

Polyacrylamide Blends For Dewatering Applications



Principles Of Dewatering With PAM

- Passive or Active Treatment
- Determine PAM-Blend, Mixing Rate/Volume
- Design & Construct Treatment System
- System Start
- Monitor , Adjust & Maintain

Determine PAM-Blend

Performance Based Results

Smith Samples

Sample Location	Description	APS Application	Results and Special Instructions
2/15/2013	Sample Type	Floc Log Type	Reaction Time / NTU Reading
Smithville, Inc. 1111 One Way Drive Anyplace, FL 12345 321-867-5309 jsmith@aol.com	Water Sample pH: 6.88 NTU: 3488 Hardness: 120 CaCO ₃	706b Powder 712	40 - 45 sec. with filtering / 24.9
	Soil Sample pH: 7.21 NTU: 2742 Hardness: 50 CaCO ₃	706b Powder 712	40 - 45 sec with filtering / 9.20

Note: For detailed instructions and application rates, please refer to the Polymer Enhanced Best Management (PEBMP) Application Guide which is located on the bottom right hand corner of our website at www.SiltStop.com.

Floc Logs are designed to work in flowing water conditions. Mixing / reaction times will be very important when using the Floc Log listed above. **Mixing must be continuous and in contact with the Floc Logs for the time stated to obtain the best results.** A mixing ditch, pipe or flume system may be used with either a pump or gravity flow to meet this requirement. Particulate formed may be captured by filtering through or across a series of jute matting after the mixing and reaction has been completed. (Please see page 42 of the PEBMP for more on Particle Collection.) The dosage rate should be 50 to 60 gpm per Floc Log placed in series or row.

Stabilization of the soil at the source may be obtained by spreading the site-specific Silt Stop powder onto the soil surface (can be mixed with other additives such as seed, fertilizer, etc.), then covering the soil with open-weave jute, coconut matting, mulch, or straw. This will perform as a stabilizer for reducing soil and clay movement into the runoff water, as a tackifier to hold the soil/organic matrix in place, as well as providing surface area for attachment of flocculated sediment. For detailed application rates and instructions, please see the Soil Stabilization section beginning on page 5 of the PEBMP.

Areas where high water velocity may occur (ditch lines, swales, etc.) should be "soft armored" by placing jute or coconut matting flush to the ground surface then spreading powder (dry) over the jute or coconut matting (please refer to PEBMP page 5-10). This will greatly reduce erosion in these areas. When used with the Silt Stop powder, soft armoring binds the soil particles to the matting, stopping them from eroding and entering the water system.

We recommend using both systems for best results.

Applied Polymer Systems, Inc. 519 Industrial Drive Woodstock, GA 30189 www.siltstop.com

Written Guidelines

REPORT FOR ACUTE TOXICITY TESTING OF APPLIED POLYMER SYSTEMS, INC. SILT STOP PRODUCTS

NORCROSS, GEORGIA

TEST PERIOD: OCTOBER 3-18, 2000

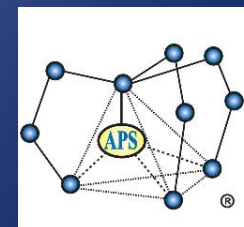
Prepared for:

APPLIED POLYMER SYSTEMS, INC.

Norcross, Georgia

October 2000

Toxicity Test Results



Setup Treatment System

- Ditch or Pipe Conveyance
- PAM Floc Logs
- Particle Capture (Matting/Floating Curtain)
- Gravity Flow Or Pump

