

Lakeside Equipment, Inc.

SCREENING AND GRIT REMOVAL SYSTEMS



Screening Options

■ Screens can:

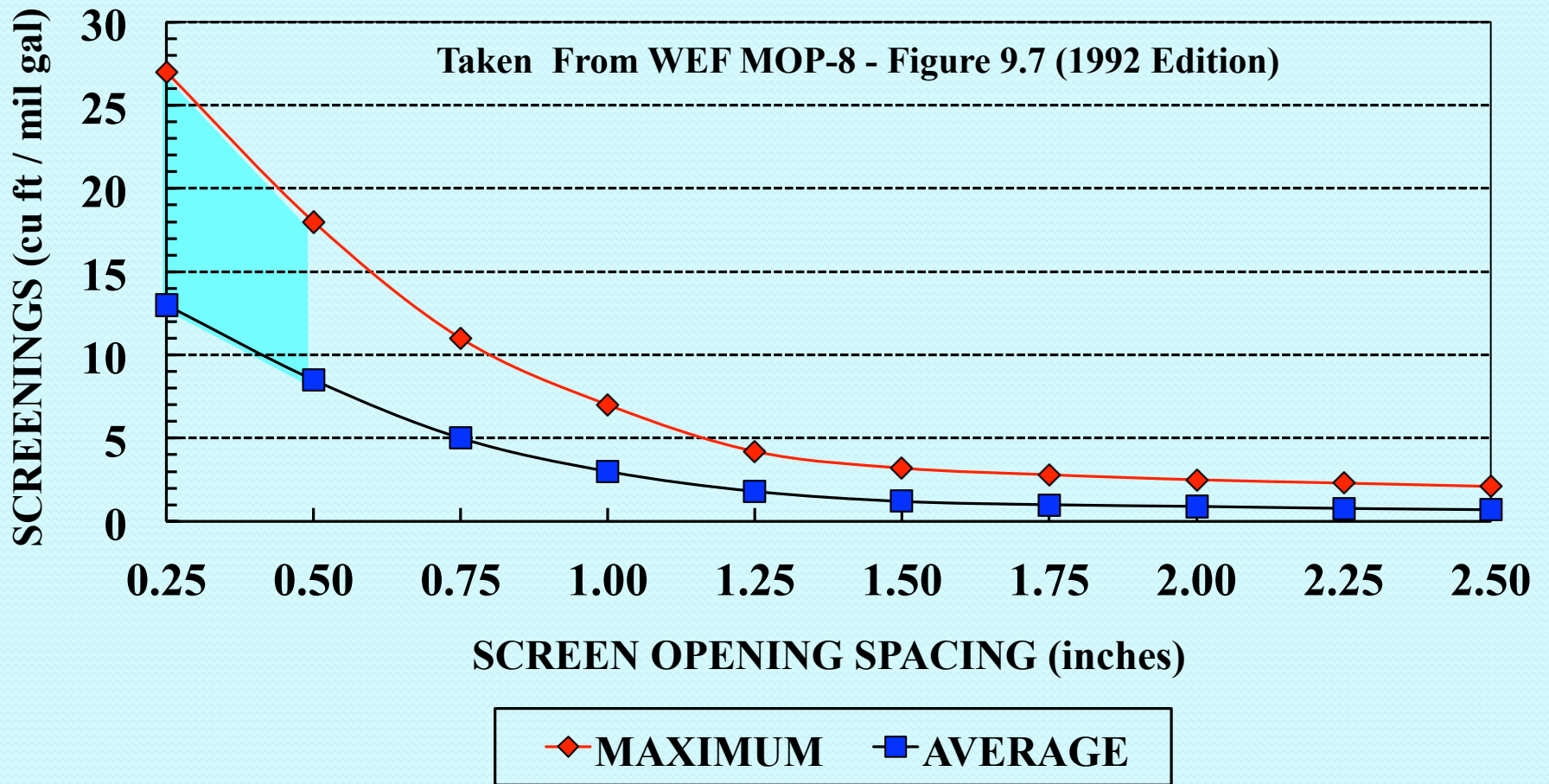
- **Remove Material for Immediate Disposal**
- **Prevent Material from Permeating the Plant**
- **Lower Maintenance Costs for all equipment**
- **Have Little impact on Disposal Costs (pay me now or pay me later)**

