



U.S. Army Corps
of Engineers
Norfolk District

RESTORATION *News*

Former Nansmond Ordnance Depot Project Update • Volume 12 • February 2004

TNT Area Interim Cover Complete

The U.S. Army Corps of Engineers has completed installing the interim cover for a 1-acre section of the TNT Area near the entrance of the Tidewater Community College, Portsmouth Campus. The cover consists of a geofabric liner material and 6 inches of clean topsoil. The purpose of the interim cover is to prevent people from coming into contact with or inhaling dust from the contaminated soil until the final investigation and cleanup can be completed at the site.

The contaminated soil, which contains elevated concentrations of

Lead and TNT, was below the surface prior to the Corps' ordnance removal efforts at the site in July 2003. The Corps consulted with EPA and VDEQ to determine how to address the soil until the Corps can complete a comprehensive soil and groundwater investigation of the site and determine the best long-term cleanup strategy. The Corps has notified TCC and the area soccer league and is coordinating site maintenance activities with the college to minimize soil disturbance.

The Corps is currently conducting a Remedial Investigation (RI) of the site and has delineated the extent of the soil contamination. Groundwater sampling will

be conducted over the next two years to fully characterize the extent of the groundwater contamination. The Corps expects to complete the soil sampling efforts and the Human Health Risk Assessment this year. The Human Health Risk Assessment will evaluate exposure to construction workers, recreational users, visitors to the site, and residents based on contact with, ingestion or inhalation of contaminants in the surface soils and groundwater. These exposure calculations will then be compared with EPA risk action levels to determine what remedy is needed. The Corps hopes to finalize a cleanup strategy for the site by the end of 2006.



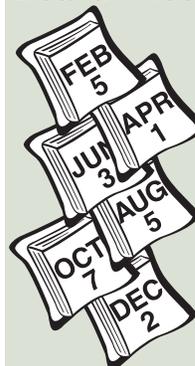
The U.S. Army Corps installed a geofabric liner over the TNT area at Tidewater Community College.



The geofabric liner was covered with 6 inches of clean topsoil.

Mark Your Calendar...

Restoration Advisory Board Meetings



February 5

April 1

June 3

August 5

October 7

December 2

All are Welcome!

Time: 7:00 p.m. to 9:00 p.m.

Location:

Bon Secours Health Center at Harbour View, 5818 Harbour View Boulevard (Suffolk)

2004 Project Priorities

The following is a summary of several of the Corps' 2004 project priorities.

Horseshoe Pond – The Horseshoe Pond is one of the six EPA designated contaminant “Source Areas” listed on the National Priorities List. It is approximately 1.2 acres in size and is located on Dominion Lands property southwest of the GE plant adjacent to the Nansemond River. The site was used as a waste disposal area for approximately 10 years in the late 1940s. Laboratory glassware, bottles, film, and assorted debris are visible in the vicinity of the pond. The pond is surrounded with berms and steep banks.

Metal contaminants are present in the soil in the berm areas and the Corps is trying to determine whether these contaminants have migrated into the adjacent nearshore area. The Corps is also planning to investigate two anomalies that were identified during a geophysical survey of the pond to determine if the anomalies are metal scrap or ordnance related. The

