

## Ordnance and Explosives Land Use Controls for the Former Nansemond Ordnance Depot

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The U.S. Army Corps of Engineers, Norfolk District (USACE, Norfolk) is removing ordnance and explosives that remain from prior military use at the Former Nansemond Ordnance Depot (FNOD). USACE uses the best available detection and removal technology; however, there is a small chance for ordnance to remain in place. The land use controls described in this fact sheet are intended to provide an additional margin of safety where removal actions are complete and to preclude incompatible uses of the property prior to completion of ongoing or planned removal actions.

These removal actions are planned to continue for approximately 3 to 5 years. Decisions regarding whether controls are required for long-term or permanent protection will be made when all of the planned removals are complete. The effectiveness of the land use controls that are being implemented now will be evaluated at that time.

This fact sheet describes the land use controls that will be implemented and maintained at known and suspected ordnance and explosives sites for approximately the next 3 to 5 years. The previous fact sheet entitled “Institutional/Land Use Controls” (February 2001) presented and defined the different types of controls.

### Why Are Land Use Controls Needed?

#### *Past Use*

FNOD was an ammunition depot, where a broad range of munitions were stored, handled, assembled, and disposed of. The locations where these activities occurred are illustrated in Figure 1. Past activities that resulted in hazards can be divided into four categories.

- **Pits and Trenches**—In an intentional destruction process to make ordnance safe, which is called “demilitarization,” ordnance was placed in pits or trenches and ignited. Then, the trenches were backfilled with soil to cover remaining munitions that did not detonate, munitions that were partially detonated, and ordnance-related scrap (shrapnel and fragments).
- **Demilitarized Ordnance and Explosives Scrap Disposal Areas**—In some cases, large amounts of debris from demilitarization (i.e., making the ordnance safe) were discarded in erosion channels near beaches.
- **“Kick-Out Areas”**—During demilitarization operations, forces from explosions in the pits or trenches carried small items away from the detonation area. These small items are commonly referred to as “kick-out” material and include items such as small projectiles (e.g., 20mm projectiles), grenades, and miscellaneous pieces of ordnance or scrap (e.g., fuzes).
- **Washout Areas**—The only known area with residue from washout operations is the Trinitrotoluene (TNT) Removal Area. Washout operations involved the use of steam cleaners or high-pressure washers to salvage ordnance parts from disassembled munitions or clean out rail cars that were caked with explosives residuum.

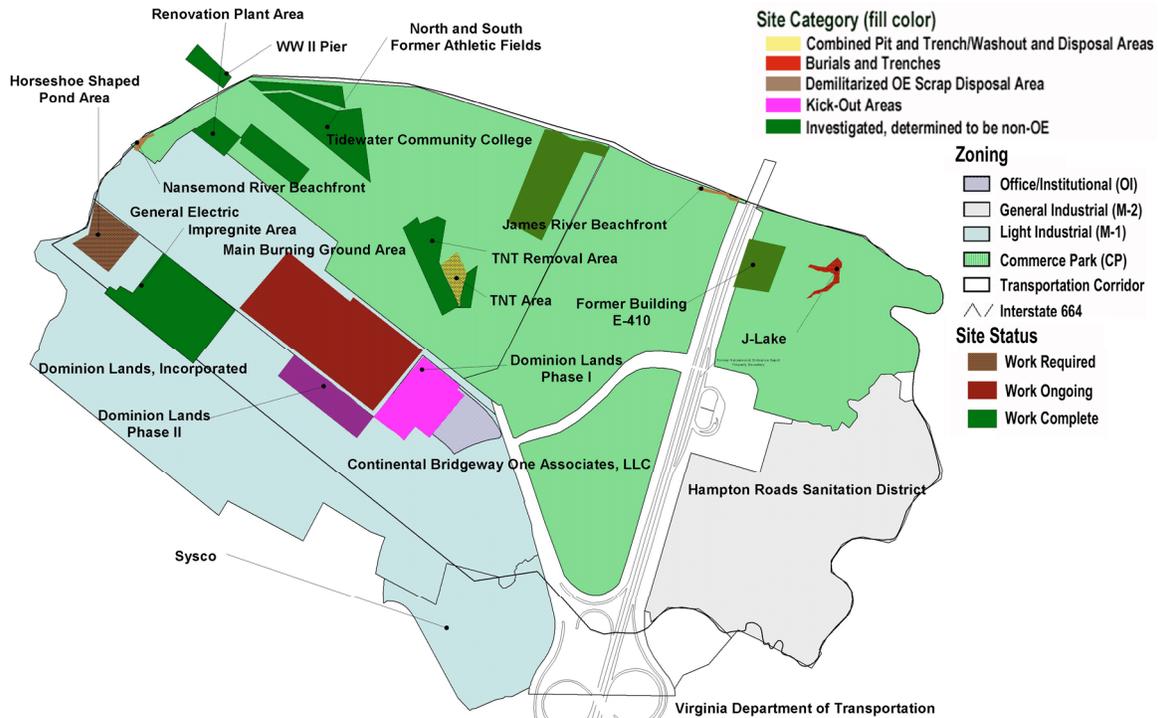
Response actions to remove ordnance and explosives that remain from these activities have been completed, are planned, or are ongoing at different areas of FNOD.