■ **Coarse Screens - 1 TO 1-1/2 Inch (25 – 38 mm)**

■ **Medium Screens - 5/8 TO 3/4-Inch (16 – 19 mm)**

■ **Fine Screens - 5/64 TO 1/2-Inch (2 – 13 mm)**

Screenings Removal Volumes





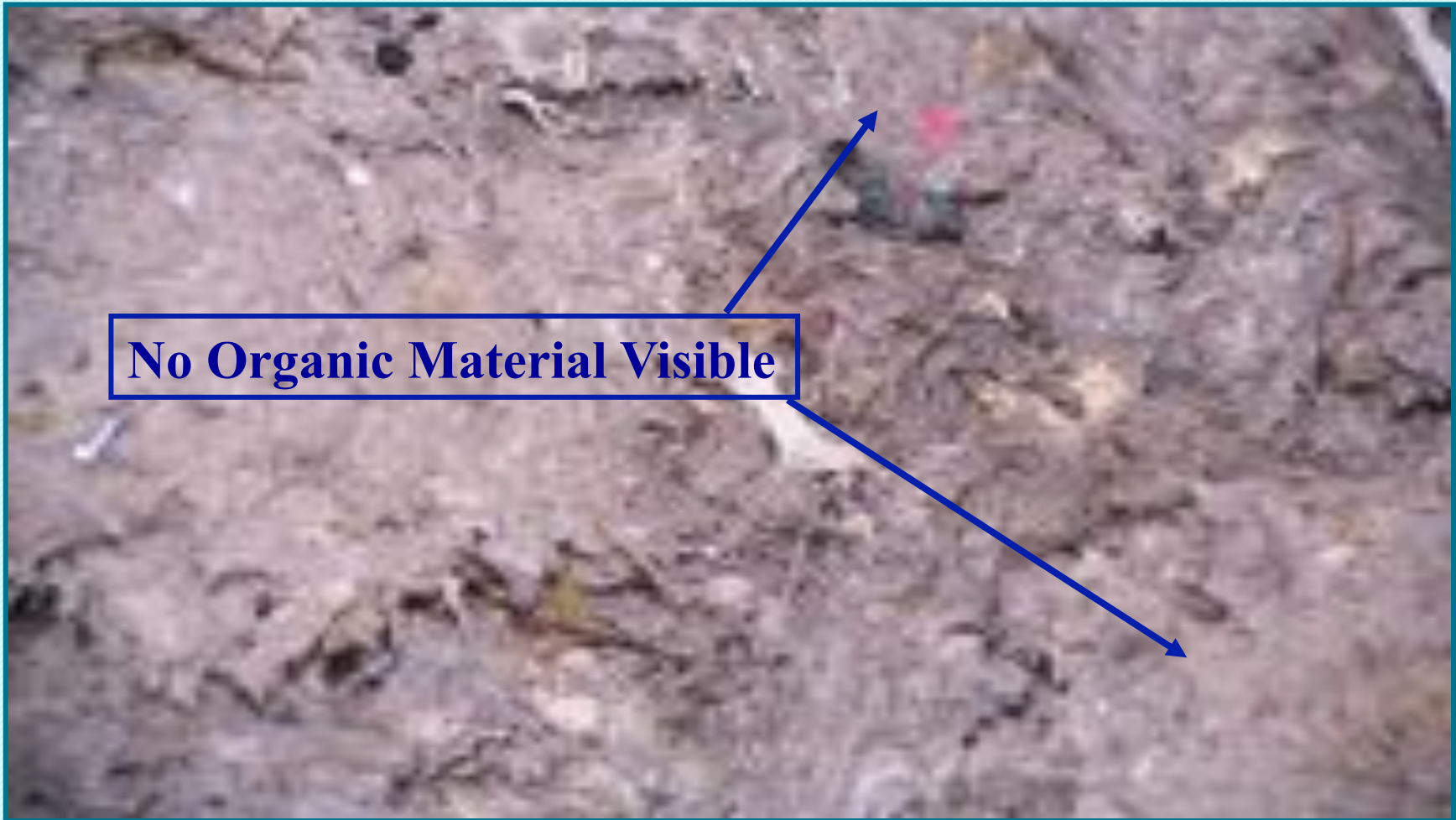
LAKESIDE

EQUIPMENT CORPORATION

Water Purification Since 1928

Cleaner Water for a Brighter Future®

RAPTOR® SCREENINGS



RAPTOR® Micro Strainers

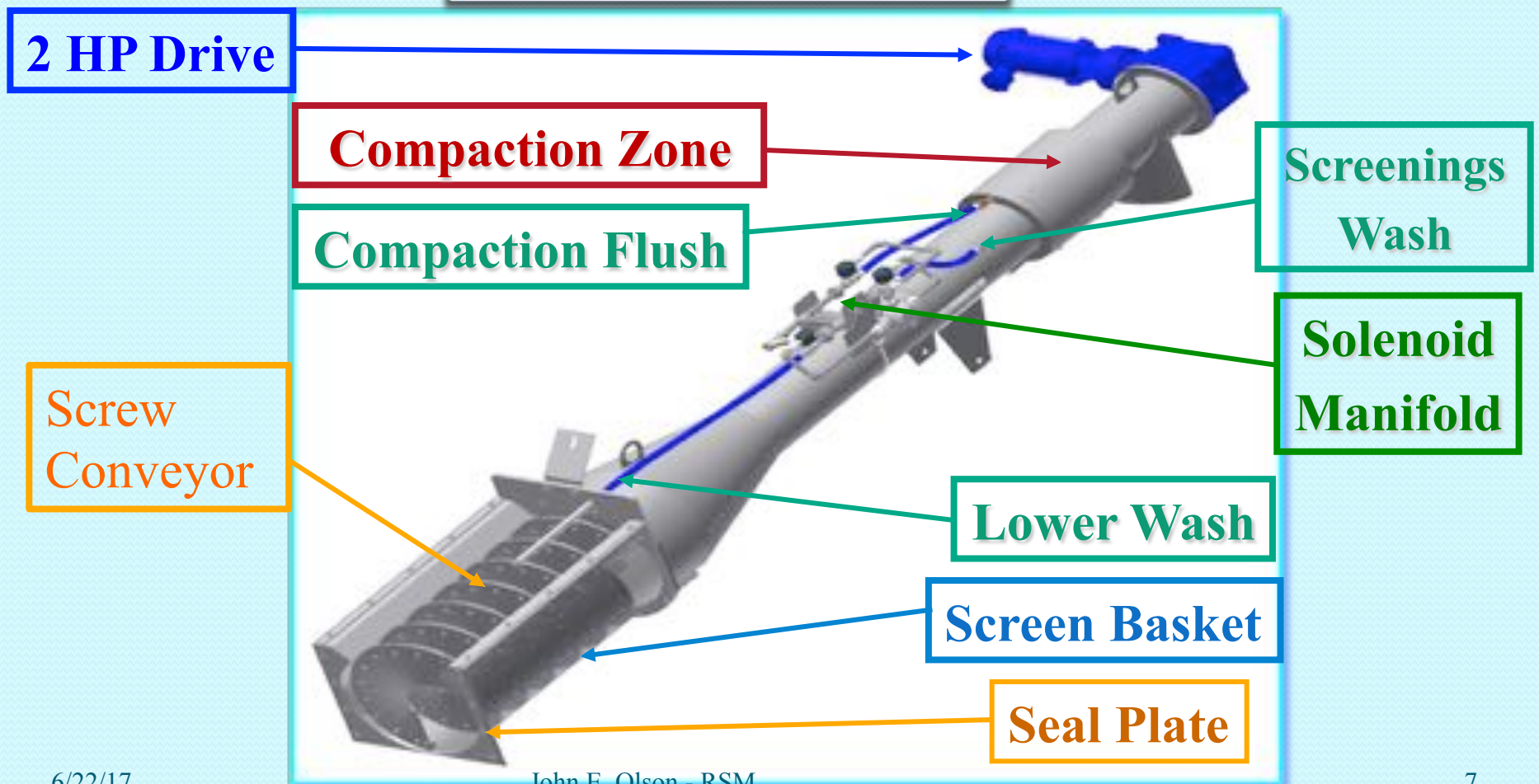


RAPTOR® Micro Strainers

- **Combines Three (3) Unit Processes in One (1):**
 - **Screens 1/2-Inch And Smaller Material**
 - **Washes Screening of Organic Material**
 - **Compacts And Dewateres Screenings**
- **Eliminates Odors**
- **Passes EPA Paint Filter Test**
- **Reduces Volume By 50%**
- **Reduces Weight By 67%**