Passive Treatment System



Passive Ditch Treatment Systems



Active Ditch Treatment Systems





Simple Plastic-lined Ditch Treatment System





Simple Plastic-lined Ditch Treatment System



Final Discharge Was 2.1 NTU

Initial Pond Water Was > 800 NTU

Turbidity Removal 99%



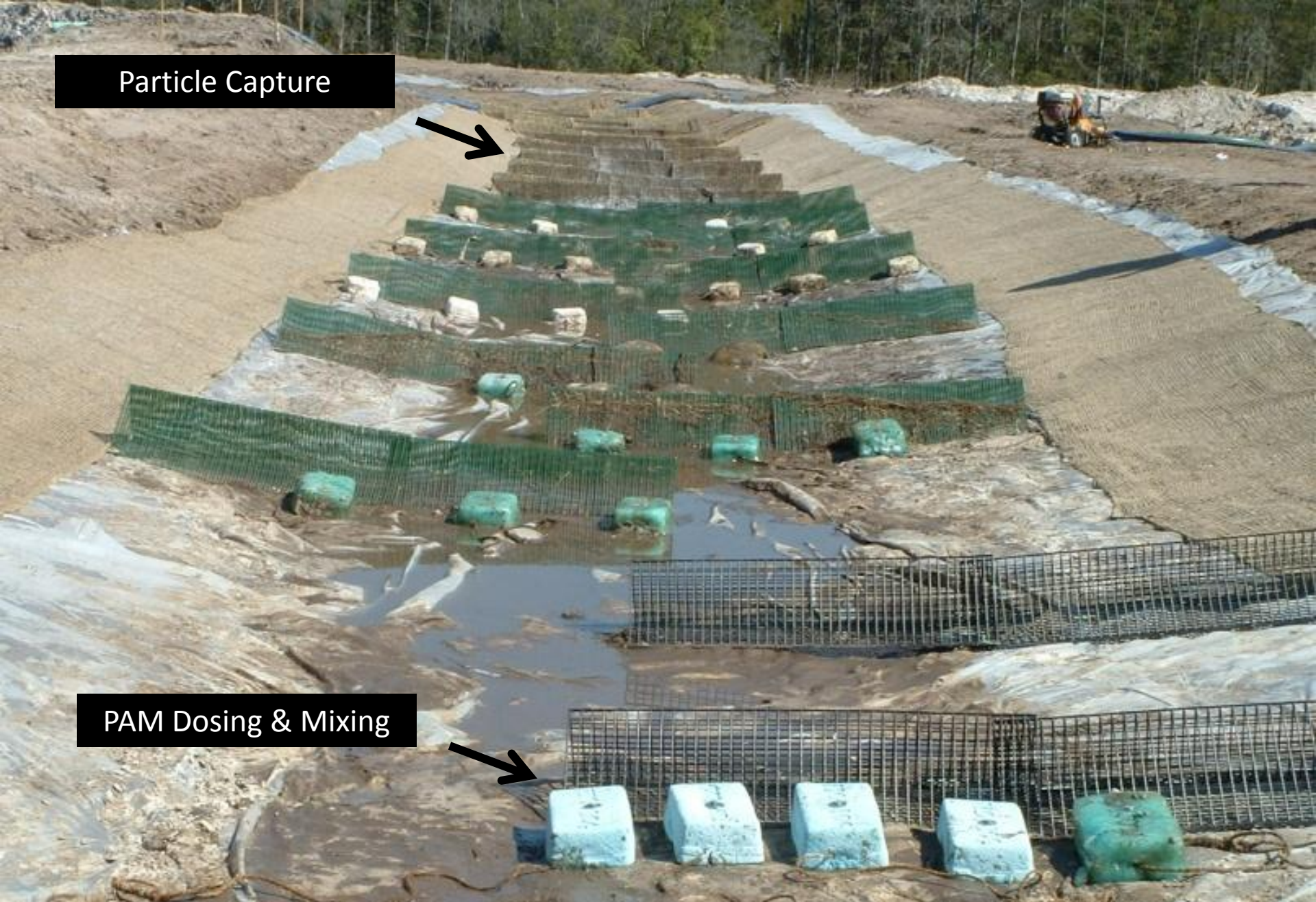
Particle Capture



PAM Dosing & Mixing



Large Volume Ditch Treatment System



Split Pipe Treatment Systems



Floc Logs Used In Split Pipe Dewatering System On Pavement



Split Pipe PAM Treatment System

Pond Dewatering Application



Split Pipe PAM Treatment System



Maximum PAM Mixing



Initial Turbidity = 725-849 NTUs

96% Turbidity Reduction



Discharge From Jute Mat = 19 NTUs

98% Turbidity Reduction

Discharge From Wetland = 6.5 NTUs

99% Turbidity Reduction

Smart Ditch Treatment Systems





Smart Ditch Panels Used As Mixing Trench For Floc Logs:

- Easy Set-up
- Ribs Produce Turbulent Mixing
- Reusable



Smart Ditch Treatment System Set-up



Set-up Of Jute Particle Curtains For Floc Capture



PAM Treatment System Set-up



PAM Blend Floc Logs Installed In Smart Ditch



Pump Started, Floc Logs Dispersing PAM To Turbid Water

Pipe & Container Treatment Systems



Pipe Treatment System O'Hare Airport



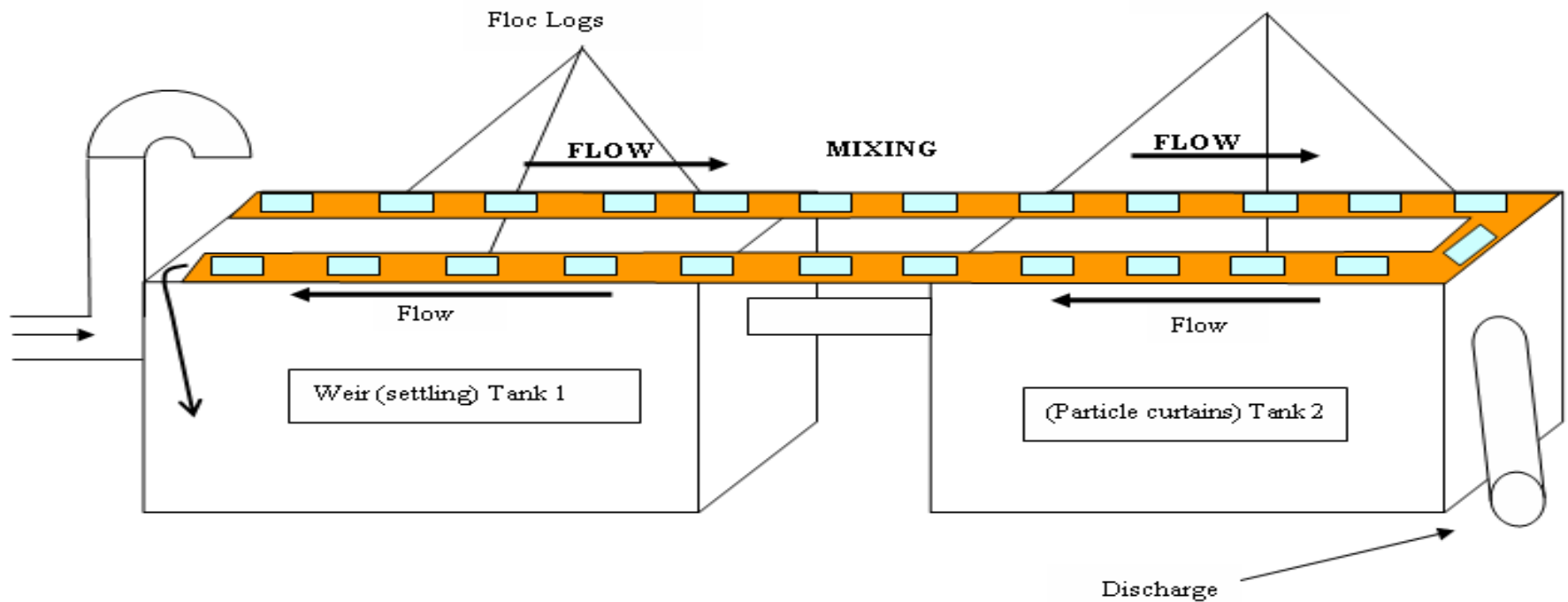
O'Hare South Basin - 75 million gallons in October 2008



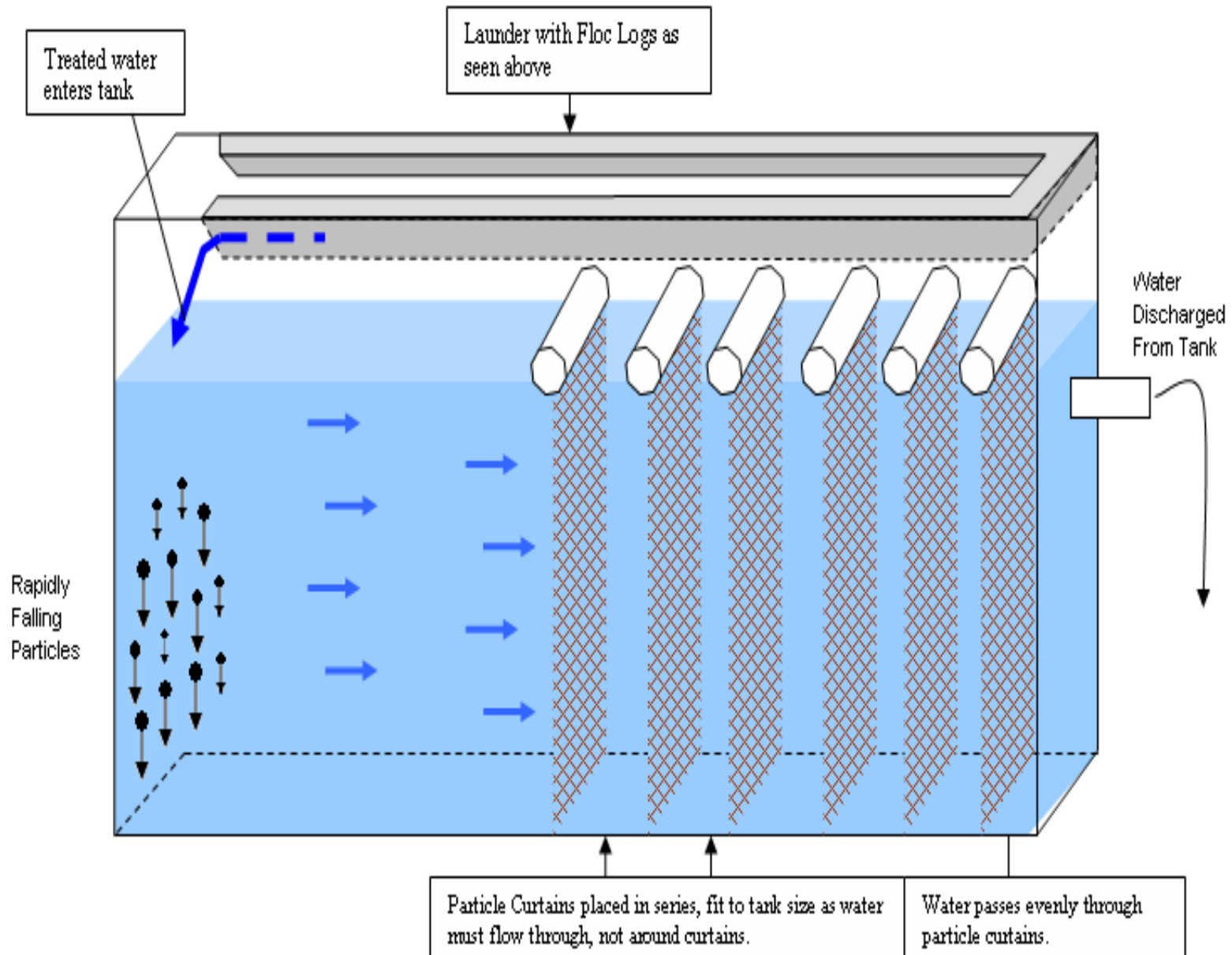
APS Floc Logs® in one of the 66" discharge pipes



