



# The NASSCO Tidepool

A Collection of Environmental News from the Shipyard and Our Community

2ND QUARTER, 2005

5/27/05

## Environmental Engineering Mission Statement

NASSCO Environmental Engineering is dedicated to maintaining an Environmental Management System that continually strives to go beyond regulatory compliance.

NASSCO Environmental Engineering is committed to conducting all operations in a manner that safeguards the health and safety of all employees and the public, preserves natural resources, and protects the environment. This commitment to protecting the air, water, and land is carried out through energy conservation initiatives, recycling programs, and on-going process improvements.

## NASSCO is Named a San Diego Recycler of the Year

By Kacey Christie, Environmental Engineering Specialist x7963

On May 19th, Rey Guerrero, Reclamation Department Supervisor, and John Martin, Environmental Engineering Specialist represented NASSCO at the City of San Diego Environmental Services Department Waste Reduction and Recycling Awards where NASSCO was recognized as a San Diego Recycler of the Year!

NASSCO has several very successful programs in place to reduce the amount of hazardous and non-hazardous waste; this article highlights just a few of them.

The key to the success of our recycling programs is the participation of all NASSCO employees, customers, team members, subcontractors and suppliers. [Congratulations to everyone on winning this award!](#)

(Right) John Martin, Environmental Engineering Specialist and Rey Guerrero, Reclamation Supervisor accept a San Diego Recycler of the Year Award, accompanied by Rey's wife, Josy.



### YARDWIDE WASTE SEGREGATION

NASSCO has a goal of recycling 100% of all non-hazardous wastes. The City of San Diego's goal is 50%. NASSCO is currently recycling 75% of all non-hazardous wastes through the use of color-coded dumpsters as noted below:

- Blue = Paper, wood, cardboard.
- Red = Metals, including aluminum cans.
- White = Trash, such as food wastes and plastics.

(Continued on Page 2)

## SAVE THE DATE – NASSCO Family Day is August 6th

You are invited to visit the Environmental Engineering display at NASSCO's Family Day, which will be held on Saturday August 6th. Come by and meet the Environmental Engineering Staff and learn more about NASSCO's environmental programs. We look forward to meeting you and your family!

If you have any suggestions for what you'd like Environmental Engineering display, demonstrate or discuss, contact Sara Giobbi, Environmental Engineering Specialist at 619-544-8764.



## NASSCO is Named a San Diego Recycler of the Year

(Continued from Page 1)



**Abrasive blast waste collection for recycling at the Block Assembly Line.**

### ABRASIVE BLASTING GRIT & BAGHOUSE DUST RECYCLING

All of the used abrasive grit materials and baghouse dust is recovered and recycled rather than being shipped out and land-filled as a hazardous waste. This program has diverted approximately 100 tons of hazardous waste from being land-filled.

In addition, a material change from a single-use of copper slag grit to reusable steel grit resulted in a reduction of waste grit from 2,300 tons to just 21 tons on just one ship alone.

### INDUSTRIAL SHOP TOWEL AND RAG RECYCLING

To further reduce our impacts to a landfill, NASSCO launders and reuses all of our shop towels and rags. This program to date has diverted approximately 25 tons of hazardous waste from landfills.

### FLUX CORE WELDING WIRE SPOOL RECYCLING

In 2004, employees in the Reclamation and Steel Assembly (SOC 3) Departments teamed up to recycle these black polystyrene reels that make up approximately 30% of the volume of trash at SOC 3. The recycling of these reels has now spread to the SOC 1 & 2 production areas and the T-AKE ships.



## APCD Annual Inspection & ISO14001 External EMS Audit Results



APCD (Air Pollution Control District) inspector, Peter Crayne recently conducted an Annual Inspection of the entire NASSCO shipyard. During the inspection, he reviewed all of our APCD permitted pieces of equipment; all permit conditions, and all recordkeeping. After spending

more than a week on-site, he found just one minor violation for a small amount of solvent pooling in the corners of a Safety Kleen remote reservoir solvent cleaner located in the Ways 4 Tool Repair area.

This represents the 1st violation reported by an APCD inspector in 2 Years (8 Quarterly Inspections). Prior to implementing the Air Coordinator Program, NASSCO never passed a single Quarterly APCD inspection without a violation.

Additionally, during the external ISO14001 Audit by ABS, the auditor, Ron Henderson spent a great deal of time auditing our APCD permits again. Ron reported no findings in this area.

