



Alaska Stormwater

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Contech Engineered Site Solutions



Bridges, Drainage, Stormwater Management, Wastewater Treatment,
Erosion Control, Structures, Retaining Walls, Roadway & Earth Stabilization

Message to the Market

- CONTECH Engineered Solutions
- Engineering Support & Design Tools
- **Partnering** & Working with CONTECH
- **Stormwater Products**
- Drainage & Culverts
- Bridge / Keystone Wall
- Earth Stabilization



Chokosna-ALBC AKDOT



West Dowling Phase II AKDOT



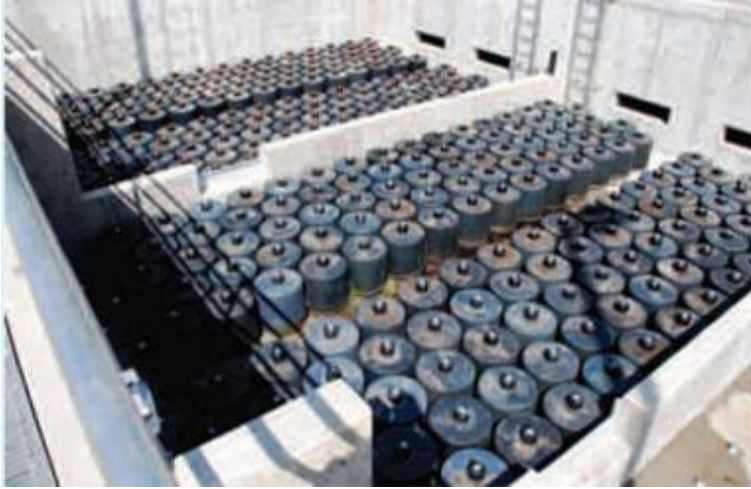
Glenn Hwy Muldoon Ped. Tunnel--AKDOT



Alaska Hwy MP 1365-- AKDOT



Stormwater Solutions



What makes a good Stormwater Best Management Practice (BMP)?

- Runoff Reduction?
- What are the Treatment Goals or Objectives?
- What are the Pollutants of Concern?



- Sediment
- Oils
- Nutrients
- Heavy Metals (Zn, Cu)



Oil, Sediment, Clutch Plate & Brake Shoe Lining



Ship Creek, Anchorage



Ship Creek, Anchorage

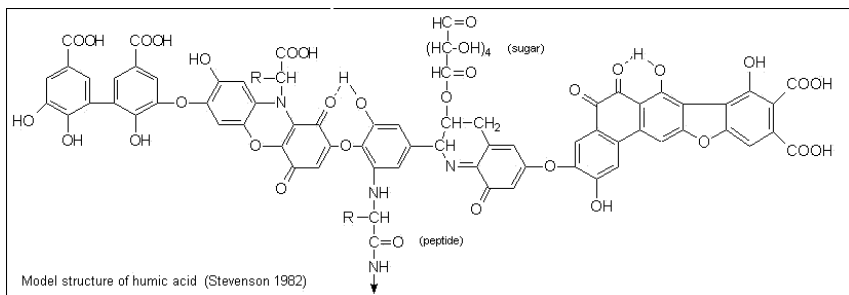
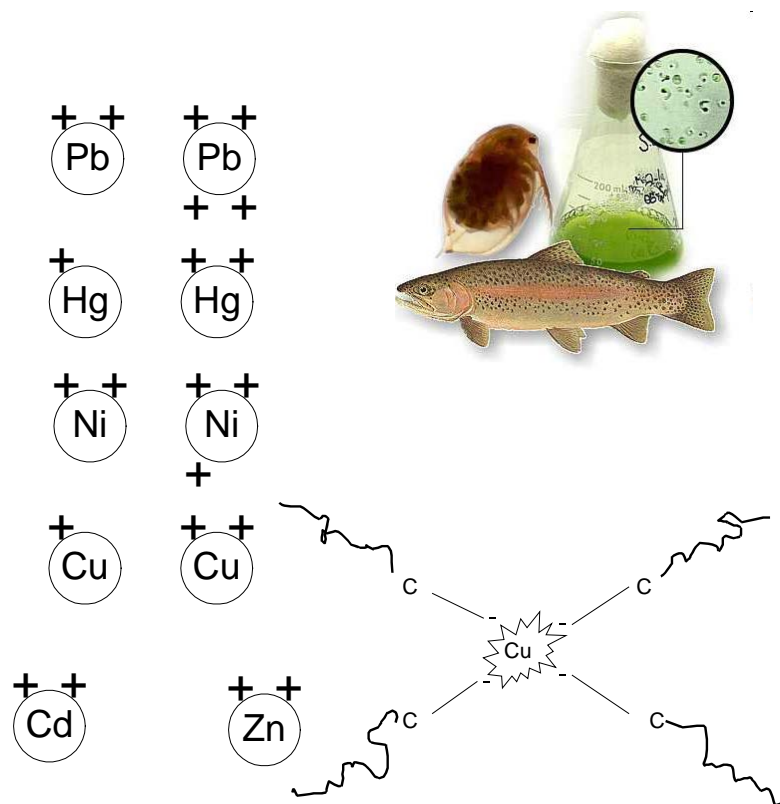