RAPTOR® Micro Strainer Designs

475+ Installations



RAPTOR® Micro Strainer Screen

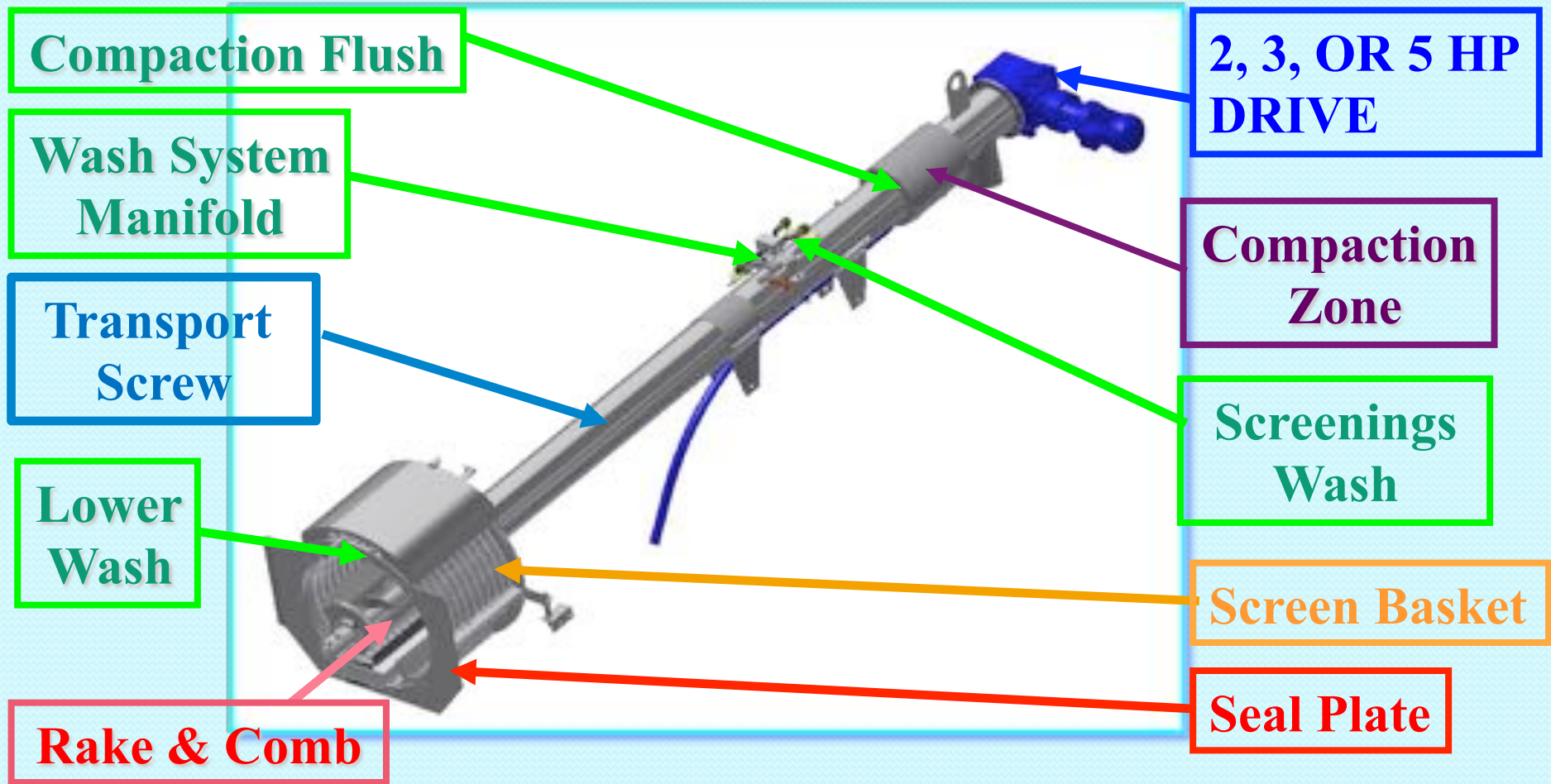


ALL STAINLESS STEEL

RAPTOR® Fine Screens **700+ Installations**

- **Openings – 1/4, 3/8 or 1/2-In.**
- **1/4 In. – Standard**
- **Nine (9) Screen Sizes:**
 - **24 In; 31 In; 35 IN; 40 IN**
 - **47 In; 55 In; 63 In; 71 In; 79 IN**
- **1.83 To 22.83 MGD Peak Flow Capacity**

