

Grease Traps and Interceptors: Matters of Design, Installation and Maintenance




March 14th, 2016 29TH ANNUAL GSDI SPRING
SEPTIC SYSTEM CONFERENCE & EXPO

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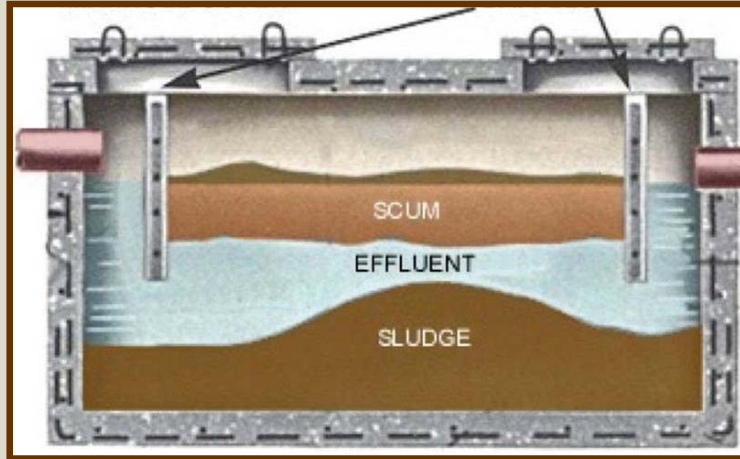


FATS	OILS	GREASE
<i>Solid at room temperature</i>	<i>Liquid at room temperature</i>	<i>Turns to liquid during cooking, but solidifies when cooled</i>
Butter, shortening, margarine Peanut butter Meat trimmings Uncooked poultry skin Dairy: Cheeses, milk, cream, sour cream, Ice cream	Vegetable oil Canola oil Olive oil Corn oil Salad dressings Cooking oils	Gravy Mayonnaise Melted meat fat Bacon and sausage Boiled poultry skin Salad dressing

FOG in Wastewater Systems

Interference	Pass-through
	

FOG in Septic Systems



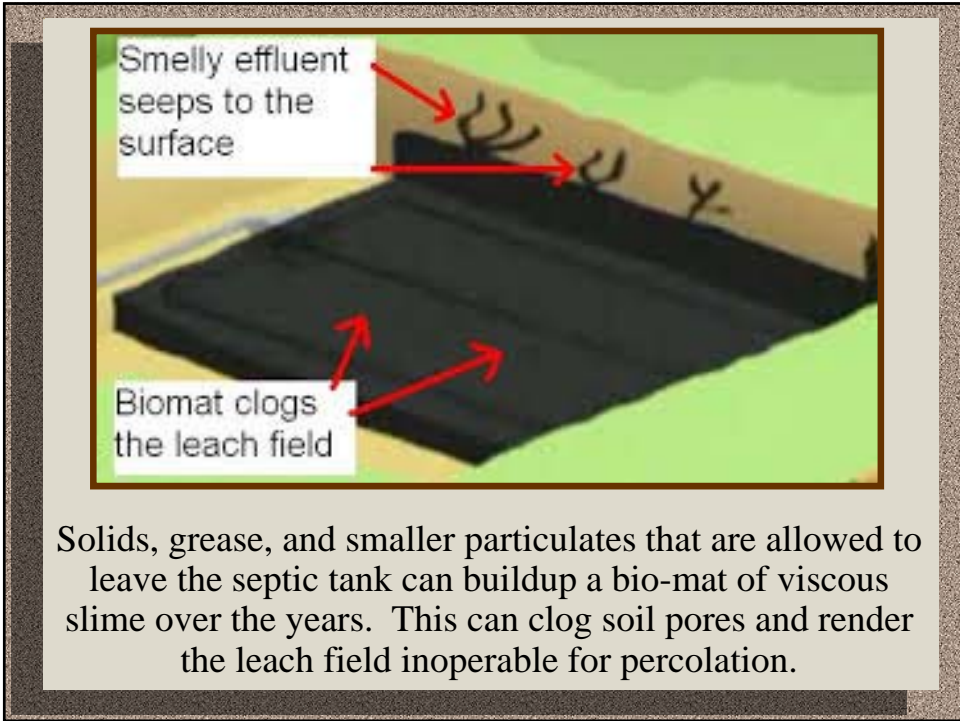
Fats can form a mass at the top of the septic tank and interfere with the biological activities taking place.