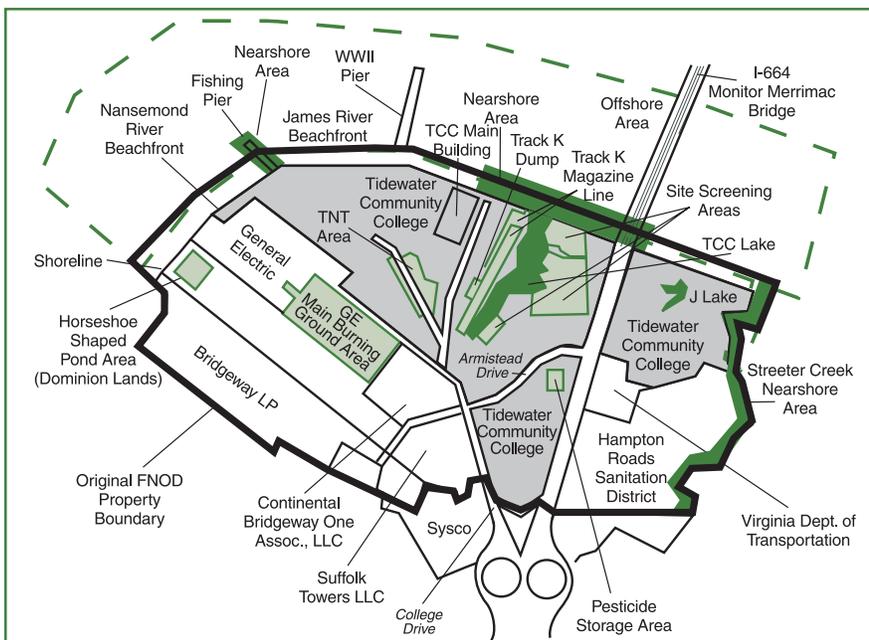
Horseshoe Pond is a priority in 2004 due to new development plans near the site.

Nearshore Area – The Nearshore Area currently consists of sections of the James River and Nansemond River shoreline out approximately 200 feet to the Mean Lower Low Water (MLLW) mark adjacent to several known disposal areas. It includes the James River Beachfront, Streater Creek, TCC Lake, J-Lake, and the Fishing Pier area. The Corps may also investigate the nearshore areas adjacent to the Horseshoe Pond and Nansemond River beach depending on the results of investigations that are underway at each of these sites.

The Corps is trying to determine the impact of the former depot on the shallow shoreline river sediments. The concern is debris, ordnance waste and contaminants, and slag that may have migrated into the river due to extensive shoreline erosion that has occurred at the site over the past 50 years. The Corps' contractor, SAIC,

2004 Project Priorities

- **TNT Area:** Remedial Investigation, Human Health and Eco Risk Assessments
- **Horseshoe Pond:** Remedial Investigation, Human Health and Ecological Risk Assessments
- **Nearshore Area** study
- **Track K Dump and Pesticide Storage Area** Remedial Investigations
- Site screening of **new Areas of Concern east of TCC Lake and west of I-664** including: Marine Corps Power Generator Plant, Tracks G, H, I & J Magazine Lines, Abandoned Water Treatment Plant
- **GE Main Burning Ground** OE investigations
- **Land Use Control Agreements** with the city, Virginia Community College System, GE, Dominion Lands, Continental Bridgeway, Bridgeway LP



Site Map

will use geophysical survey equipment (high-end magnetometers) to locate metallic debris and potential ordnance items. They will use side-scan sonar and bathymetry instruments to identify sediment characteristics and movement. SAIC will also collect sediment samples to determine if FNOD-related contaminants exist in the shoreline river sediments at levels that would pose a risk to human health or the local ecology. Finally, in response to questions and concerns raised by the Restoration Advisory Board members, the Corps will also evaluate whether the hurricane moved river sediment that covered known areas of buried debris along the James River

Continued on page 3

2004 Project Priorities

Continued from page 2

Beachfront. The results of this study are expected in December 2004.

Track K Dump (Tire Pile & Paint Can area) & Pesticide Storage Area Investigations – The Track K Dump was designated as one of the six Source Areas on EPA’s National Priorities List in 1999. This site is approximately ½ acre in size and is located on TCC property in a wooded area west of South Road. In June 2001, the Corps removed 58 tons



The Track K dump before (above) and after cleanup.

of tires and a half cubic yard of paint cans from the site.

The Corps then conducted soil sampling at the site in 2002. Elevated levels of Dioxin and Dieldrin were found in these soil samples. More soil sampling will be completed in 2004 to further delineate the

extent of the contamination. The Corps will then conduct both human health and ecological risk assessments to determine what cleanup efforts are required. This site is a priority because it is a designated EPA Source area and the Corps hopes to be able to delist the site in the next year and a half.