RAPTOR® Fine Screen



RAPTOR® Fine Screen

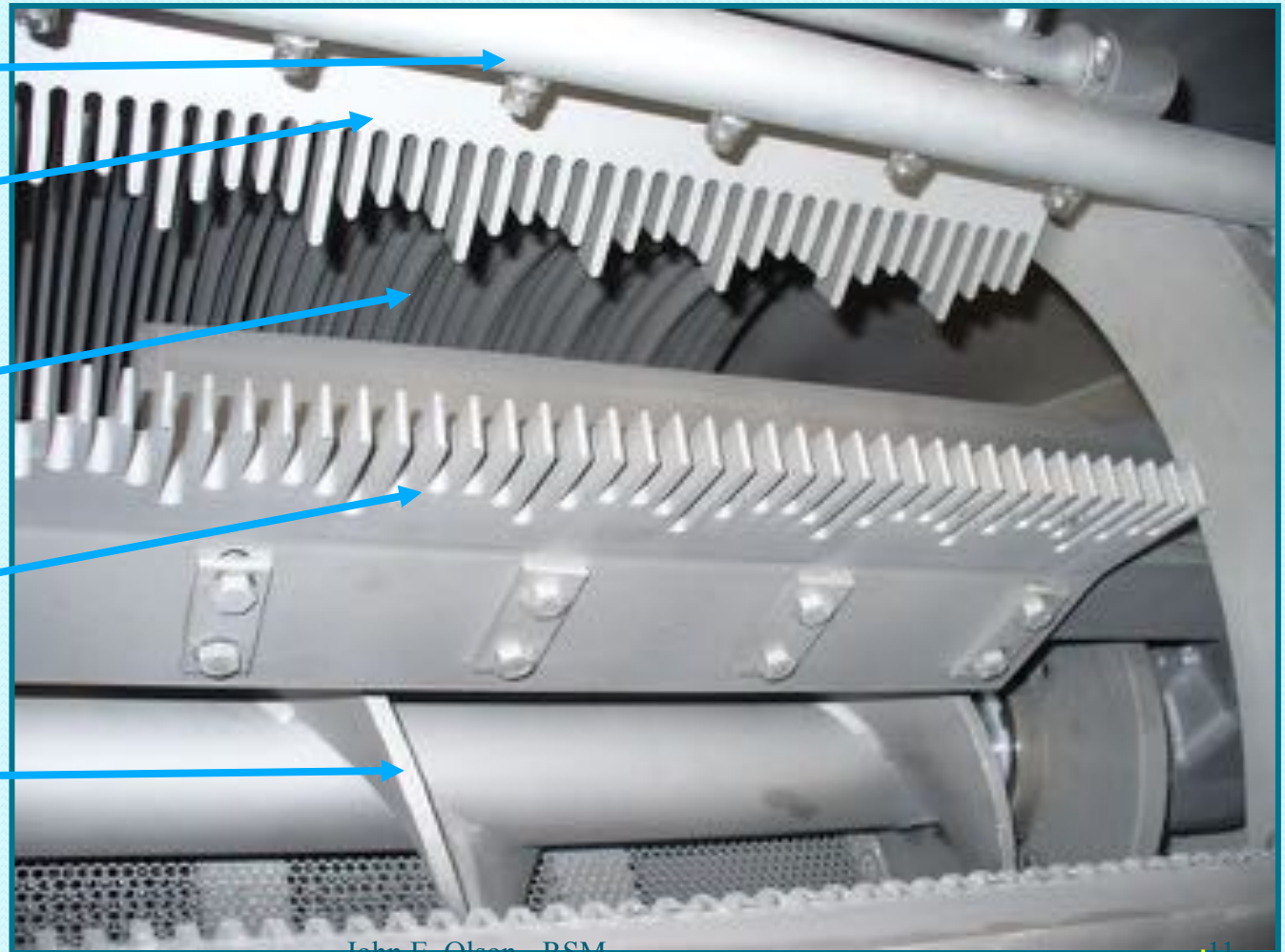
LOWER WASH

COMB

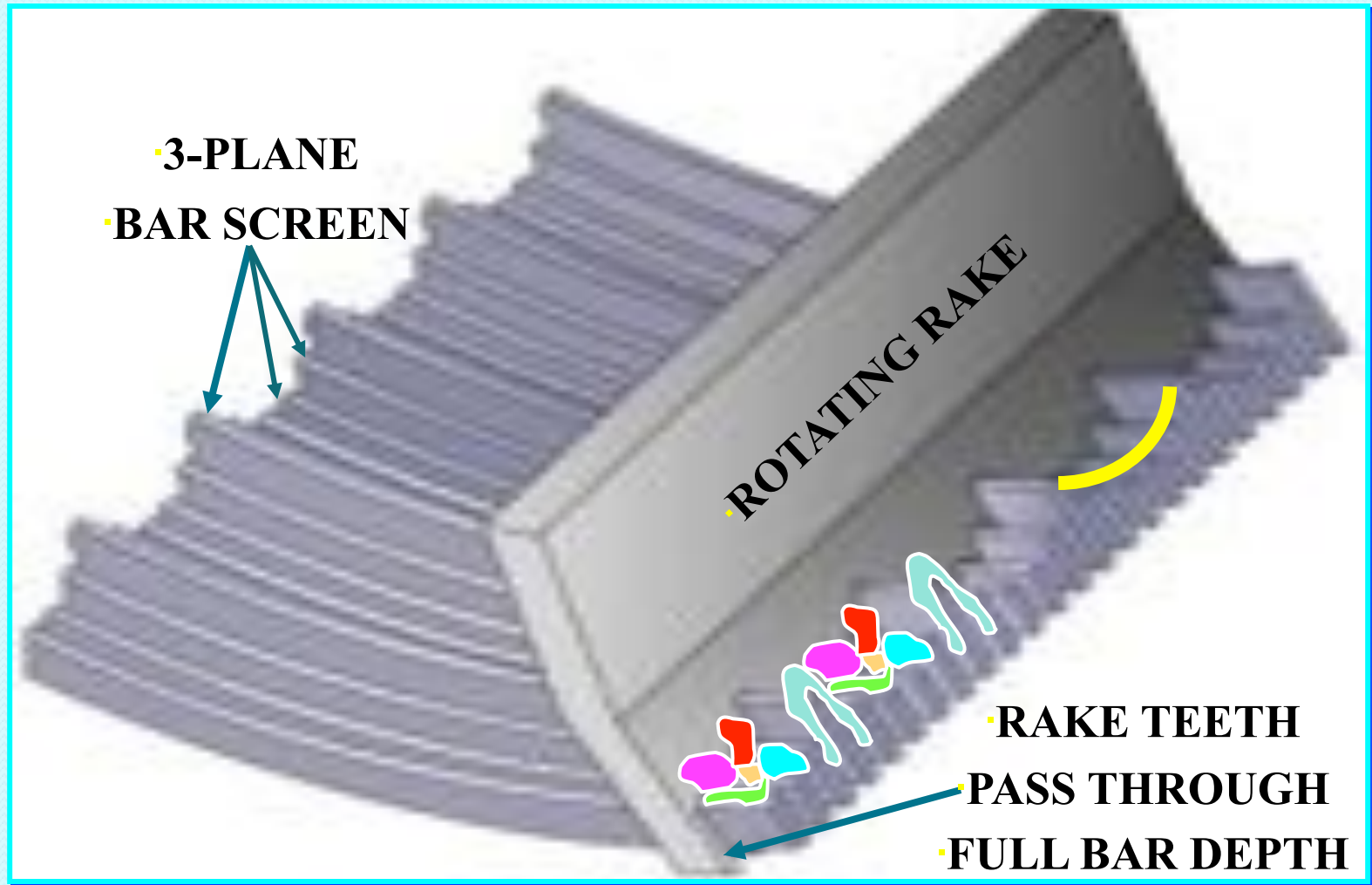
**3-PLANE
BAR RACK**

RAKE

SCREW



Fine Screen Basket Components



Rake Penetration Video



Screenings Removal



RAPTOR® Rotating Drum Screen **(75+ Installations)**

- **Only *RAPTOR*® Screen That Utilizes Rotating Screen Basket**
- **Screen is Cleaned by Water and/or Brush**
- **RDS Systems Available**
 - **Wedge Wire – 0.010 TO 0.120-Inch (0.25 – 3 mm)**
 - **Perforated Plate – 0.08 to 0.25 Inch (2 – 6 mm)**
 - **Ten (10) Screen Sizes: 24 Inch to 78 inch Wide Channels**
 - **Applications From 0.46 TO 25.11 MGD Peak Flow**

RAPTOR® Rotating Drum Screen



Grit Removal Systems

Reasons To Have A Grit Removal System:

- **Reduce Wear On Treatment Equipment**
- **Prevent Accumulation In Pipes and Channels**
- **Prevent Loss Of Volume of Treatment Processes**
- **Prevent Loss Of Digester Volume**
- **Minimize Sludge Disposal Costs**

