

February 2013

The Monthly Dirt

A Monthly Newsletter on the California Construction General Permit
By WGR Southwest, Inc.

Active Treatment

Since September 2009, when the Construction General Permit was reissued and included a little known and even less understood topic in Attachment F, active treatment systems have taken a quantum leap forward in the storm water control strategies at construction projects throughout California. Treating storm water to reduce turbidity caused by sediment is becoming more and more common. At a recent QSD/QSP training event, we were able to interview Jason Hills of Active Treatment Systems, Inc. which is a leading company in storm water treatment.



Monthly Dirt: *Are you seeing an increase in demand for active treatment and, if so, what is driving it?*

Jason: Yes, there is a definite increase in demand which seems to be driven by municipal and State regulators who now know that the technology exists and there seems to be more recognition in the construction industry that this is a tool they are expected to utilize. Treatment systems are becoming common place at the larger and highly visible projects, especially when there is a sensitive environment present.

Monthly Dirt: *When do you typically become involved with a project?*

Jason: There seems to be three scenarios that often play out. The first is becoming more common where contractors or developers will plan ahead and budget for a system. In these cases, the Active Treatment System Plan has been prepared and submitted to the State and equipment has been sized and specified. The second scenario is a "wait and see" approach where, although budget may have been allocated, little pre-project planning occurs. The third scenario is not a desirable one, in which a project experiencing NAL exceedances and non-compliance is being pressured by the regulator to utilize treatment. Often in these cases, no budget was allocated for an ATS.

Monthly Dirt: *When should a contractor or developer specify an ATS and what are the indicators that they may need one?*

Jason: Ideally, the need for an ATS should be identified during the design phase of the project when the soils report becomes available. Other key indicators for whether a site is a likely candidate for treatment include the following: 1) Is it near a sensitive body of water? 2) Will the soil disturbing activities occur during months with higher rain amounts? and 3) What is the on-site storm water storage capacity? Sites with less storage capacity will need treatment more often than those having greater storage.

Monthly Dirt: *What are the challenges that are typically encountered in using an ATS at a project?*

Jason: First and foremost, the implementation, maintenance and upkeep of the existing erosion and sediment control BMPs is crucial. If these BMPs are absent or not effective, an active treatment system will easily be overwhelmed. This is a highly dynamic process which is affected by rain intensity, pH changes, organics, and many other factors. We have noted that the success of a treatment system is usually a function of the contractor's knowledge of runoff, sediment loading, and also suspended sediment settling rates as it relates to basins or tanks. If there is not adequate settling designed in, it makes treatment very challenging. Properly designed basin or tank configuration is key.

Can I Afford It?

One question we often hear asked is "How much will it cost?" We asked Jason Hills to estimate the cost of a system using a 500 GPM flow rate as basis for a typical Active Treatment System.

Typical ATS Equipment Components:

- Active Treatment System – (24 ft. trailer containing all CGP/ATT F compliant instrumentation, automatic valves, PLC control and data logger, chemical feed/injection components, etc.)
- Filtration
- High Volume Transfer Pump
- High Head Filter Pump
- Pipe and fittings (includes interconnecting plumbing and discharge plumbing not exceeding 200 ft.)

Total Equipment Rental Costs:

- = ~ \$8,250 / 28-day cycle (Generator and Tanks/Basins excluded and by others)
- = Mobilization & Demobilization Costs ~ \$5,500 to \$3,500

Consumables & Labor:

Trained Treatment Operator Labor = ~ \$2,500 / M gals. (Only includes time discharging; +33% potentially for other down time in recirculation, testing, troubleshooting treatability, startup/shutdown, calibrations, etc...)

Flocculent = ~ \$3,325 / M gals. (Highly variable, based on BMP effectiveness and sediment loading)

To treat about 1,000,000 gallons it will cost approximately \$19,000. This may not be in every project's budget and may not seem affordable. But, many permittees do not weigh this cost against other costs resulting from on-going NAL exceedances which includes paying for equipment and labor standby time due to stop work notices issued by inspecting agencies, schedule delays, fines and penalties, and the material and labor costs trying to make traditional BMPs lower the turbidity to below 250 NTU. Using an ATS will not only keep your project in compliance, but will also give you peace of mind that your construction project can move forward without delays caused by poor storm water discharge quality.



For more information about chitosan acetate field kits go to www.dungenessenviro.com

Continuous vs. Batch Treatment

In order to discharge in a continuous flow mode of operation, the flocculent must have an approved field test that can produce analytical results within 1 hour. Chitosan acetate does have such a test, which is one reason why it is so widely used. These field test kits retail for around \$350.

Upcoming Training ...

- Next Got SWPPP? Classes held in Lodi, CA:
 - ✓ **Wednesday, February 27, 8:00 AM – 4:30 PM CPESC Review Class – lunch will be provided**
 - ✓ **Thursday, February 28, 7:00 AM – 12:00 PM CPESC Exam (first opportunity)**
 - ✓ **Thursday, February 28, 1:00 PM – 4:00 PM CPESC Math Review Class**
 - ✓ **Friday, March 1, 8:00 AM – 1:00 PM CPESC Exam (second opportunity)**
 - ✓ **Monday, March 11, 8:00 AM – 4:30 PM CESSWI Review Class – lunch will be provided**
 - ✓ **Tuesday, March 12, 8:00 AM – 11:00 AM CESSWI Exam**
 - ✓ **Wednesday, March 13, 8:00 AM – 4:30 PM CPESC Review Class – lunch will be provided**
 - ✓ **Thursday, March 14, 7:00 AM – 12:00 PM CPESC Exam (first opportunity)**
 - ✓ **Thursday, March 14, 1:00 PM – 4:00 PM CPESC Math Review Class**
 - ✓ **Friday, March 15, 8:00 AM – 1:00 PM CPESC Exam (second opportunity)**
- ✓ **QSD/QSP Class – April 9 - 11**
- ✓ **Need PDUs for CESSWI or CPESC? PDU Week coming in May 2013.**

For more information or to register for a class go to www.gotswppp.com

What is Chitosan?