A special thank you to the following NASSCO Air Coordinators and their departments for the outstanding job they do of ensuring compliance with NASSCO's Title V Air Permit on a daily basis:

- SOC 1 - Robert Davis, Dave Gaccione, Geno Martinelli, Kelly Taylor.
- Rigging - Don Edgington.
- Transportation - Maury Finsterwald.
- Facilities - Mary Herman.
- Repair - Marc Metzler.
- Maintenance - Frank Reyes, Carl Whitaker.
- Blast, Paint and General Services - Dave Samudio.

During the ABS audit of our EMS, Ron Henderson, did report two minor findings against the following ISO14001 Clauses:

- 4.4.5 – Document Control – NASSCO was cited for failing to remove 2 obsolete documents from a manual.

- 4.4.6 – Operational Control – Subcontractor IMIA was cited for an open Hazardous Waste drum found on-board T-AKE 1. This was the only Hazardous Waste drum found to be out of compliance in the entire yard.

There are approximately 400 Hazardous Waste Drums in the yard at any given time; therefore just one nonconformance is a great accomplishment thanks to our 35 Designated HazMat Coordinators that manage Hazardous Waste throughout the shipyard every day!



## Flood, Flood, Flood.....Why is There so Much Water?

By Hugo Bermudez, Environmental Engineering Specialist, x7780

Why is there so much flooding at NASSCO during rain events? Isn't all rainwater supposed to go into the Ocean or Bay? There are so many drains in the yard, are they not working? These are just a few of many questions that employees raise during the rain events.

### STORM WATER DIVERSION SYSTEM

In early 2001, NASSCO installed a Storm Water Diversion System (SWDS). The SWDS is designed to capture and contain all storm water runoff from industrial areas. NASSCO developed the SWDS to eliminate the discharge of industrial storm water into San Diego Bay. Although we are only required to capture the "first flush" of storm water runoff - defined as the first inch of a storm event - NASSCO captures all storm water to prevent discharges into the Bay.

The storm drains that once discharged storm water into the Bay have been plugged. In fact, the term "storm drain" is no longer used in the shipyard. Drains are now referred to as "yard drains". In addition to plugging all the drains, a berm surrounding the entire shipyard (about 80 acres) was installed.



About 15 miles of underground and above ground pipes and hoses were laid throughout the yard and interconnected with large sumps equipped with high capacity pumps (400gpm). The piers were also equipped with drain scuppers to capture storm water and divert it to the collection sumps.

Storm water collected throughout the yard is diverted into several above ground collection Baker tanks that have a total capacity of 192,000 gallons. Once these tanks are full, we have no choice but to flood certain areas of the yard. These yard areas have the following capacities: Steel Yard (538,000 gal), two Building Ways, Graving Dock (33,000,000 gal), and Floating Dry-dock (128,000 gal). The combined storm water retention capacity at NASSCO exceeds 33.5 million gallons, which is more than enough capacity to capture a 100-year storm (approximately 3.5 inches of rain in 24 hours).

With the SWDS technology in place, is NASSCO really equipped and able to capture all that water? Absolutely, in October 2004, NASSCO experienced record breaking rainfall for this region and collected over 2 million gallons of storm water in that one month alone. Over 8.5 million gallons of rainwater was collected during the 2004-2005 storm season. Currently, NASSCO discharges all storm water to the San Diego Metropolitan Sanitary Sewer System at a rate of 400gpm.

Sounds easy...but its not. Containing all that storm water has a tremendous impact on NASSCO's employees, subcontractors, equipment, production schedules and costs. Here's a behind-the-scenes look at what happens when it rains.

NASSCO's sewer permit requires us to hold the rainwater onsite for 24 hours after the end of the last rain fall before discharging it into the sewer system. Once our Baker tanks have met their capacity, we have no choice but to allow the yard to flood. This is where our berm and containment areas do their jobs. Several sections of the yard, including production areas, will flood because those areas are designed to collect rainwater. We're talking lakes of water throughout the yard for several days even after the rain events have ended.

This is especially difficult for employees because they are unable to work in flooded areas due to underwater equipment and live electrical lines. When flooding occurs, employees are sent home unpaid. This impacts not just the employees but production and delivery schedules as well. Structurally, the shipyard is also impacted by standing rainwater which causes damage to the roadways and equipment. FACT: On a typical rain event, the Graving Dock will require approximately 40-50 hours to drain before it can resume production activities.