■ Typical metals of concern

- Copper (Cu) and Zinc (Zn)
- Lead (Pb), Cadmium (Cd), Nickel (Ni), Mercury (Hg)

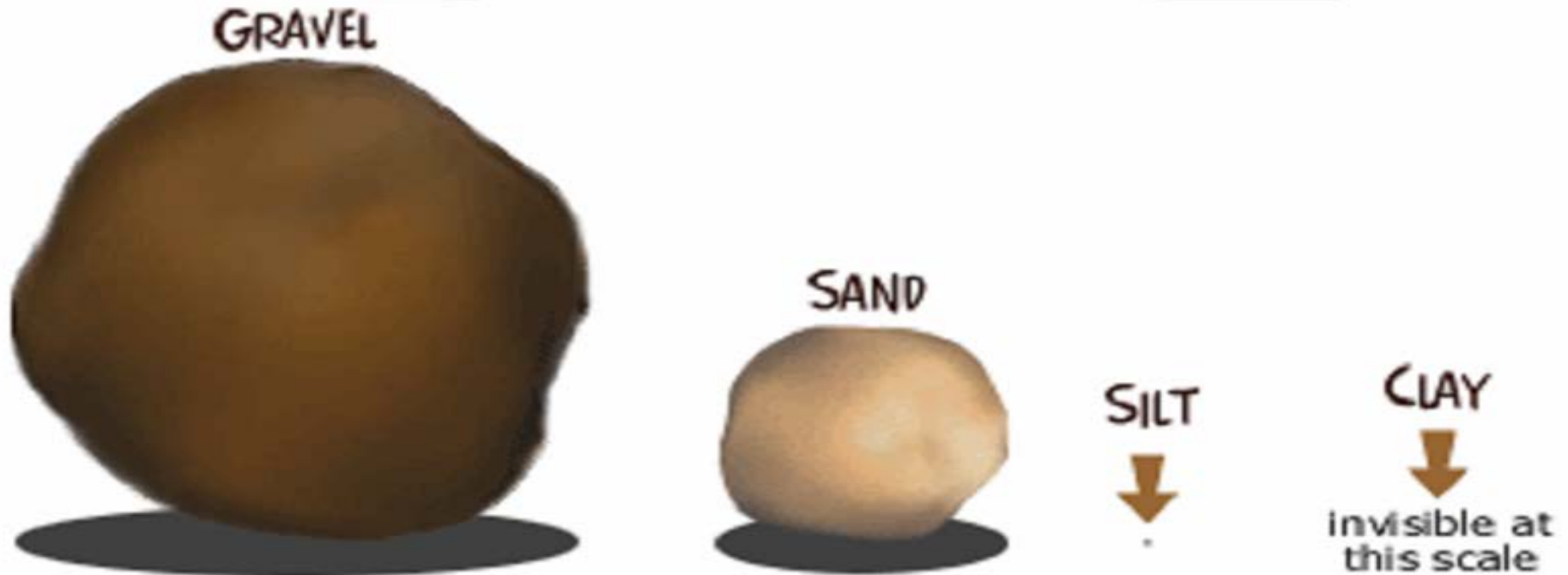
■ Particulate & Dissolved

- Total Metals
 - Some misconceptions
- Dissolved (<0.63 μm)
 - Ionic
 - Colloids
 - Ligands