The Pesticide Storage Area is located on TCC property in a wooded area between I-664, College Drive, and Armistead Road. It was discovered in 1998 when two unsealed and unmarked 55-gallon drums were found. The Corps removed the drums in November 2000 and collected soil samples in the area. These soil samples revealed elevated levels of Dieldrin (pesticide). Further soil sampling is scheduled in 2004 to delineate the nature and extent of the Dieldrin in the soil and to determine the appropriate cleanup action required. This site is a priority for the Corps based on input from the Virginia Community College System.

Site Screening for Areas of Concern East of TCC Lake and West of I-664

In 2004, the Corps will begin reviewing several Areas of Concern located on TCC property east of the TCC Lake and west of I-664 including: the Marine Corps Power Generation facility, Tracks G, H, I & J Magazine Lines, and the Abandoned Water Treatment Plant.

The Marine Corps Power Generation facility is approximately 2,300 square feet and is located on TCC property northeast of the intersection of Armistead Road and College Drive. The concern with this site is a transformer that may have spilled PCB-contaminated oil. This year the Corps will collect samples of the suspect transformer liquid, the building foundation, and surrounding soil for analysis.

Tracks G, H, I, & J are former depot ammunition storage areas located on TCC property between TCC Lake and Streeter Creek and were identified as possible Areas of Concern based on historical records. The Corps will use the site screening process established with the regulators to determine if additional investigation or restoration efforts are required.

The Abandoned Water Treatment facility is located on a half acre between the southeast shore of TCC Lake and Club Drive. It was part of the water supply system for the former depot. The concern is a suspected Underground Storage Tank containing diesel fuel that has not been found.

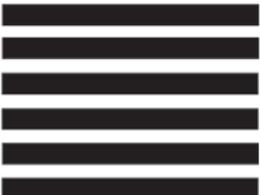
A review of these Areas of Concern east of TCC Lake is a priority for the Corps based on input and priorities expressed by TCC and the City of Suffolk.



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ATSDR Reports Public Health Assessment Findings

The Agency for Toxic Substances and Disease Registry (ATSDR) presented their Public Health Assessment Findings for the FNOD site at the December 4, 2003 Restoration Advisory Board meeting. They evaluated past, present, or future health effects from exposure to the highest levels of chemicals found onsite for three sections of the former depot including GE property, TCC property, and land formerly owned by Dominion Lands.

ATSDR is mandated by Congress to perform a public health assessment for all sites that are proposed and/or placed on EPA's National Priority List.

On GE property, ATSDR found that the past and present exposure to contaminants in the soil and sediment was too low to result in any health effects.

On TCC property, ATSDR evaluated drinking water data from the late 1980s to early 1990s (before the college was hooked up to city water). They determined that the contaminant concentrations were too low to have resulted in any health effects. Second, they evaluated the surface water and fish data that came from TCC Lake and J Lake and found that no health effects were likely from those exposures.

Third, ATSDR concluded that some of the lead levels in the TNT area and the James River beachfront are high enough to pose a risk to children in a residential setting. The Corps is conducting an investigation in the TNT area to determine the nature and extent of the problem and a human health risk assessment at the James River beachfront to determine the level of risk posed by that site.

On former Dominion Lands property, ATSDR evaluated exposures to trespassers or workers who would have occasional contact with the soil or sediment on the property. To complete their evaluation, they averaged the highest contaminant levels ever found in the Impregnite Kit area and the Horseshoe Pond. ATSDR found that exposure to the contaminants in the soil and sediment was too low to result in any health effects but that groundwater from the shallow aquifer in this area is not suitable for residential drinking due to high levels of metals and some contaminants. The agency recommended that the groundwater in this area be characterized and treated prior to residential use.

Finally, ATSDR stated that land use controls are necessary for the former depot area even though the Corps has

removed a great deal of the ordnance and explosives from the site. The Corps hopes to have a signed Memorandum of Agreement with the City of Suffolk by Spring 2004 to include land use controls on former depot property where munitions and explosives were recovered.

Summary of ATSDR's Recommendations

- 1) Continue cleanup at the TNT burial site.
- 2) If residential areas are to be developed, test soil for lead and clean up if necessary.
- 3) Do not use site groundwater for drinking water without characterization and treatment.
- 4) Address physical hazards.
- 5) Follow O&E clearance procedures; set up land use controls; educate potential occupants.