#### *Current Use and Ownership*

Various land transactions have occurred since the U.S. Department of Defense (DOD) initially released FNOD property in 1960. Currently, the following private corporations and public agencies own or manage property at FNOD: Continental Bridgeway One Associates, LLC; Dominion Lands, Inc.; General Electric Company (GE); Hampton Roads Sanitation District; SYSCO Food Services of Hampton Roads, Inc.; Virginia State Board of Community Colleges – Tidewater Community College (TCC); and Virginia Department of Transportation. Land ownership boundaries are illustrated in Figure 1.

The city of Suffolk’s *Comprehensive Plan* specifies zoning and land uses (Unified Development Ordinance, §§ 31-403 and 31-406) for FNOD. Zoning districts that include residential land uses are

## Zoning and Cleanup Status



**Figure 1. FNOD Conceptual Site Model**

currently prohibited at FNOD. Figure 1 illustrates the following zoning districts at FNOD:

- **Office/Institution (O-I)**—Continental Bridgeway One Associates, LLC
- **Commerce Park (CP)**—TCC
- **Light Industrial (M-1)**—Dominion Lands, Inc.
- **General Industrial (M-2)**—Hampton Roads Sanitation District

### **Cleanup Status**

As of March 2002, USACE has completed approximately half of the ordnance and explosives removals. All anticipated ordnance and explosives removals should be completed within the next 3 to 5 years.

Removal actions are ongoing at three sites and are required at three additional sites at FNOD. The locations of these sites are listed in Table 1 and illustrated in Figure 1.

The Former Athletic Fields (North and South), Former Building E-410, Former Buildings L-11 and L-12, Impregnite Kit Area, and Renovation Plant Area originally were suspected ordnance and explosives sites. However, these sites have since been

surveyed and no ordnance and explosives response was determined to be necessary.

### **How Were Land Use Controls Selected and Who Selected Them?**

In November 2000, USACE assembled and convened a working group to address land use controls for FNOD. The work group currently consists of the following representatives of the community and associated representatives of FNOD:

- Ken Hafner – USACE, Norfolk (Project Manager)
- Cheryl Fromme – USACE, Norfolk (Project Engineer)
- Rob Thomson – U.S. Environmental Protection Agency (EPA), Region III
- Eric Salopek – Virginia Department of Environmental Quality
- Tim Fink – TCC
- Pat Genzler – Virginia Community College System
- Steve Cline – GE
- Jim Bennett – Dominion Lands, Inc.
- Tom O'Grady – City of Suffolk (Department of Economic Development)

## Development and Implementation

**Table 1. Status of Ordnance and Explosives Removal Actions**

Categories	Believe Removal Action is Required	Removal Action Is Ongoing	Removal Action Completed
Burials/Trenches	Area J lake and Possible Burning Ground	Main Burning Ground	
Demilitarized Scrap Disposal Areas	Horseshoe Pond Area		James River Beachfront Nansemond River Beachfront
Kick-out areas		Dominion Lands (Phase I-South and Phase II)	Dominion Lands (Phase I - North)
Washout Areas	TNT Removal Area		

- Claudia Cotton – City of Suffolk (Department of Economic Development)
- Cindy Taylor – City of Suffolk (Department of Planning)
- Ed Roettger – City of Suffolk
- Don Perry – Continental Bridgeway One, Associates
- Kevin Farren – SYSCO Food Services of Hampton Roads
- Joyce Heffington – Hampton Roads Sanitation District
- Steve Richendollar – Hampton Roads Sanitation District
- Russell Dudley – Virginia Department of Transportation (Suffolk District)
- Ed Wallingford – Virginia Department of Transportation (Central Office).