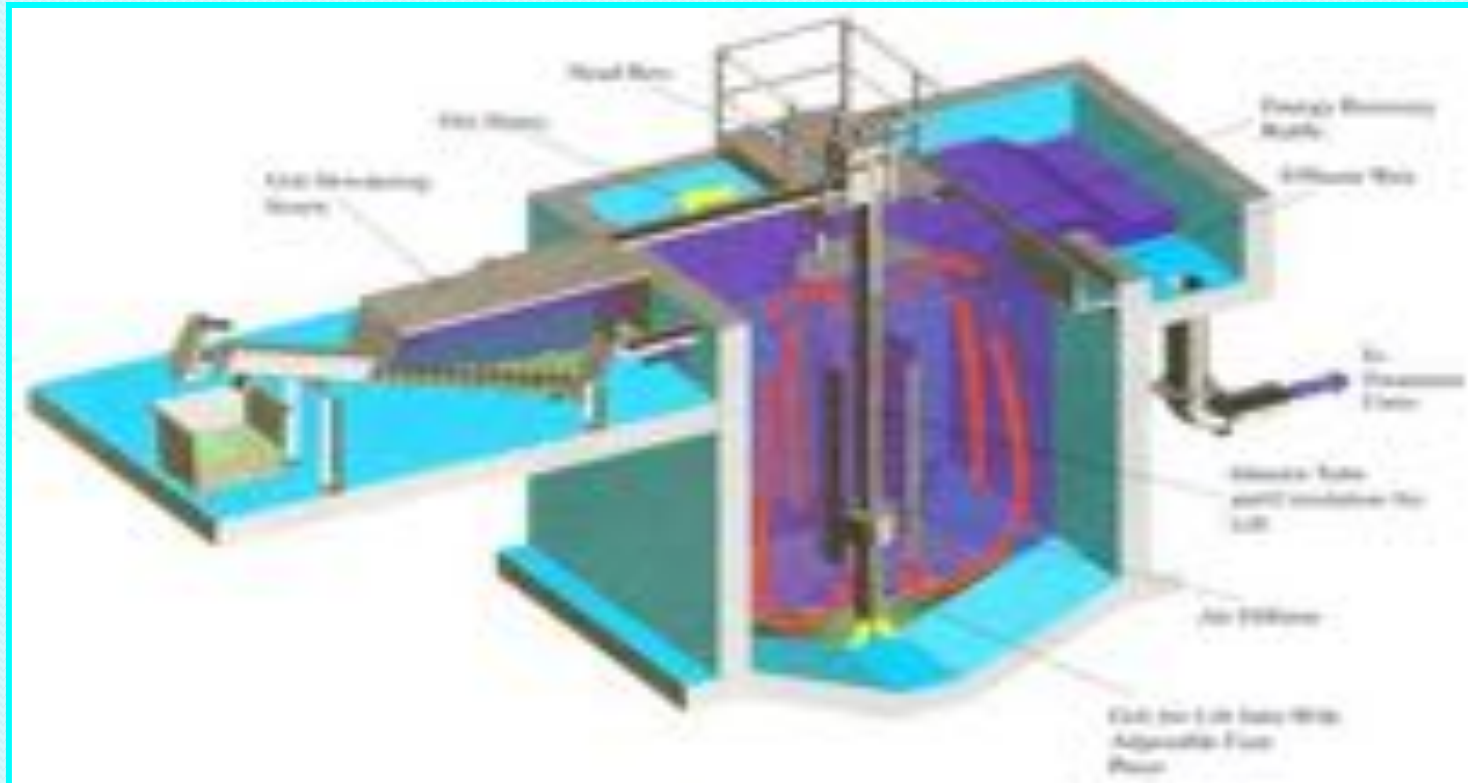
Grit Removal



- Inorganic Material
- Sand, Gravel, Coffee Grounds, Seeds



Aeroductor Grit Removal



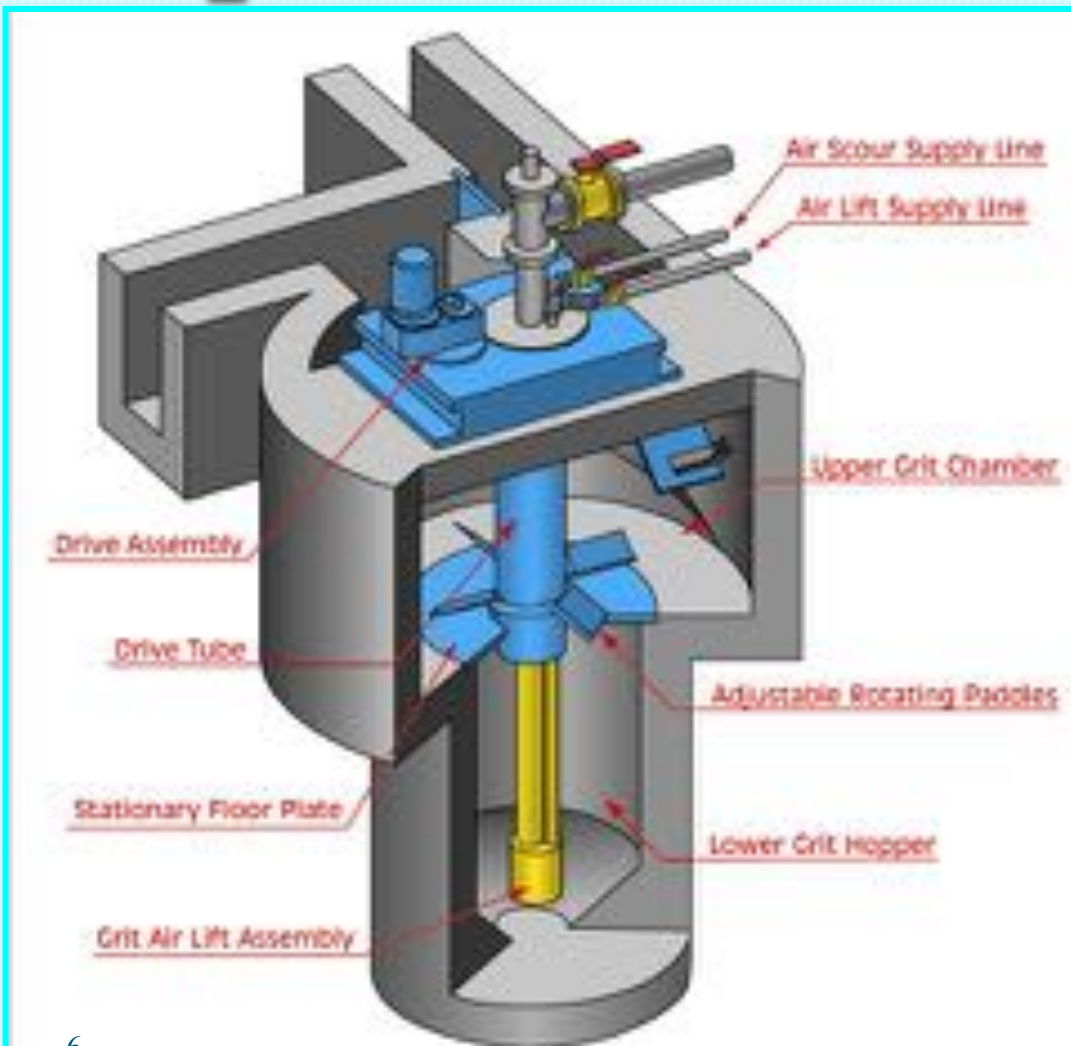
- Perfect for Small to Medium Size Facilities
- 5 Minute Detention Time
- Reduces Forward Velocity, Allowing Grit to Settle
- Aeration Scrubs Organics from Grit