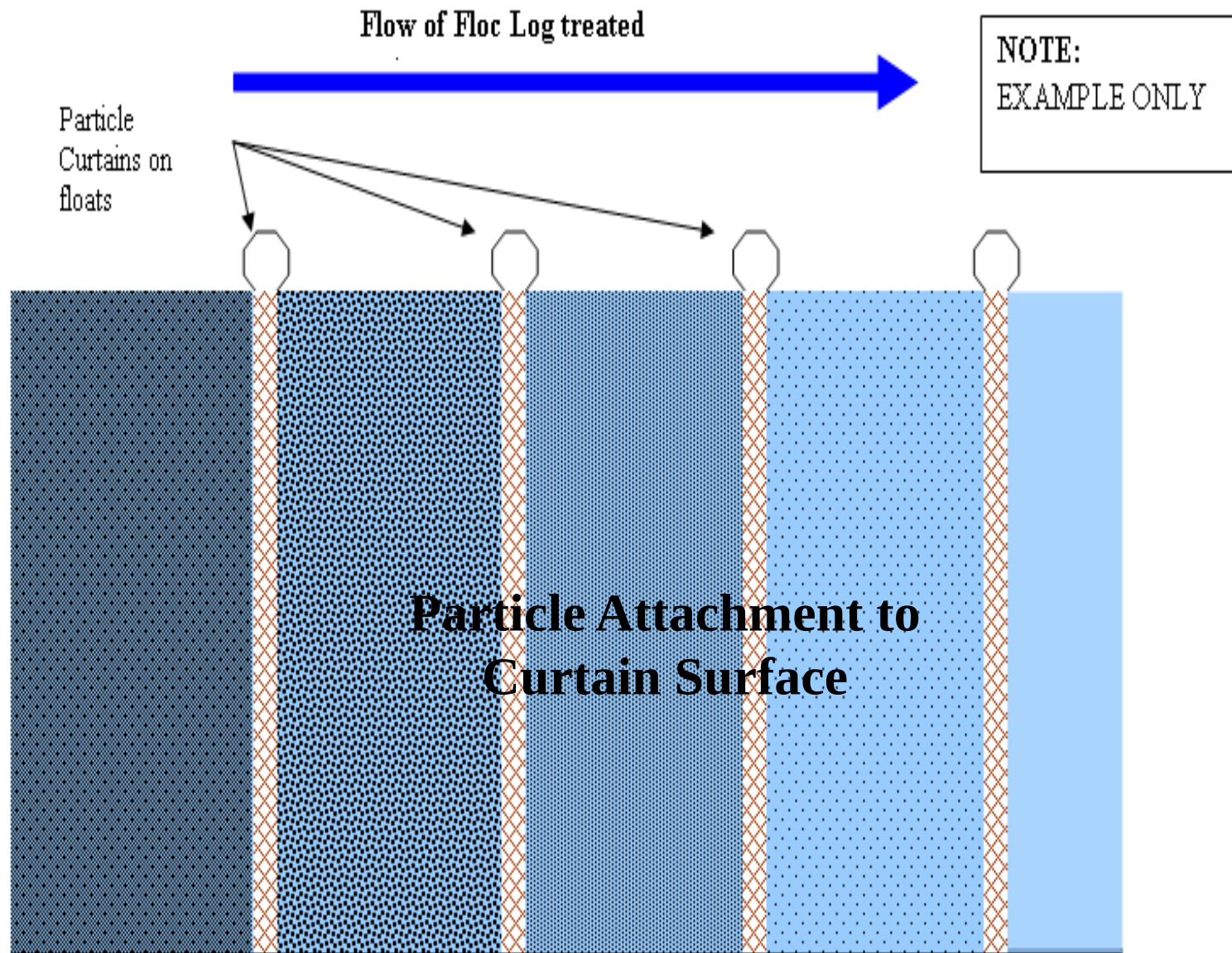
Container Treatment System



Particle Curtains For Floc Capture



Particle Curtains For Floc Capture





Particle Curtains For Floc Capture



Particle Curtains For Floc Capture

Commercial Treatment Systems

- Turn-Key
- More Efficient (Higher %Turbidity Removal)
- Faster Results
- Rental Or Purchase
