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THE IMPORTANCE OF
SOLIDS INTERCEPTION

OVERVIEW

1) Impact & effects of food/solids
2) Definition / Purpose of Solids Interceptors
3) Types of Solids Interceptors

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ENVIRONMENTAL IMPACT

The EPA estimates there are over 40,000 sanitary sewer overflows/year. The untreated sewage from these overflows contaminate water and the environment, cause serious water quality issues, property damage and threaten public health.

48% of SSOs caused by sewer main blockages

47% of those blockages are F.O.G. and/or Solids related

5,000 - 17,000 F.O.G. related SSOs / year

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GRATEFUL

Just when you think you have it bad, you research SSOs and find a picture of a man in India unclogging a sewer main with his bare hands.

I LOVE MY JOB!

EFFECTS OF FOOD/SOLIDS ON GREASE INTERCEPTORS

Plumbing Clogs

✓Snaking & Water Jetting

ODOR!

✓Hydrogen Sulfide

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EFFECTS OF FOOD/SOLIDS ON GREASE INTERCEPTORS

Corrosion

✓Replacement of treatment

✓Expensive replacement

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EFFECTS OF FOOD/SOLIDS ON GREASE INTERCEPTORS

Compliance Issues

✓F.O.G. Pass Through

✓B.O.D. – Biochemical Oxygen Demand

- Measure of how much oxygen is required to biologically decompose organic matter in the water.

✓T.S.S

- Total amount of suspended materials

✓pH

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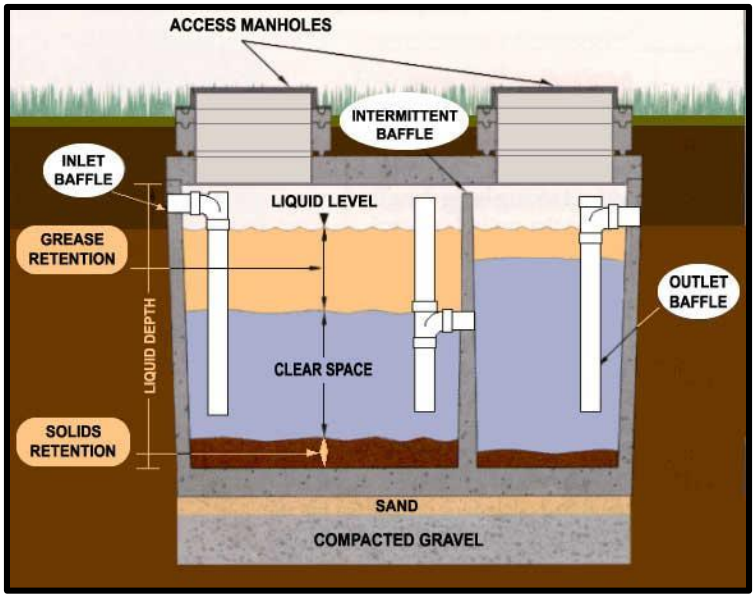
EFFECTS OF FOOD/SOLIDS ON GREASE INTERCEPTORS

Grease Interceptors are not engineered for Solids Loading.

✓25% rule states the FOG and solids content of the device should not be in excess of 25% of the grease interceptor depth. If so, pumping should be done immediately.

✓F.O.G. Pass Through due to high solids load.

✓Increased Pump Frequency & Cost



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THE NEED

Recognition of the problems associated with discharging oil, grease, fats and food solids into sewers can lead to only one conclusion:

If discharging these wastes creates so many problems, the only solution is to avoid putting them down the drain in the first place.

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SOLIDS INTERCEPTOR





Definition:

Device designed to intercept food particles and solids from wastewater stream through a straining, filtering, and/or settlement process.

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FLAT PLATE STRAINER

- **Removable Perforated Flat Plate Strainer Insert**
- **Mostly constructed of Stainless Steel**
- **Inlet on Top, Outlet on bottom of housing**
- **"Point-Source" Installation, above floor**

Pros

- Handles large flow from fixtures
- Fits under most fixtures

VS.