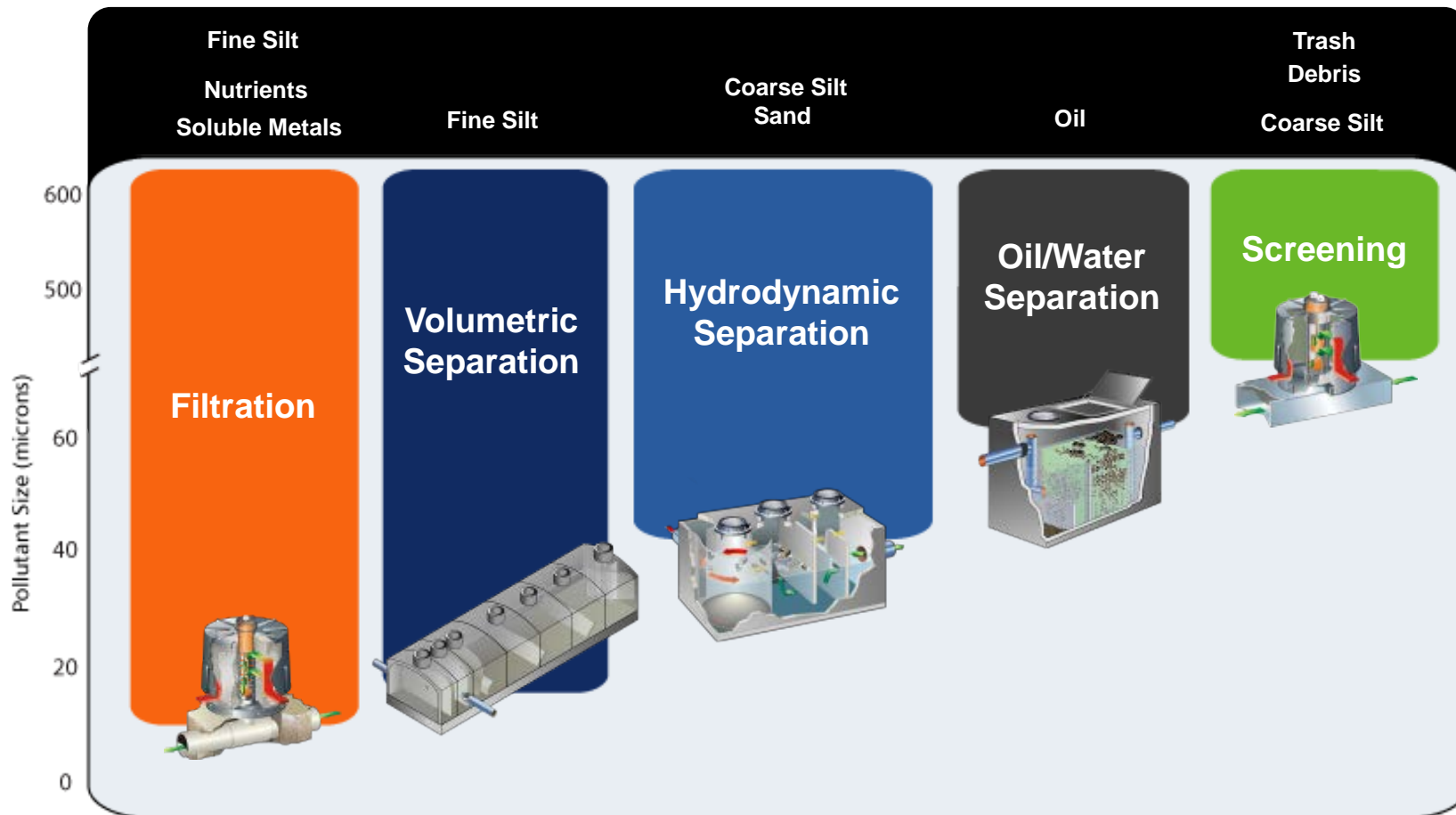


Importance of Particle Size

- Smaller particles harder to separate & more easily transported, carry more pollutants, cause turbidity & can lead to anaerobic conditions.
- Many HDS target larger particles e.g. $>100\text{-}150\mu\text{m}$.
- Should be based on sensitivity of environment.



Treatment





The StormFilter

Inventors of Filtering Stormwater
“Celebrating over 20 years”