- Easier Set-up & Smaller Footprint

Commercial Examples

- Water Wagon
- Floctopus
- LIPVACS
- FlocHog



Newly Constructed Cove On Highly Sensitive Lake. Boomed Area
Turbidity Varied Between 65-85 NTUs,
Lake Turbidity Was 3-5 NTUs



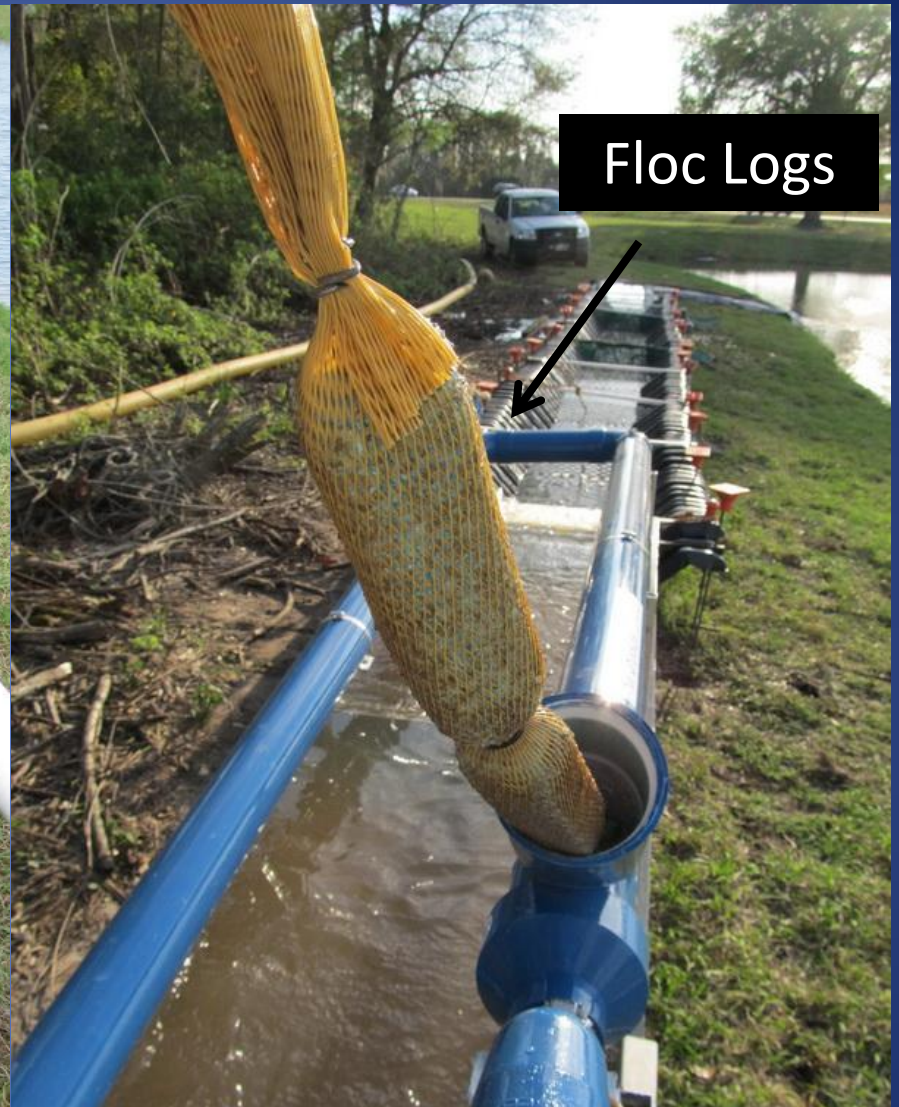
Test Results Recommended A Duplex Treatment Using
Two Polymer Blends For Best Flocculation