Cons

- Perforated strainer insert does not intercept smaller particales.
- Strainer insert is large and bulky and hard to handle

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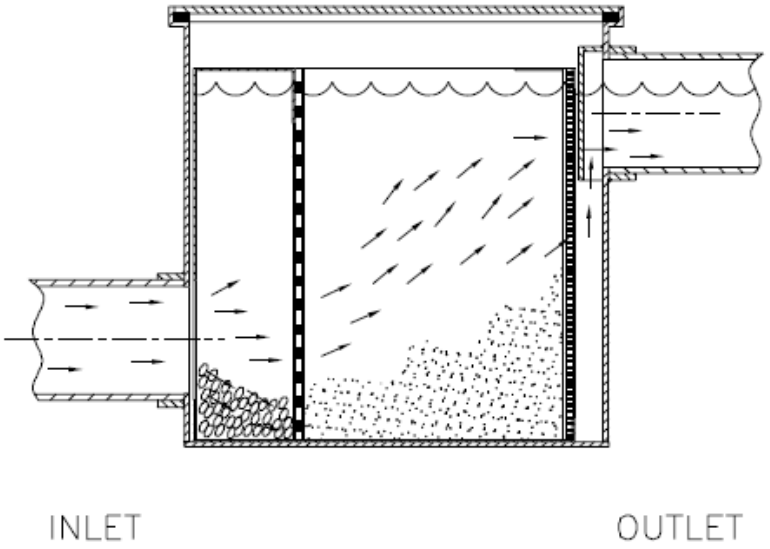
BAFFLE STRAINER

- **Removable Perforated Strainer Baffle Insert**
- **Mostly constructed of Stainless Steel or Cast Iron**
- **Inlet on bottom, Outlet on top of housing**
- **“Point-Source” Installation, above floor or in-floor**



Pros

- Handles large flow from fixtures

VS.

Cons

- Perforated strainer insert does not intercept smaller particales.
- Strainer insert is large and bulky and hard to handle
- Also have to pumped /scooped out

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BASKET STRAINER

- **Removable Perforated/Mesh Strainer Insert**
- **Mostly constructed of Stainless Steel or Molded HDPE**
- **"Point-Source" Installation, above floor or in-floor**

Pros

- Fits under most fixtures
- Strainer Inserts are smaller and easy to clean and handle
- Some basket strainers intercept small particles

VS.

Cons

- Perforated strainer insert does not intercept smaller particles.
- Inserts disappear

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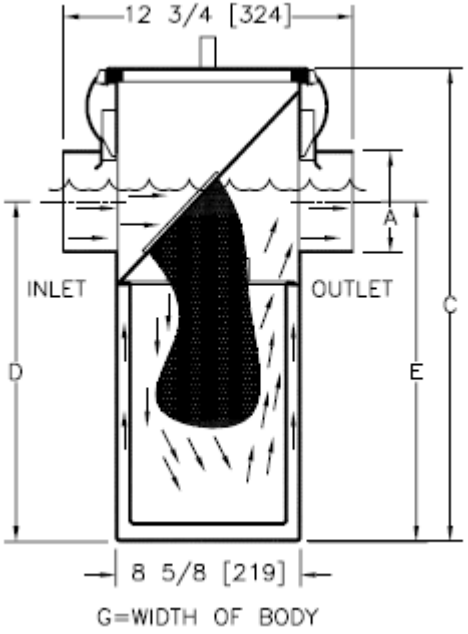
BAG FILTER

- **Fine Mesh Disposable Bag**
- **Mostly constructed of Stainless Steel**
- **Inlet on Top, Outlet on top or bottom of housing**
- **“Point-Source” Installation**



Pros

- Fine Mesh Disposable Bags offer most filtration than flat plate strainers, basket strainers, and baffle strainer interceptors

VS.

Cons

- Due to fine filtration, bag interceptors cannot handle large flows from fixtures
- Ongoing expense of bags and waste factor

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POE / Centralized

- **Baffles, Settling, Filter Bags**
- **"Point-Source" Installation, above floor or in-floor**

Pros

- Handles large flow from fixtures
- Handles large solids loading

VS.

Cons

- Strainer insert is large and bulky and hard to handle
- Also have to pumped /scooped out

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PURPOSE / BENEFITS

✓Reduce / Eliminate drainage clogs

✓Reduce / Eliminate Odor and corrosion issues

✓Significantly reduce G.I. solids loading and pumping freq.

✓Assist with Compliance Issues. B.O.D., T.S.S., pH & F.O.G.