Chitosan acetate is derived from crabs and has been used in water treatment for more than three decades.



Chitosan-based water treatment has been used extensively in various industrial and municipal applications and commercial aquarium clarification. Chitosan also removes oil and grease from water via its ability to form insoluble emulsions that may be separated from water gravimetrically or by filtration. Chitosan is also known to chelate (form electrostatic bonds with) some heavy metals including copper, zinc, arsenic and several other regulated toxic heavy metals. In addition to the broad applications in water treatment, chitosan has also been used in some of the following areas: hemostasis, agriculture, textiles, dietary supplements and drug delivery.¹

¹Information obtained from www.dungenessenviro.com

Please contact us if you have any questions ...

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Technical Questions about Environmental Compliance?

Call ...

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WATER MANAGEMENT SERVICES

Active Treatment Systems, Inc. (ATS) offers a variety of services to assist businesses with difficult water quality challenges. This includes technical consulting, operations and maintenance, design-build, equipment rental, engineering and regulatory permitting required to discharge to the environment.

STORMWATER TREATMENT

When conventional BMPs aren't effective, ATS can provide stormwater treatment solutions to meet all of a project's needs. ATS systems include real-time water quality monitoring, automated recirculation, alarm systems and an onsite lab. ATS systems help keep projects open during wet weather and minimize the risk of stop work orders and fines from regulatory violations.



GROUNDWATER TREATMENT AND SITE REMEDIATION

ATS, Inc. provides complete turnkey groundwater treatment solutions which can run 24/7 without an onsite operator, including project support from start to finish no matter the extent or complexity of the water quality. The systems can be semi-automated and include extensive monitoring and reporting capabilities via internet connectivity.



SLUDGE MANAGEMENT

ATS provides a variety of techniques that can reduce sludge disposal costs. Using chemical processes, fine particles bind together and the water is removed from the sludge so that the material becomes "stackable" and more readily moved to a disposal site. ATS can manage sludge generated from dredging operations, municipal detention facilities, collection ponds, wastewater treatment plants, and various process involving food bi-products.



LABORATORY SERVICES

ATS has the capability to analyze water and sludge to determine what treatment options to consider. Bench scale testing is used to help determine the most effective chemistry to employ. Projects can be pilot tested on a larger scale to prove their feasibility.



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BMP

bmpoutlet.com

February Special

StreamGuard Oil, Grease & Sediment

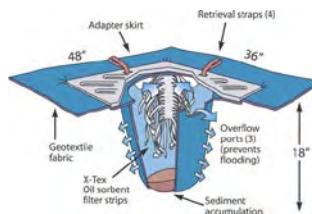
Overstock Special \$49.99

Normally \$94.60 ea, price limited to stock on hand

Oil, Grease & Sediment Insert Part No. #3001

- Made of geotextile fabric that absorbs oil and grease and retains sediment
- Keeps oil and other contaminants from stormwater drains • Made of geotextile fabric that absorbs oil and grease and retains sediment while allowing water to pass through freely • X-Tex filter strips offer total capacity of 1.38 gallons of hydrocarbon removal • Holds up to 40lbs. of sediment • Easy install and removal • Lightweight, affordable storm drain protection-avoid costly fines from runoff

* The total water flow rate through the insert when new is in excess of 500 gpm. The bypass rate is approximately 700 gpm.



BMP OUTLET'S Product Spotlight

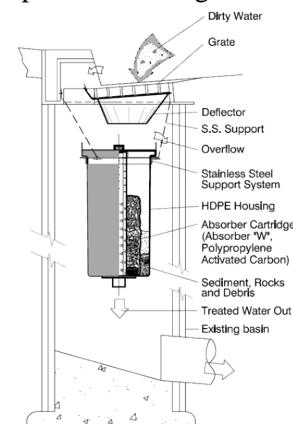
WATER DECONTAMINATOR
Catch Basin Insert



Applications include removal of oil and contaminants from water run-off sources:

- * Urban run-off
- * Roadways
- * Parking lots
- * Oil & fuel spills
- * Military bases
- * Airports
- * Industrial sites
- * Factories
- * Maintenance areas
- * Sumps
- * Fire water run-off
- * Equipment wash-down

Cleans parking lot run-off, catch basins, ponds, sumps and spills. Cleans dirty water run-off by separating dirt, debris and other solids into a sediment trap. Oils and chemicals are absorbed in a disposable cartridge



Need Maintenance or BMPs?



Are you in the Northern California region? If so, our BMP mobile service team can come to you. Our BMP expert will perform a free storm water compliance evaluation and make recommendations on areas needing improvement. Our BMP expert can also provide...

- BMP Material Quotes
- BMP Installation Quotes
- BMP Implementation advice

Schedule your visit today! (209) 334-5363 x 130

Visit us at www.bmpoutlet.com