Grease Trap Removes

- 50-60% of oil and grease
- 50-80% of BOD and TSS





Solids, grease, and smaller particulates that are allowed to leave the septic tank can buildup a bio-mat of viscous slime over the years. This can clog soil pores and render the leach field inoperable for percolation.



Grease clogged drainfields make it impossible for soil to absorb and treat liquids. May require a new drainfield.

The Solution Required by Law

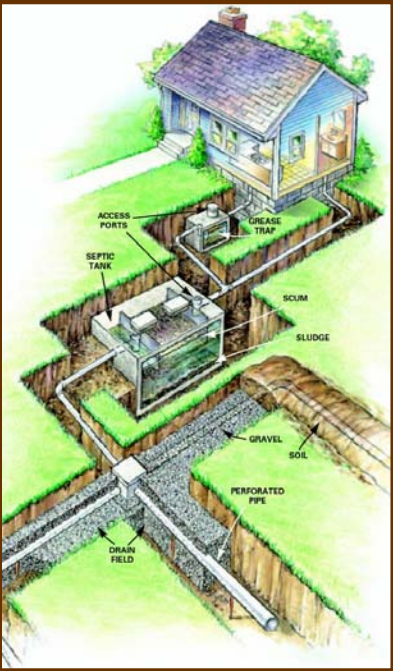


Grease Interceptor OR Grease Trap

Regulations

- International Plumbing Code for NH
- If on Septic System
 - NH - Env-Wq 1000 Rules
- Local Sewer Use Ordinance - Sewer







**NH DES –
Subsurface Rules**

- ENV-Wq1000 –
Subdivision and Individual
Sewage Disposal Systems
Design (ISDS)

Applies when not
on a public system




NH DES – Subsurface Rules

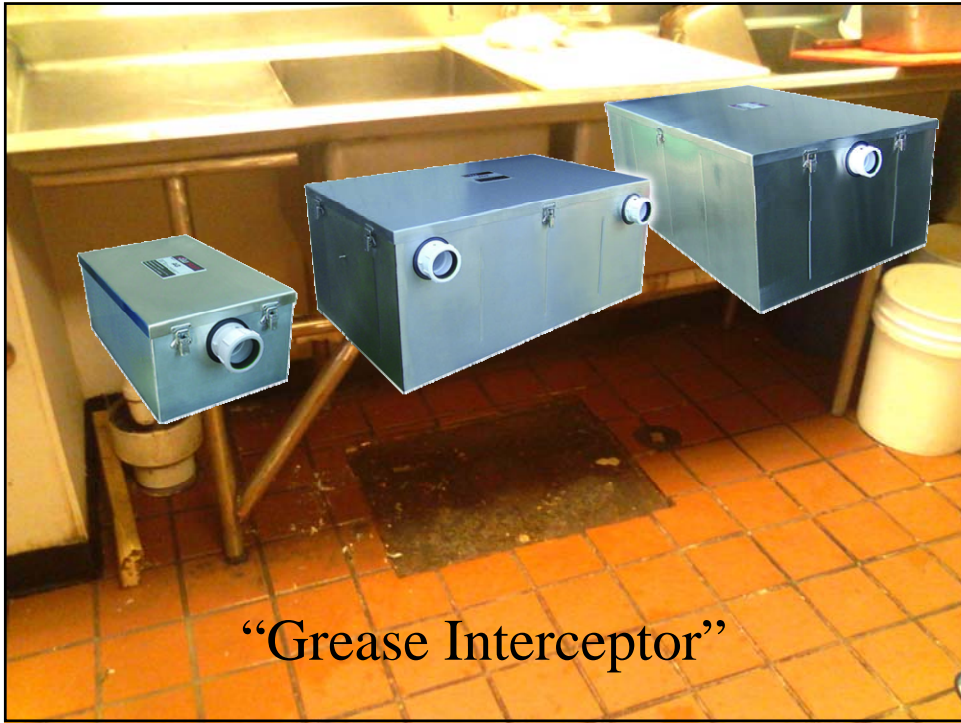


Grease Trap Definition

- A tank or series of tanks into
which wastewater that contains
grease is discharged, where
grease floats to the water’s
surface and is retained while
water below is discharged.

Note: Not consistent with State Plumbing Code
“Grease Interceptor”





“Grease Interceptor”



NH DES – Subsurface Rules

Env-Wq 1012 GREASE TRAPS ...