Roadway / Parking Lots / Sub-Divisions



Media Types



PhosphoSorb™

Perlite

**CSF®
Leaf Media**

ZPG

Sediments



Phosphorous



Oil and Grease



Soluble Metals



Organics



Nutrients

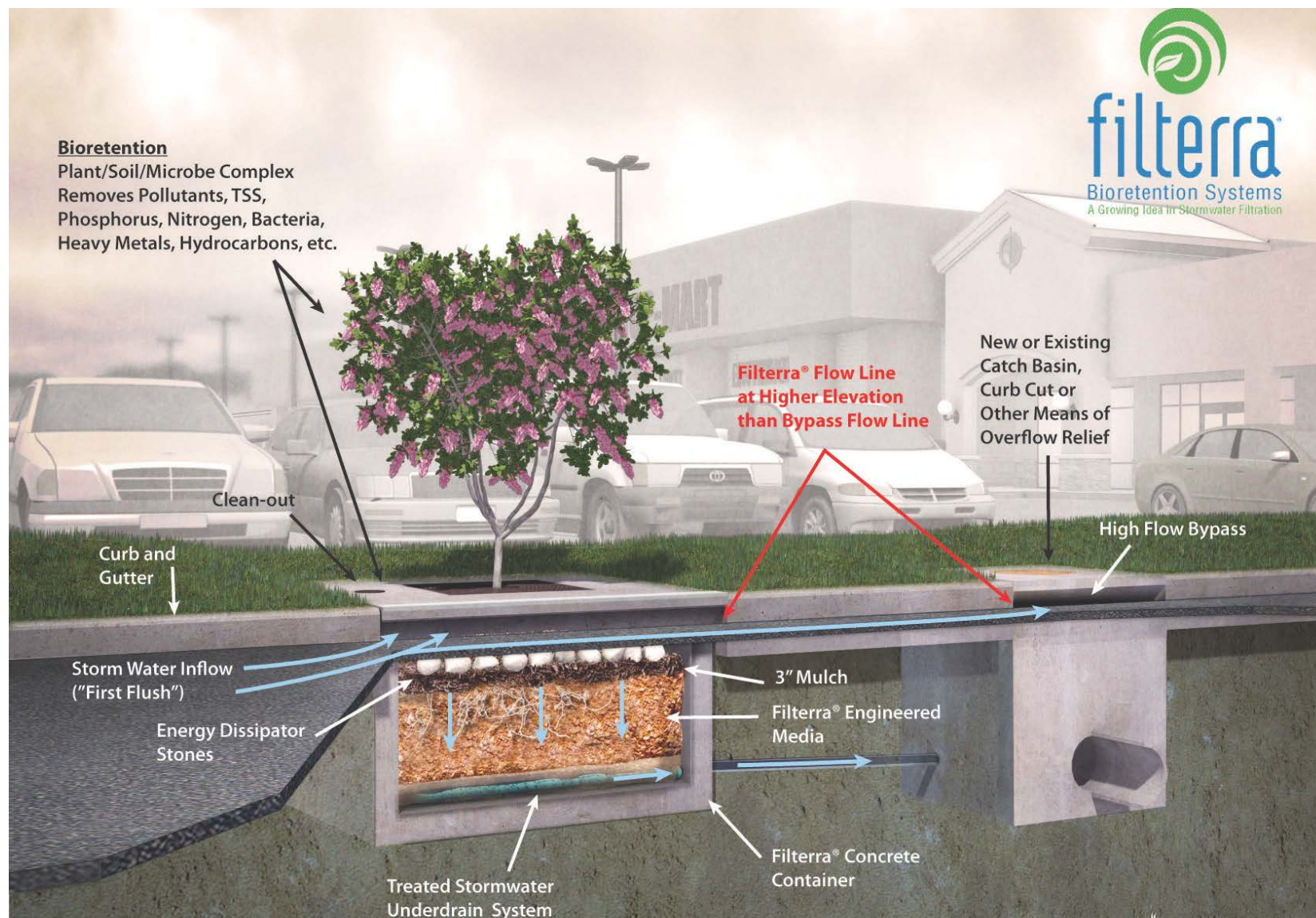


NOAA Pier; Newport, Oregon



Very effective pollutant removal (15-20 um)





Small Footprint