*(Continued through Page 6)*



**Members of the Stormwater Management Team from Left to Right:**

***Back Row - Daniel Cauldill, Jose Castellanos, Felix Martinez, Angel Vasquez, Carlos Reyes, Ernesto Pacrem, Yolanda Zaia, Chris Rodriguez, Juanita Espinoza, Barry Munson, Bobby Flores, Hugo Bermudez.***

***Front Row - Ron Aleman, Roberto Garcia, Rene Robles, Leif Kristiansen, Myrna Contreras, Mauro Preciado, Jesus Cordoba, Frank Reyes.***

### **STORM WATER MANAGEMENT TEAM**

A Storm Water Management Team manages the impacts of storm events at NASSCO. In the storm season of 2004-2005, this highly trained Storm Water Management Team spent approximately 600 man-hours operating the SWDS at an estimated cost of \$50,000. Maintenance, repairs and upgrades to the system are ongoing and range in the tens of thousands of dollars each year. Even with NASSCO's Storm Water Management Team, outside storm water support service for pumping storm water can cost \$100,000 for one storm season.

With all these impacts to production, employees and associated maintenance and sewer costs, why are we doing this? The answer to that is easy...our goal is to protect the Bay from the byproducts of our operations. NASSCO will continue to collect and contain all storm water in order to capture any pollutants that could be picked up and carried by rainwater to the Bay. Kudos to the Storm Water Management Team!



## STORM WATER FILTRATION SYSTEM

In addition to the SWDS, NASSCO implemented a full-scale Storm Water Filtration System (SWFS) Pilot Project in 2001.

Here is how the SWFS works. The system is installed on a 9.25 acre area designated for storm water treatment in the center part of the yard. The SWFS provides efficient and consistent reduction of various storm water pollutants such as Total and Soluble Metals, Total Suspended Solids (TSS), Oil & Grease, Trash and Debris, and Organic Compounds.

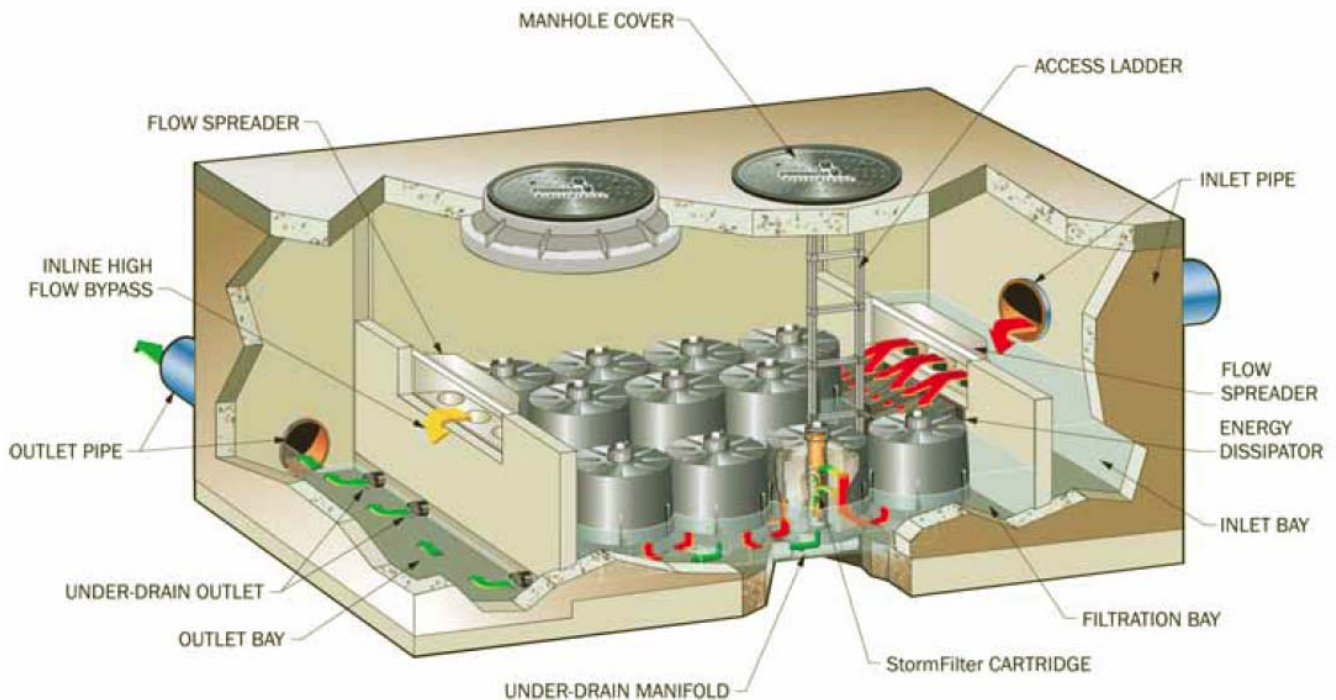
The SWFS includes five 8' x 16' pre-cast storm filters, each containing 33 cartridges filled with the following media types:

- CSF Leaf Compost: The leaves are compost and processed into an organic granular media used to remove TSS, oil and grease, and soluble metals.
- MetalsRX Second generation CSF: Filters adsorb and remove soluble heavy and toxic metals by means of cat ion exchange.
- GAC (Granular Activated Carbon): Is used for removal of oil, grease and organics.

The SWFS is composed of three bays as illustrated in the figure below: the inlet, filtration, and the outlet bay. The water first enters the inlet bay of the filter vault and is then directed through the flow spreader, which traps floatables, oils, and surface scum. It then moves into the filtration bay where treatment takes place.

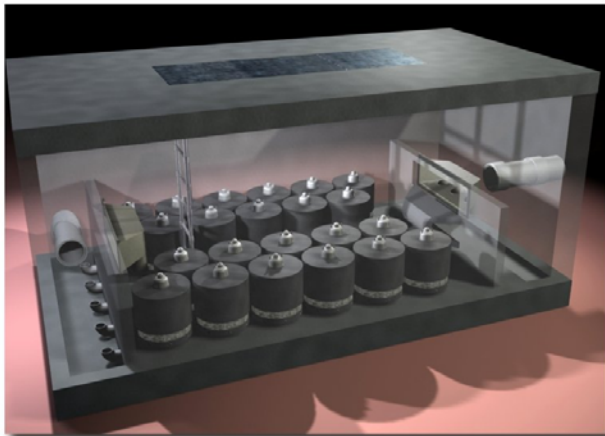
Once in the filtration bay, the storm water passes through the filter cartridges and is then directed into the outlet bay through the under drain manifold. The treated water in the outlet bay is then discharged through a single outlet pipe to the collection sump.

The treated water from the system is currently discharged into Shipbuilding Ways 4 for discharge to the San Diego Metropolitan Sanitary Sewer System.



## Flood, Flood, Flood.....Why is There so Much Water?

(Continued from Page 5)



The good news about this year's record rainfall is that we were able to collect enough water to test and evaluate the effectiveness of the SWFS. During our tests we determined it was necessary to change the filter media. I would like to thank the Maintenance Department for maintaining the system which includes emptying and replacing 133 storm filter cartridges.

Successful implementation of the SWFS will accomplish a series of things: NASSCO's National Pollutant Discharge Elimination System permit requirements will be satisfied as a result of treating all storm water; flooding in the yard will be alleviated; and the impacts to employees, production schedules, sewer cost and the City's Sanitary Sewer System will be minimized. Once perfected, the SWFS will allow storm water to be returned to the Bay with all containments removed.



Maintenance personnel changing the SWFS filter media.

## NASSCO's Commitment to Chollas Creek



Chollas Creek is approximately 15 miles long and originates in La Mesa and Lemon Grove, winding through the San Diego communities of City Heights, Encanto, Valencia Park, Lincoln Park, Southcrest and Barrio Logan before emptying into San Diego Bay near NASSCO.

This creek is adversely impacted by urban storm water run-off that enters the Creek throughout its course. As a result, Chollas Creek was placed on the Clean Water Act, Section 303(d) list for toxicity, cadmium, copper, lead, zinc, and diazinon. Diazinon is a household pesticide which is commonly found in indoor, residential, landscape and agricultural applications. (Reference: <http://www.waterboards.ca.gov/sandiego>)



NASSCO sponsors and conducts 3 Chollas Creek cleanups each year in conjunction with I-Love-A-Clean-San-Diego and the San Diego Port Tenants Association.

On Saturday, April 9th, sixty-four NASSCO employees, subcontractors, family, and friends joined in the rewarding fun of cleaning up the Chollas Creek bed during I-Love-A-Clean-San-Diego's 3rd Annual Creek to Bay Cleanup Event. A large contingent of high school volunteers from the *Barrio Logan College Institute* joined NASSCO for the cleanup.