The public health assessment report can be reviewed at:

- www.atsdr.cdc.gov
- TCC Portsmouth Campus Library
- U.S. Army Corps of Engineers Office (Norfolk District)

Copies of the report can be requested from Jill Dyken (phone: 888-422-8737) or Jdyken@cdc.gov.

Reply Card

U.S. Army Corps of Engineers, Norfolk District
The Former Nansmond Ordnance Depot Project

- I'd like to receive information about joining the RAB.
- I'd like to receive RAB meeting information.
- I'd like to be removed from the mailing list.

Topics I'd like to see in future issues of *Restoration News*:

Name _____

Street Address _____

City _____ State _____ Zip Code _____

Affiliation _____

Phone _____ E-mail _____

Project Updates

Ordnance & Explosives (OE) Update

As of February 5, the Corps has completed OE removal efforts at approximately 53 of the 69 acres that require clearance at FNOD.

Main Burning Ground (GE) - The Corps continues OE clearing efforts in the Main Burning Ground area on GE property. In December during ordnance and explosive (OE) investigation efforts at the site, the Corps unearthed approximately 20 World War II era gas mask filters. These filters are being tested to determine how to properly dispose of them. To date, approximately 464 OE items, 122,626 pounds of scrap, 733,402 pounds of non-OE-related scrap, and construction debris have been removed from the site since the Corps initiated its investigation there in 1996. The vast majority of OE items and scrap recovered have been inert. Recovered scrap has been shipped offsite to a scrap dealer for disposal.



Gas mask filter found at the GE Main Burning Ground area.

There are approximately 49 investigation grids left to clear at the Main Burning Ground. Since many of the remaining grids are full of construction debris, they take considerably more time to clear. The Corps has a tentative plan to use a mechanical sifter at the site to speed up the screening process. Details, such as the processing rate with the sifter and the safety perimeter required around it, have yet to

be determined. The Corps intends to have the mechanical sifter operational by the summer of 2004 and the OE removal efforts complete at the Main Burning Ground by 2006.

Planned detonations for OE items that the Corps finds are usually conducted between 3 p.m. and 4 p.m. However, detonations may occur at other times depending on weather conditions. If you have questions or comments about the Corps' planned detonations, please contact David Wigle, FNOD Project Manager, Norfolk District Corps of Engineers, phone 757-441-7507, david.e.wigle@usace.army.mil.

No Further Efforts Planned for the Offshore Area

The Corps is currently drafting a Record of Decision for no further action in the Offshore Area. The Corps received no comments during a public comment period that ran from December 4, 2003 through January 4, 2004. A public meeting was held on December 4 to discuss the studies and the Corps' finding that there is no risk to human health or the environment in the Offshore Area from the former depot.

The study, conducted by SAIC, indicated that contaminants originating from the Former Nansemond Ordnance Depot (FNOD) are not present in the offshore sediments at concentrations that would pose a risk to marine life, animals, or humans. The Corps tested river sediments for FNOD-related contaminants of concern, such as explosives (such as TNT), metals (such as lead and arsenic), pesticides (such as Dieldrin), and volatile organic compounds (such as TCE, a contaminant associated with solvents). The study included 3 miles of river from the James River near the I-664 bridge to the Nansemond River near the GE facility from the Mean Lower Low Water line (approximately 200 feet from shore) out as far as 1 nautical mile from shore.

What is Ordnance & Explosives?

Ordnance and Explosives (OE) include ammunition, ammunition components, or explosives that have been abandoned, lost, discarded, buried, or fired. *20mm Projectile*



Web Site Links

U.S. Army Corps of Engineers FNOD Project Web Site:
<http://www.nao.usace.army.mil/projects/nansemond/welcome.html>

Environmental Protection Agency:
<http://www.epa.gov/reg3hwmd/super/VA/nansemond/index.htm>

Virginia Department of Environmental Quality (VDEQ):
<http://www.deq.state.va.us>

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RAB members on a recent site tour

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