Crossridge Subdivision
Richmond, VA

- Filterra typically less than 1% of drainage area
- Contrasts to 5%-10% for standard bioretention cells
- Full use of land
- Ideal for urban retrofit

ODOT Hwy 101, Lincoln City, OR

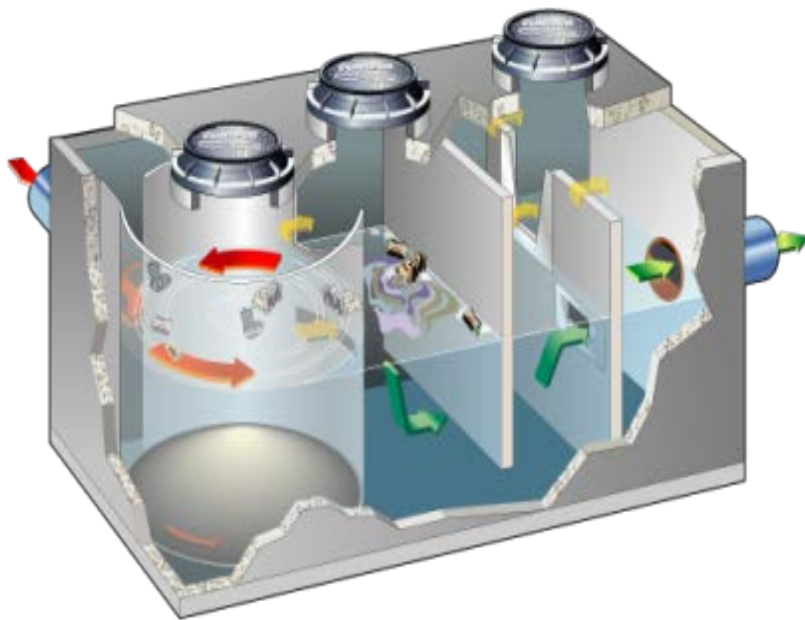




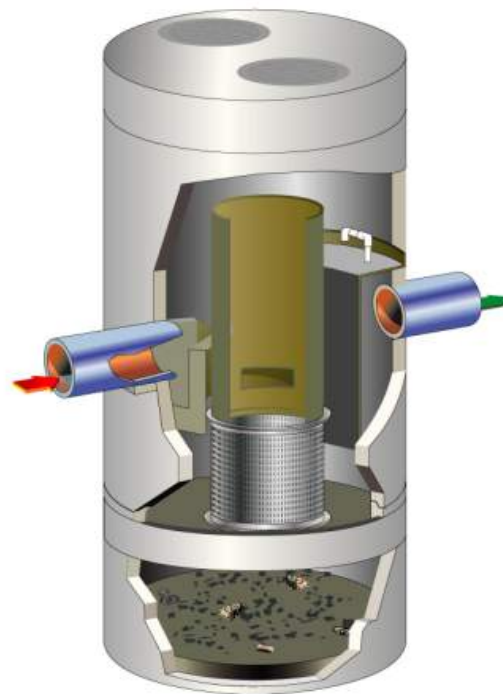
Hydrodynamic Separation (Oil / Grit Separator)