AERODUCTOR AERATED GRIT CHAMBERS

40 + Installations



SpiraGrit - Vortex Grit Removal System



- Great for Medium to Large Facilities
- Small Footprint at Larger Flows
- Various Grit Pumps
 - Airlift
 - Recessed Impeller
 - Self-Prime

SpiraGrit Systems - 60+ Installations



Cloudcroft NM



Sparta MI

GRIT CLASSIFIERS

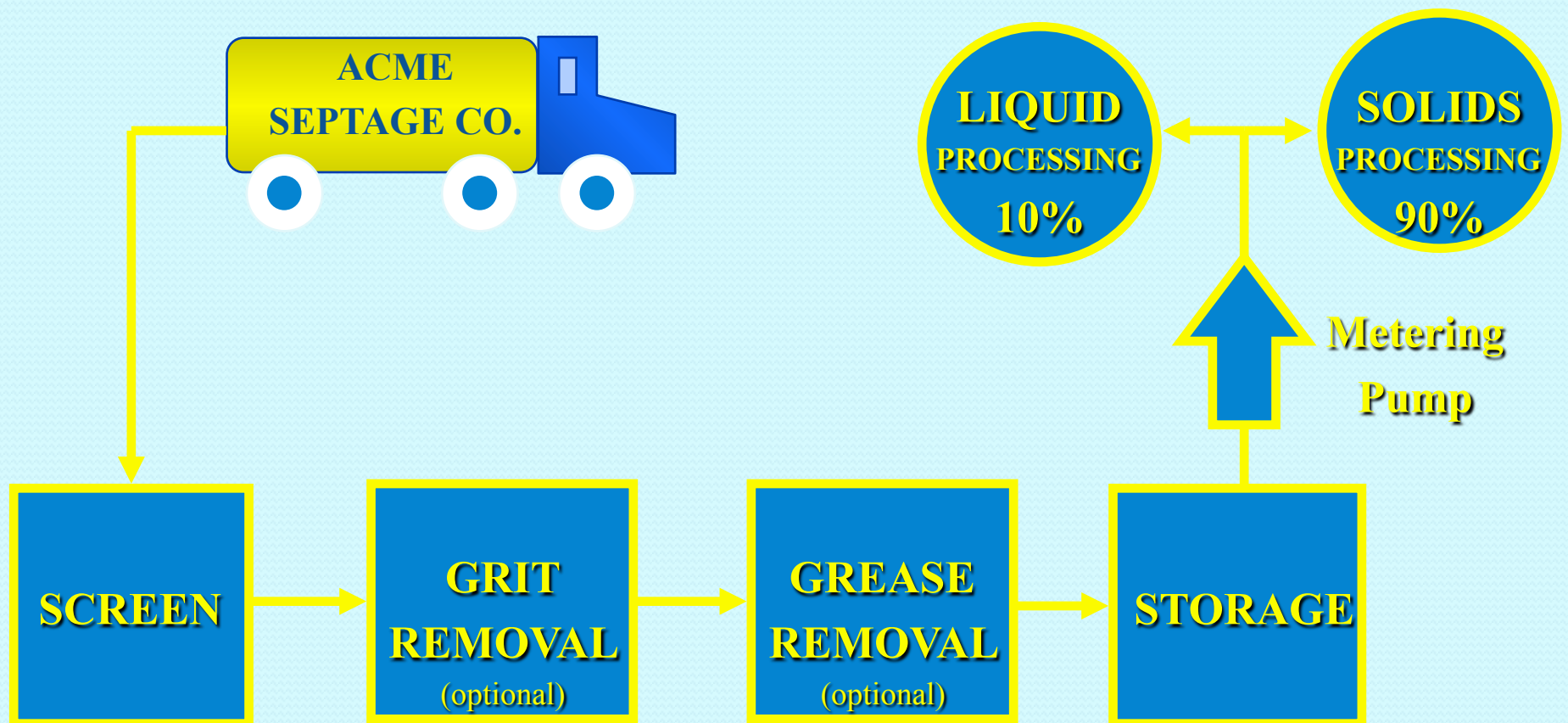


- **Receives Grit Slurry From Any Primary Grit Removal System**
- **30 Cu Ft/Hour Grit Capacity**
- **Handles Flow Rates Of 135 Or 190 GPM**
- **Stainless Steel Construction**
- **Two Types – L & W**
- **Hundreds of Installations!**