Water Wagon

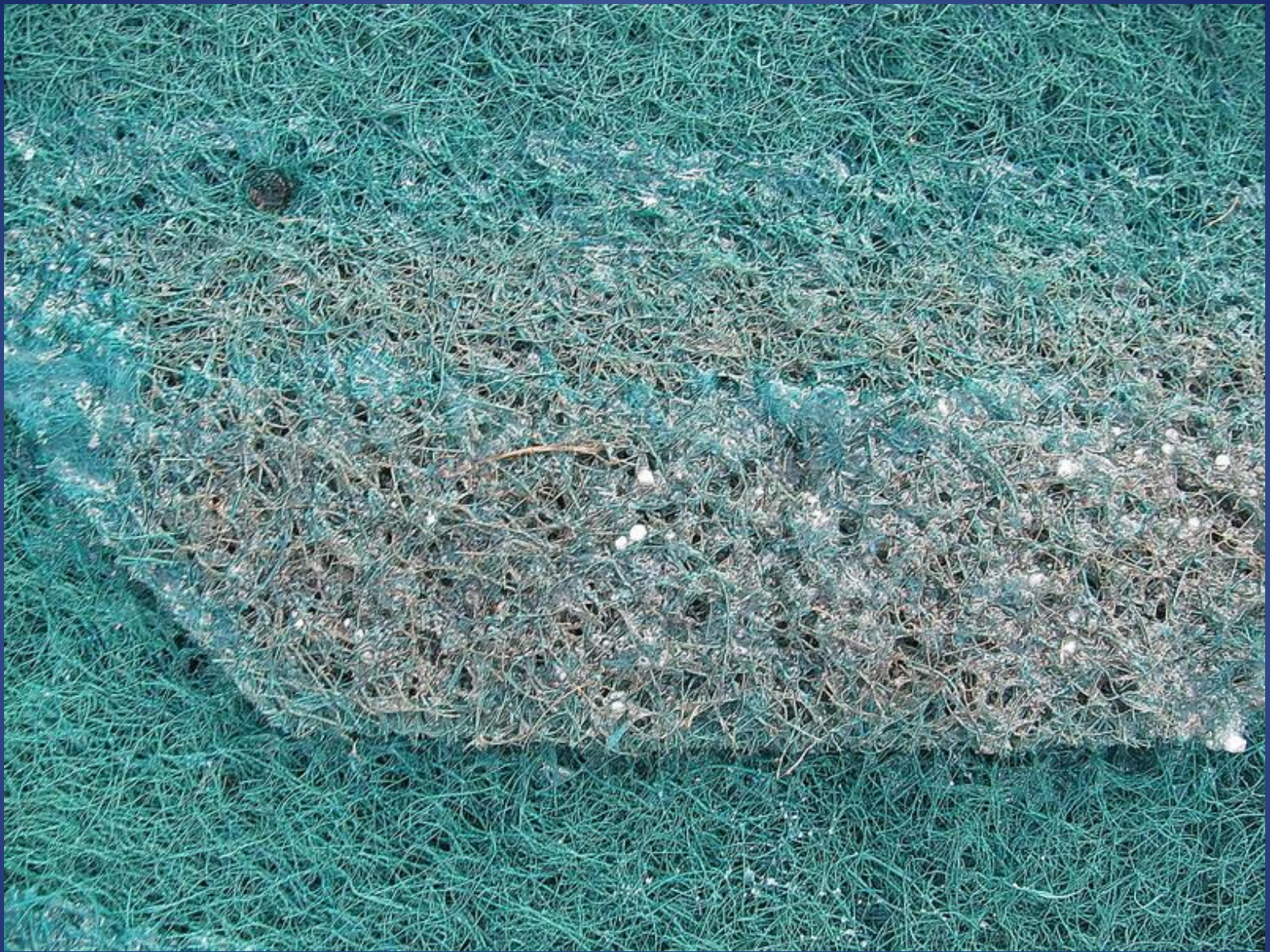


Air Injection Treatment System:

- Venturi Air Injection And Internal Pipe Mixing Of PAM
- 24 Feet Of Mixing Distance In The Pipe
- Settling Tank With Baffles & Skimmer Weir



Double Mixing Chambers Using Air Injection Technology
*Extremely Efficient PAM Mixing System