Hydrodynamic Separation (100-150 μm)



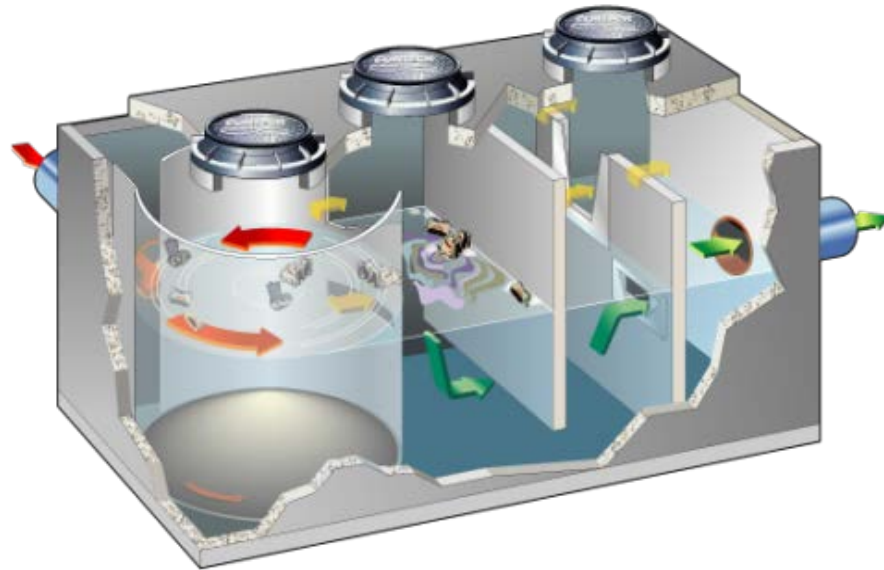
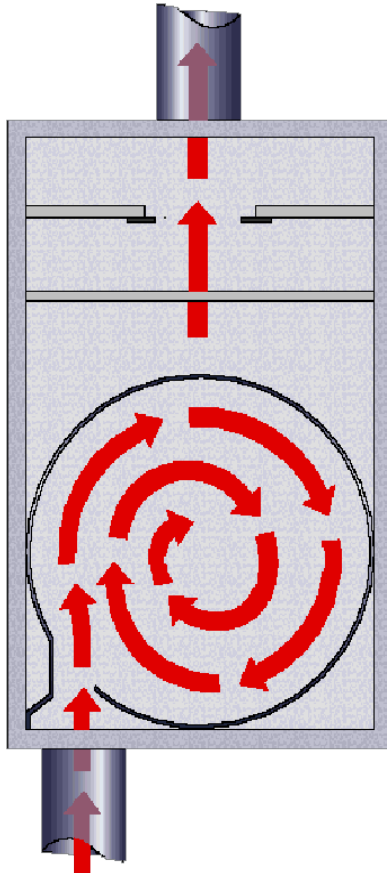
Vortechs[®] System



CDS Inline Unit

Vortechs[®] System

Hydrodynamic Separation



Fairbanks Int. Airport



Elmendorf Project



Trash and Debris Catch



Low velocity vortex action

- Increases efficiency by increasing length of flow path
- Concentrates solids in low velocity flow field

Flow controls

- Minimizes turbulence and velocity
- Prevents flow surges and re-suspension
- Retains floating pollutants

Maintenance

- Pollutants are captured in an easily accessed structure



Detention / Infiltration



ChamberMaxx



Turnagain School June 2016



Anchorage Plant Production



Easy access for Inspection & Maintenance



Perforated CMP / Infiltration



Thank You!

ALASKA

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Plant

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