Septage Acceptance Plants

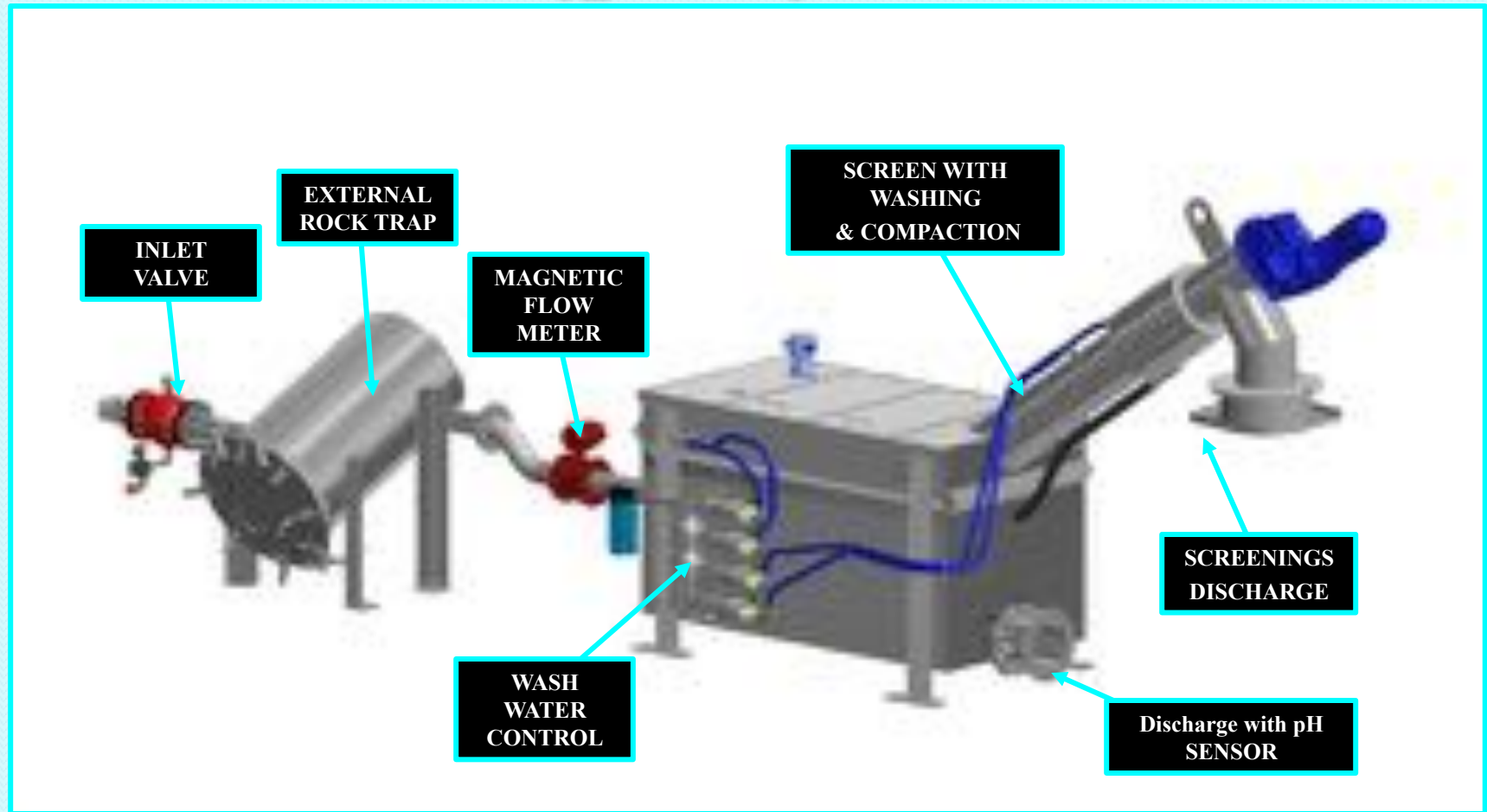
- **Tank-Mounted Designs are available:**
 - **All Stainless Steel Designs**
 - **Completely Enclosed for Odor Control**
 - **Self-adjusting Gaskets for Covers Minimize Spillage**
 - **Vents that Discharge Odors Out of Area can Help Control Odors**
 - **Integral Drains and Heavy Solids Clean-outs**
 - **Automated Tank Wash Cycles after Each Unloading Sequence Helps to Minimize Odors**
- **Some Models are Factory Assembled, Pre-Plumbed, and Pre-wired**
- **MADE IN THE U.S.A - Typically Required.**

Septage Receiving Facility Key Components



Septage Acceptance Plants

Typical Layout



Spray Wash Systems



**SINGLE PLANT
WATER
CONNECTION**

**FACTORY
PRE-PLUMBED**

**PRE-WIRED
TO COMMON
JUNCTION BOXES**

Undesirable Septage Material



CESSPOOL ROCK



CESSPOOL ROCK



PORTA-JOHN DEBRIS



GREASE TRAP DEBRIS



LAKESIDE
EQUIPMENT CORPORATION
Water Purification Since 1928

Cleaner Water for a Brighter Future®

Septage Handling - Common Problems



Raptor™ Complete Plants

70+ INSTALLATIONS



LAKESIDE COMPLETE PLANT

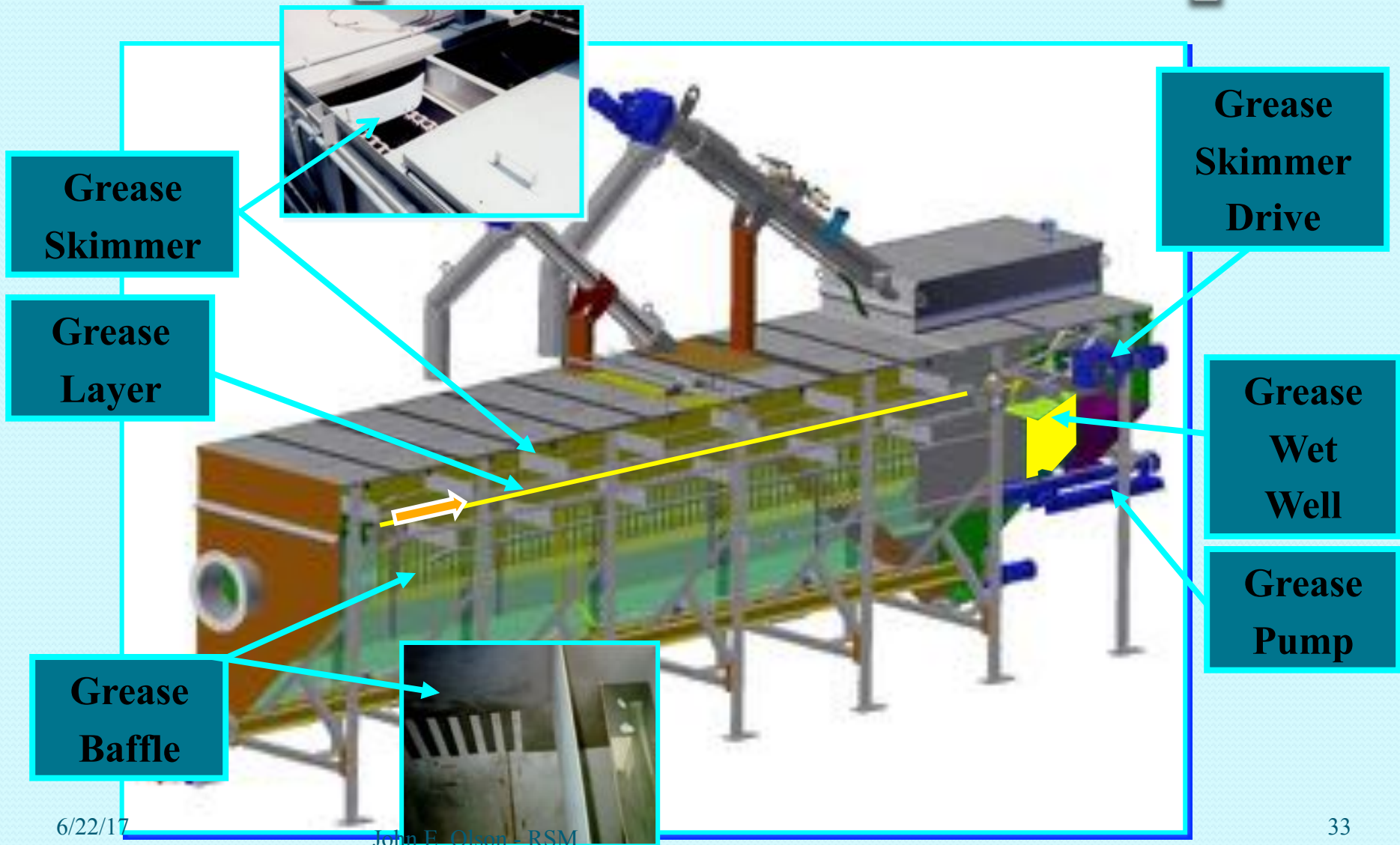
- ◆ **COMBINES 3 UNIT PROCESSES**
 - **SCREENING**
 - **GRIT REMOVAL**
 - **GREASE REMOVAL - OPTIONAL**
- ◆ **HEADWORKS IN 0.5 MGD INCREMENTS**
- ◆ **0.5 TO 4.0 MGD**
- ◆ **SIZE NOT BASED UPON SCREEN FLOW**
- ◆ **SIZE IS BASED UPON GRIT REMOVAL**