Coconut Particle Curtains Capture Large Floc Material
And Are Re-usable



Accelerated Capture Of Medium/Small Floc Particles On Jute Fabric

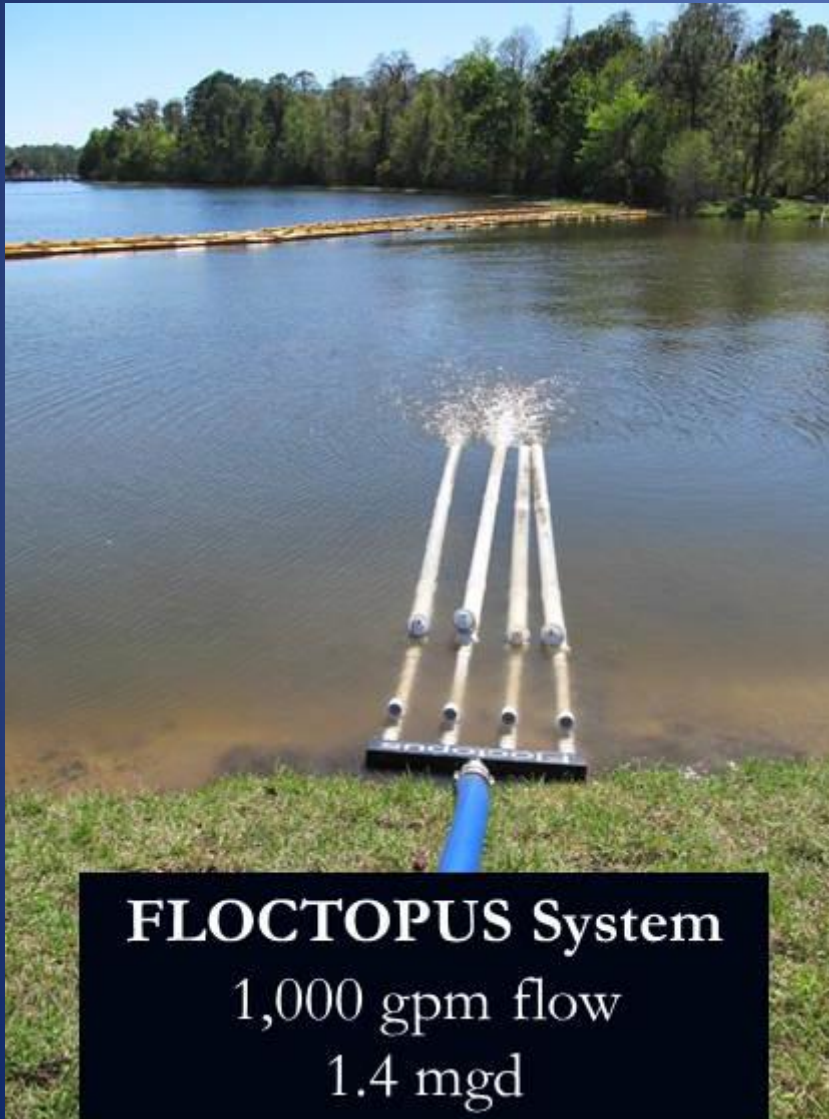


After 32 Hours Of Treatment,
Turbidity Reduced To 4 NTUs



Treatment Area Turbidity Reduced To Lake Level

Commercial Treatment Systems

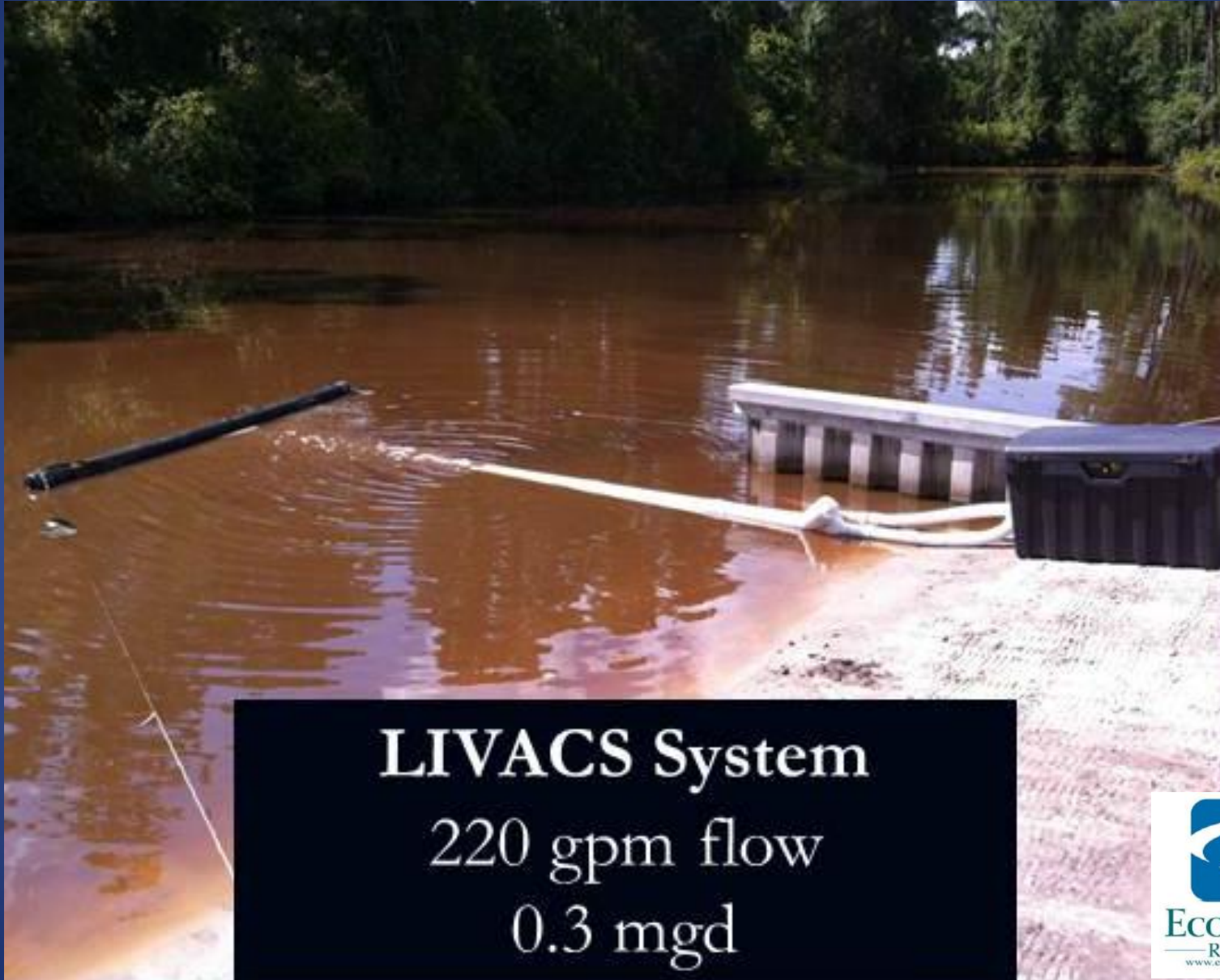


FLOCTOPUS System
1,000 gpm flow
1.4 mgd

Excellent Mixing



Commercial Treatment Systems



LIVACS System

220 gpm flow

0.3 mgd



Eco Pond
RESCUE
www.ecopondrescue.com

Commercial Treatment Systems



Floc-Hog

RAPID SET-UP • SCALEABLE • QUICK RESULTS



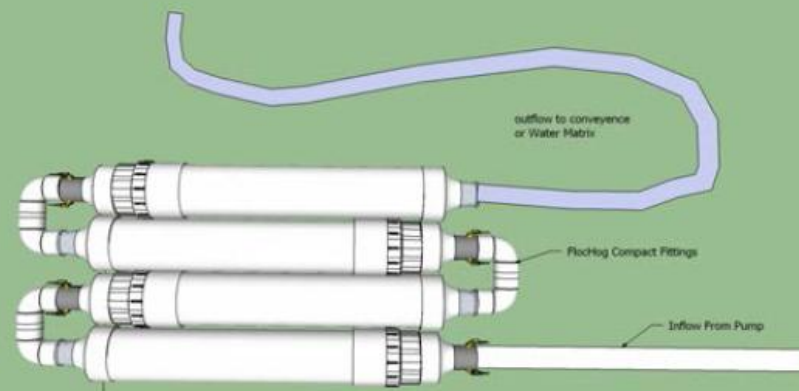
CLEAR CHOICES
CLEAR RESULTS



interfaceh₂O™
theclearsolution

Commercial Treatment Systems

500 GPM Flow
Additional Units Can Be
Linked Or Stacked





Dewatering



Canal Maintenance

Applications



Pond Maintenance



Nutrient
Management



Granular PAM
Applied To
Muck Using
Leaf Blower

6. 15. 2000



Thickened Muck Loaded
Into Dump Truck

6. 12. 2000

DEMUCKING USING PAM



Treated Muck Applied To
Sandy Soil Area To Improve
Turf Grass Survival

6. 29. 2000



Grass Seed Applied On To Treated Muck
With Spectacular Germination Results

7. 13. 2000

PAM Dewatering Summary

- Right PAM Blend At Right Dose
- Design System Or Select Commercial Unit
- Set-up & Start-up
- Inspect & Maintain
- Capture Floc Discharging To Natural Systems

Resource Information

Applied Polymer Systems, Inc.

678-494-5998

www.siltstop.com

R.H. Moore & Associates

800-330-2333

www.rhmooreassociates.com

Ecological Pond Rescue, LLC

727-412-4323

www.ecopondrescue.com

Resource Information

SmartDitch

1-866-5-SMARTD

www.smartditch.com

Interface H2O

616-510-1046

www.interfaceh2o.com

Suntree Technologies

321-637-7552

www.interfaceh2o.com

Contact Information

Eddie Snell

Reedy Creek Improvement District

Environmental Sciences

407-824-7301

esnell@rcid.org