Throughout the County, I-Love-A-Clean-San-Diego (ILACSD) brought together over 2,500 volunteers and collected more than 103,000 lbs. of trash, debris, and recyclables from the County's beaches, bays, creeks, rivers, lakes and lagoons.



**Group photo of the volunteers at the 2005 Creek to Bay Chollas Creek site.**

We removed an astonishing 1,595 lbs. of trash & debris from the NASSCO sponsored site at the mouth of Chollas Creek. The source of this pollution is storm water run-off and illegal dumping. Some of the more unusual items discovered and removed by our team were a 300 lb. camper shell, a Christmas tree, a pedestrian crossing sign and 40 aerosol spray paint cans.

A great big thanks to the NASSCO Steel Department for donating four \$40.00 Black Angus gift certificates for door prizes, the

NASSCO Medical Department for properly disposing of two syringes and the NASSCO Reclamation Department for disposing of the two dumpsters full of trash & debris. These departments were awarded "Commitment to Our Environment" certificates for their valuable support of this event.

Additional door prizes included a Polaroid camera and two Snickers candy dispensers donated by Staples. ILACSD provided a pair of tickets to Sea World for the door prize drawing and coupons for McDonalds. The after cleanup BBQ at Cesar Chavez Park in Barrio Logan was catered by our own Martin Espinoza, Jr. and his family.

NASSCO serves on the steering committee of the Chollas Creek Conservancy, a grass-roots organization dedicated to restoring the entire length of Chollas Creek. The committee is pleased to announce that it has just recently been awarded grant funding for its "Groundwork San Diego" project to restore Chollas Creek.

The next Chollas Creek & San Diego Bay cleanup event is Operation Clean Sweep (OCS) on Saturday, June 4th. This is an annual event organized by the Port of San Diego and Port Tenants Association. NASSCO is the major sponsor for the event this year. The cleanup will be conducted from 6:30am to 10am, with the "After Junk Party" from 10:30am to 11:30am.



Every Operation Clean Sweep volunteer will be given an OCS T-shirt. To sign-up for Operation Clean Sweep, contact Chad Haza, Environmental Administrator (619) 544-8826 or via email at [chaza@nassco.com](mailto:chaza@nassco.com).

## State Water Board Members Tour NASSCO

By Kacey Christie, Environmental Engineering Specialist, x7963

On April 14th, two recently appointed members of the California State Water Resources Control Board toured NASSCO accompanied by members of our Regional Water Quality Control Board (RWQCB).

State Water Board Members, Tam Doduc and Jerry Secundy were amazed by the measures NASSCO takes to manage rain water. They were also impressed by our handling of hazardous materials and the neatly organized HazMat Station on Table 9. In addition, they thought that *NASSCO's Environmental Pocket Guide* was a great way to communicate BMP's (Best Management Practices) throughout the shipyard.



(Left) Myrna Contreras & Sara Giobbi (NASSCO), Tam Doduc & Jerry Secundy (State Water Board), Steve Clarey (NASSCO) tour NASSCO's Wastewater Treatment Facility.



(Below) Ben Neil (RWQCB), Steve Clarey (NASSCO), Jerry Secundy & Tam Doduc (State Water Board), Mike McCann (RWQCB) listen while Hugo Bermudez explains the operation of our Storm Water Filtration Project.

Sara Giobbi of Environmental Engineering explained the operations of our on-site Water Treatment Facility with help from operator Myrna Contreras from Blast, Paint & General Services. Hugo Bermudez also from Environmental Engineering explained the operations of our Storm Water Diversion System and Storm Water Filtration Project. Steve Clarey, NASSCO's Director of Marketing was on hand to provide insights on the operational aspects of the shipyard.

The new Board members were very impressed by NASSCO's other "Beyond Compliance Programs" such as the re-powering of our overhead cranes, weekly yard-wide environmental inspections, and our overall 75% recycling rate.



This newsletter is generated by the NASSCO Environmental Engineering staff and is intended for the enjoyment of its readers by providing information on a variety of environmental topics. Information and/or opinions expressed herein reflect the knowledge and opinions of the author and not necessarily the Environmental Engineering Department, NASSCO or General Dynamics.

If you are interested in submitting an article of environmental interest, or would like us to address one of your questions/concerns, please contact us at Environmental Engineering, Mail Stop 22A.

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