Complete Plant

Combines Screening and Grit Removal into One Unit



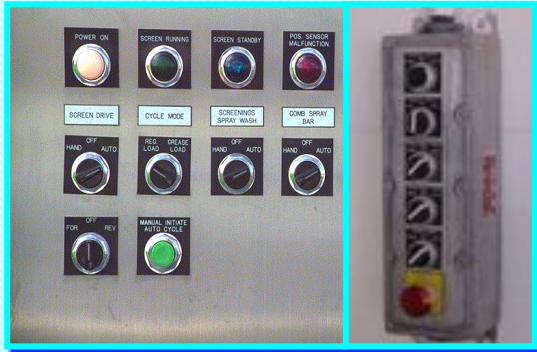
Complete Plant - Grease Trap



RAPTOR® H-PAC HEADWORKS



Options



Explosion Proof Controls



Weather Protection



pH Monitoring



Magnetic Flow Meter



**Access
Control System**

John E. Olson - RSM



**Data Management
& Accounting System**

35

Explosion-Proof Controls

Class I - Division 1 - Group D Electrical Environment

**NEMA 7 Ex-Proof
Enclosure**

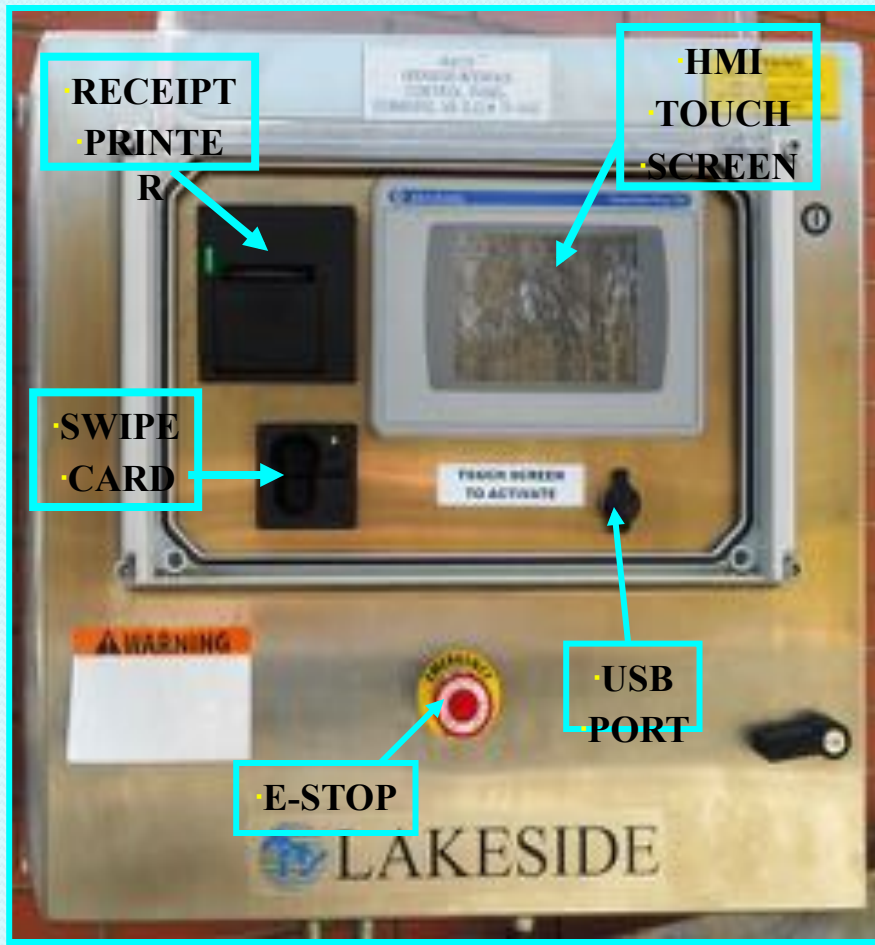


- **Remote-Mounted Main Control Panel**
- **Operator Local Control Station**

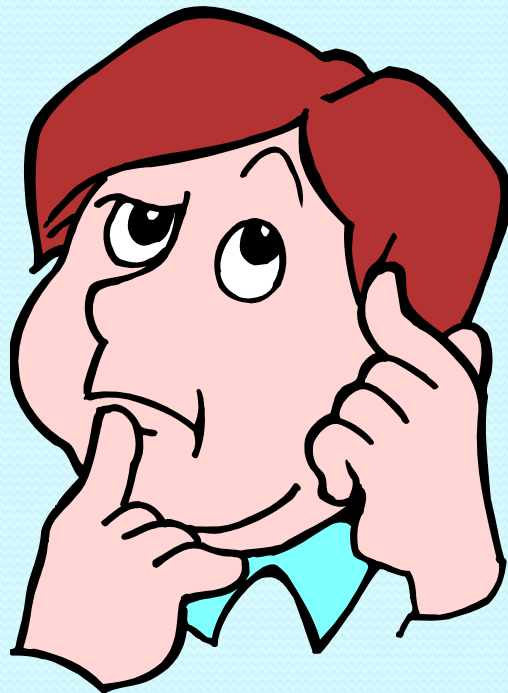


- **Hand-Off-Auto Switches**
- **Forward-Off-Reverse Switch**
- **E-Stop and Cycle/Re-Set Pushbuttons**
- **NEMA 7 Explosion-Proof Enclosure**

Access Control Stations



Questions and Discussion



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Please!