- Env-Wq 1012.01 Grease Traps Required. A grease trap shall be used in the ISDS serving:
 - (a) Any commercial facility in which any food handling and preparation occurs; and
 - (b) Any dwelling where food handling and preparation is undertaken for any business purpose.



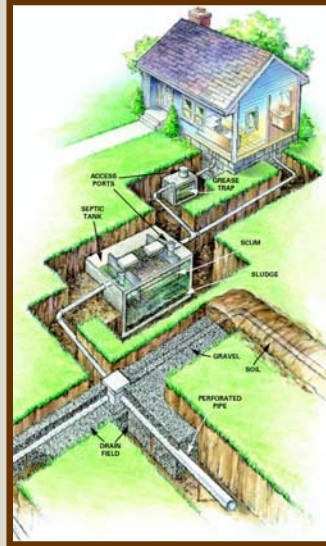
NH DES –Subsurface Rules

Env-Wq 1012.02 Grease Trap Size.

- The grease trap size shall be based on a minimum hydraulic detention time of **36 hours**; and
- Minimum tank size of **1,000 gallons**.
- The outlet shall be protected with a baffle that extends downward and terminates **6 inches** from the inside bottom of the grease trap.



NH DES – Subsurface Rules



Grease trap is an essential Component of Septic System Design



NH DES – Subsurface Rules

State Performs Review and Inspection



Proposed Grease Trap Rules

- Neighboring States
- ASTM C1613-10
- Plumbing Codes
 - International
 - Uniform
- NPCA
- Inspectors



Proposed Rules

**Env-Wq 1000 Subdivisions;
Individual Sewage Disposal
Systems**



DEADLINE FOR FILING

- **WRITTEN COMMENT:**
Friday, March 25, 2016
(4:00 PM)
- **CONTACT:** Rob Tardif
(Robert.Tardif@des.nh.gov),
CE V, SSB

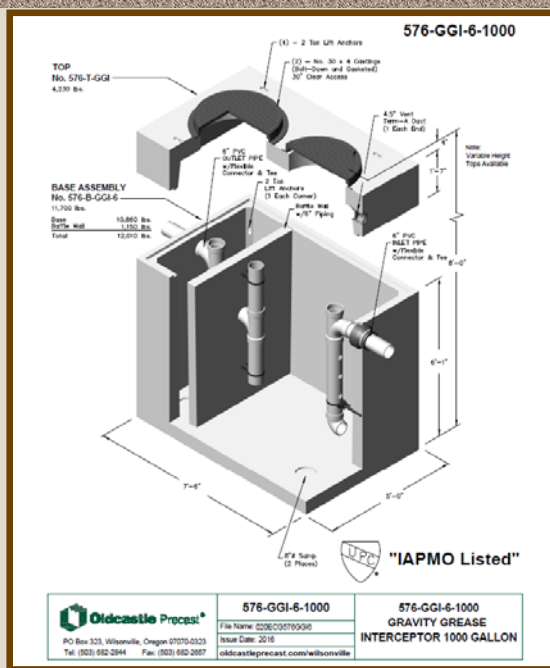
NH DES –Subsurface Rules

Env-Wq 1012.02 Grease Trap Size.

- The grease trap size shall be based on a minimum hydraulic detention time of 36 hours; and
- Minimum tank size of 1,000 gallons.
- The outlet shall be protected with a baffle that extends downward and terminates 6 to 12 inches from the inside bottom of the grease trap.



- 1000 gallon interceptor is approximately 8' x 4' x 4'





Water-tight - Env-Wq 1010.03.