✓Replace Food Disposals/Grinders

✓Teaching device - Build awareness and improve BMP

✓Increase Efficiency of Grease Interceptor / Grease Removal System

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An independent laboratory ran a series of tests for RHINO Ecosystems Inc. to test the waste water stream at five locations of kitchen sink drains. Testing ports were put under the sinks in front of the unit top entry port, after the unit exit port, in front of the grease trap entry, and after the grease trap exit port to the city sewage system.

After the Rhino unit
TSS 85.53% Reduction
BOD 80.03% Reduction
FOGS 89.78% Reduction

After the Rhino unit and grease trap
TSS 89.50% Reduction
BOD 87.27% Reduction
FOGS 92.37% Reduction

Up to 90% of wet waste solids and up to 75% of grease and oil is removed from waste

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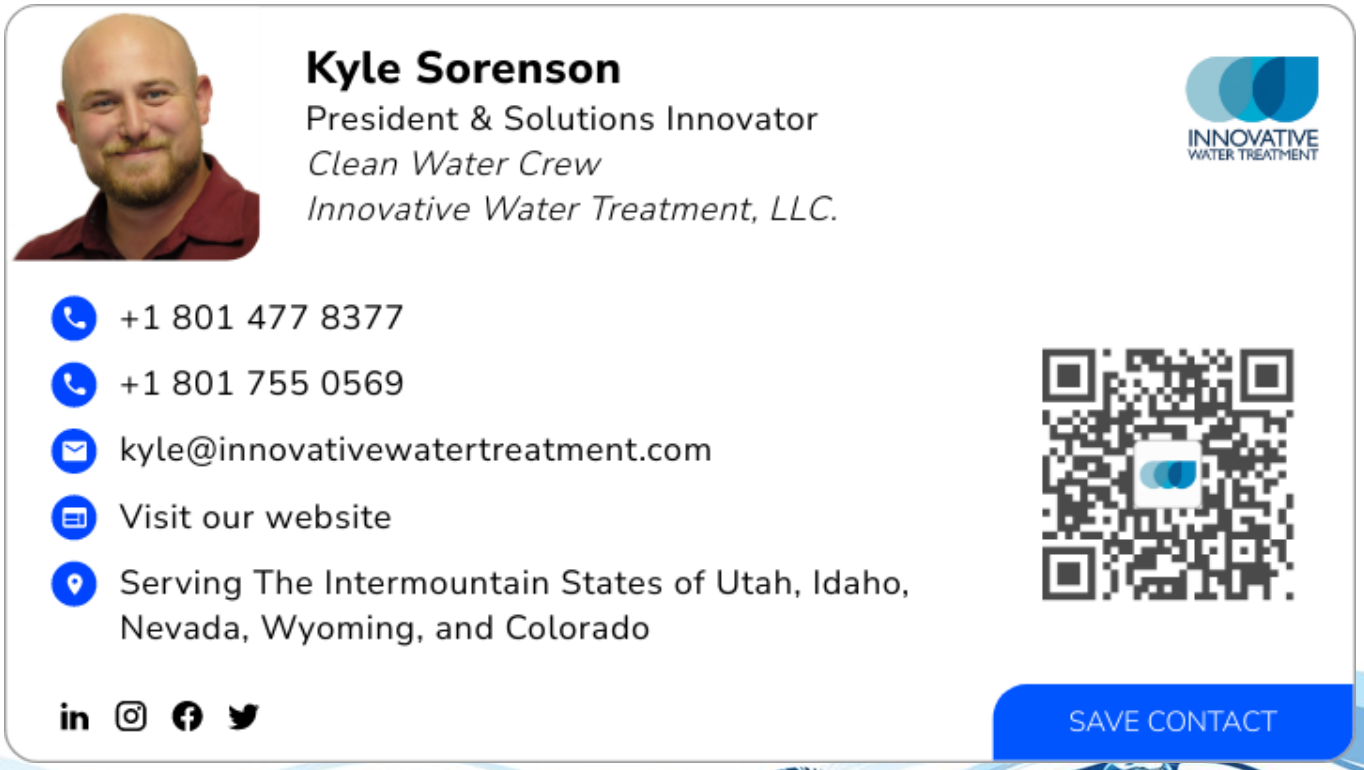
Questions to you

1. All this time, money and effort on education to run a better program – Why are solids interceptors are overlooked?
2. Why not regulations on Solids Interceptors?



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