coliform bacteria, nitrates, arsenic, lead…)?

Drainfelds & Replacement areas must be protected at all times!

- No driving or parking
- No patios
- No structures
- No wells drilled within 100ft
- No downslope cutbanks/scarps
- No trees, pools, ponds


Do Your Part.
Be SepticSmart!
www.epa.gov/septic
Shield Your Field
Divert rain and surface water away and avoid parking vehicles and planting trees on your drainfield.
Don't Overload the Commode
Don't flush diapers, wipes or other items meant for a trashcan down the toilet.
Toilet paper only
Think at the Sink
Limit use of your garbage disposal and avoid pouring fats, grease, solids and harsh chemicals down the drain.
Don't Strain Your Drain
Use water efficiently and stagger use of water-based appliances, such as your washing machine or dishwasher.
Drainfield
Septic Tank
Well
Groundwater Recharge
Protect It and Inspect It
A typical septic system should be serviced every one to three years by a septic service professional.
Pump Your Tank
Ensure your septic tank is pumped at regular intervals as recommended by a professional.
Keep It Clean
If you are on a well, test your drinking water regularly to ensure it remains clean and free of contamination.
Aquifer
EPA
830-F-180-03 | May 2018