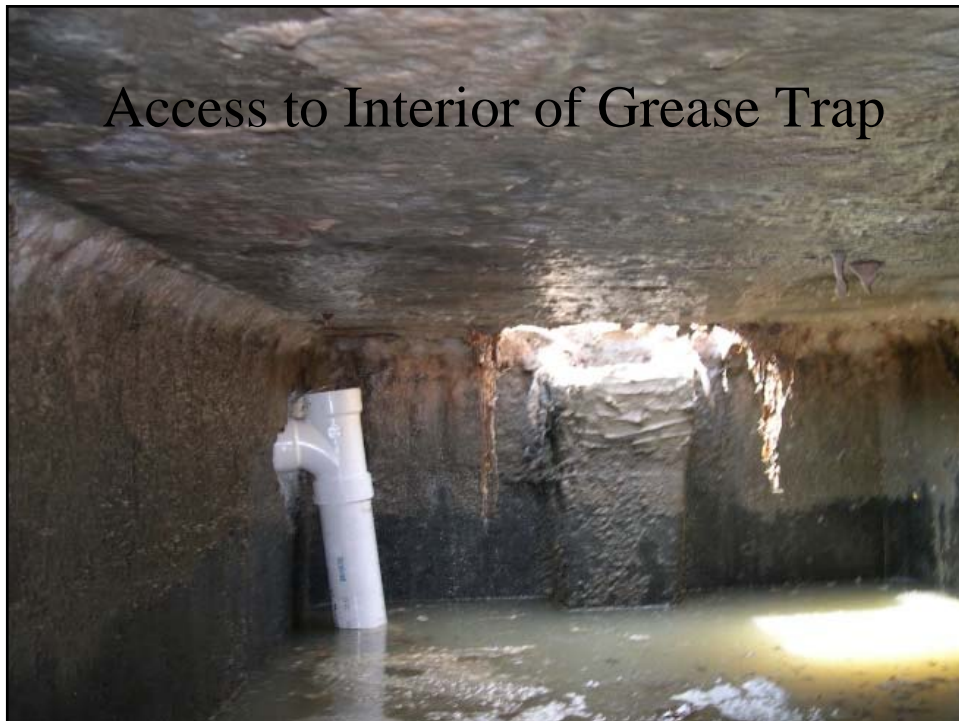
Water-Tightness of Septic Tanks.



Water-Tightness of Septic Tanks.



Access to Interior of Grease Trap



Access to Interior of Grease Trap

- to each compartment
- to each baffle





Access to Interior of Grease Trap

(b) Access by at least one removable cover

- (1) Directly on the grease trap or on a riser
- (2) cover that can't Fall into the grease trap or riser.





Access to Interior of Grease Trap

Cover protected against inadvertent opening

- locking closed
- mechanically fastened
- cast-iron or equal in weight



This 3 year old fell into this grease trap.

Wyatt



Access to Interior of Grease Trap



Bottom of the grease trap shall not be more than 15 feet below the grade of the area where the grease pumping truck will park when the grease trap needs to be pumped out

Access to Interior of Grease Trap

125 feet of the nearest road or driveway.





Backfill and Bedding For Grease Traps



Backfill and Bedding For Grease Traps



Grease Trap Inspection and Pumping



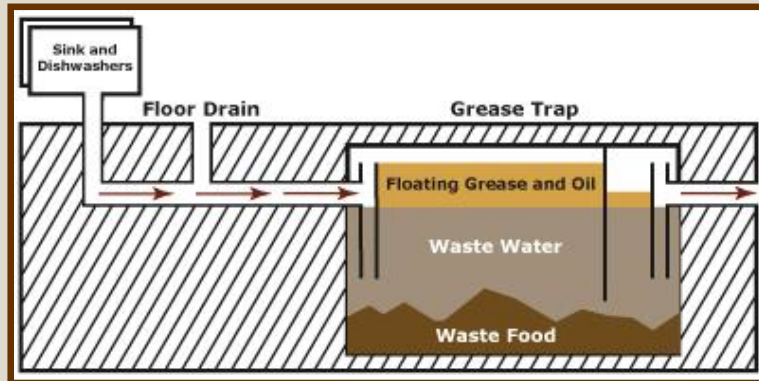
Grease Haulers

Permit
Required

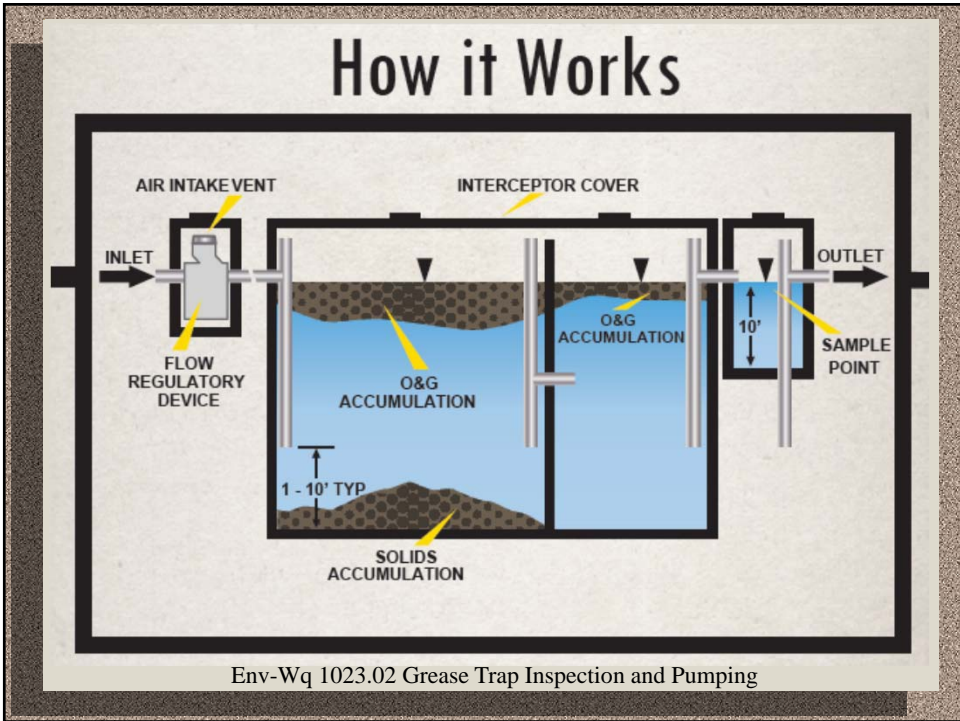




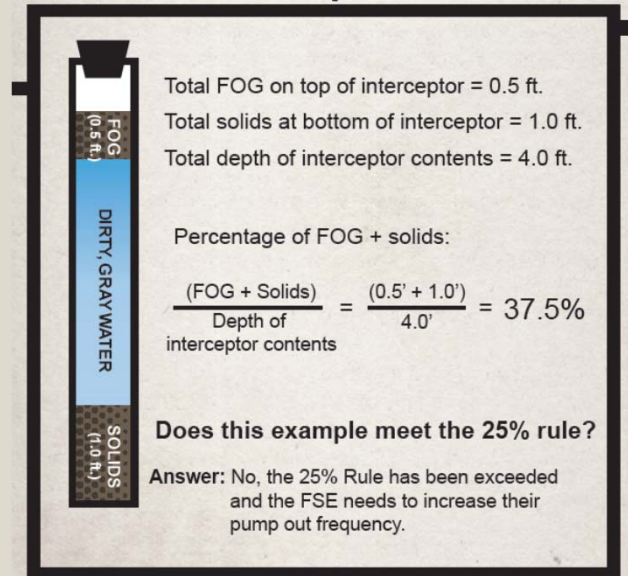
NH DES – Subsurface Rules



Just like the Septic System they must be pumped Regularly to continue to function as designed



Example

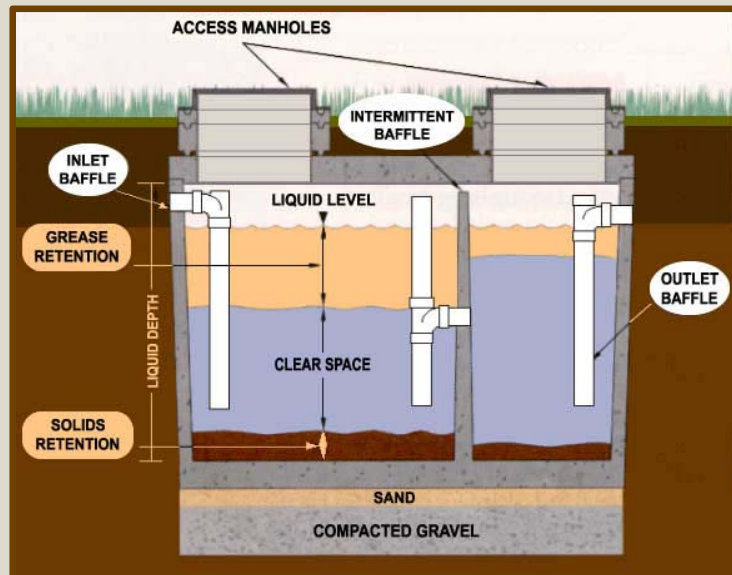


Why 25% ?

- Reduced removal efficiency
- Short circuiting
- Food solids layer will be 1x to 2x the FOG layer
- Unless the FSE cooks/prepares chicken, fish, or rice, then the food layer may be 3x to 4x the FOG layer.
- Thus, some FSEs may need to pump more often than others.



Disposal of Grease - Prohibited



Grease shall not be flushed or otherwise introduced into an ISDS that does not have a grease trap

Proposed Rules

Env-Wq 1000 Subdivisions; Individual Sewage Disposal Systems



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