The working group attended a meeting on 14 November 2000 to discuss land use control options. Common concerns were the economic burden of imposing institutional controls, including the effect on property value when the property is sold, and the continuance of institutional controls when the property is subdivided and transferred or otherwise conveyed to another party. These concerns were considered when evaluating and selecting the land use controls for FNOD.

A second meeting was convened on 9 January 2002 to present an overview of documents describing the development of land use controls for FNOD. These

documents considered stakeholder concerns as well as feasibility of implementation.

### *Draft Plan*

- **Land Use Control Implementation Plan (LUCIP)** – Summarizes information that can be found in greater detail in the supporting developmental documents described below.

### *Supporting Developmental Documentation*

- **Land Use Controls Assurance Plan (LUCAP)**—Describes the assurances that are needed between USACE and the stakeholders to implement, maintain, and monitor land use controls.
- **Land Use Controls Options Paper (LUCOP)**—Identifies and evaluates land use control options, identifies existing controls, evaluates the applicability of controls for known and suspected ordnance and explosives sites at FNOD, and recommends land use controls for implementation.
- **Risk Management Strategy Report for Ordnance and Explosives Hazards**—Presents the conceptual site model (CSM) for ordnance and explosives, the risk assessment for explosives safety, and other information needed to support the selection of land use controls and development of risk management strategies.

### **What's the Bottom Line?**

Removal actions are the primary means of addressing safety risk at known and suspected ordnance and explosives sites.

Land use controls are intended to provide an additional margin of safety where removal actions are complete and to preclude incompatible uses of the property prior to completion of ongoing and planned removal actions.

- Table 2 presents the selected land use controls for FNOD.
- Table 3 presents the roles and responsibilities to establish and maintain land use controls at FNOD.

The key component to preventing certain land uses is zoning. To that end, USACE will monitor land use by reviewing construction permit applications, zoning changes, and variance requests. When necessary, USACE may need to petition against less restrictive zoning (e.g., residential).

## Controls, Roles, and Responsibilities

**Table 2. Selected Land Use Controls**

Site Status	Controls
Believe Removal Action Is Required	<ul style="list-style-type: none"> <li>• Maintain existing fences and signs</li> <li>• Construction support</li> <li>• Zoning, permits, advisories, notices</li> <li>• Educational programs</li> </ul>
Removal Action Is Ongoing	<ul style="list-style-type: none"> <li>• Construction support</li> <li>• Zoning, permits, advisories, notices</li> <li>• Educational programs</li> </ul>
Removal Action Completed	<ul style="list-style-type: none"> <li>• Zoning, permits, advisories, notices</li> <li>• Educational programs</li> </ul>

It is ideal to incorporate a combination (or layering) of land use controls, so that some controls can strengthen the weaknesses of others. Education and notification programs are not considered controls, but are being developed for all property that once was included at FNOD. This increases the effectiveness of zoning and awareness about potential hazards. For

example, to ensure that existing and future owners and occupants are made aware of the property's history, USACE will request all landowners within the original FNOD footprint to record a general notice on their deed stating the nature of the hazard and extent of actions to mitigate the hazards. This is not considered a land use restriction, simply a notice of fact for owner awareness.

After public comments on the Land Use Control Implementation Plan (LUCIP) have been reviewed and considered, USACE will present a final Land Use Control Implementation Plan (LUCIP) that will contain a Responsiveness Summary answering all significant comments received during the public and regulatory reviews.

The successful implementation of land use controls requires the full coordination and partnering of stakeholders and the public.

**Table 3. Stakeholder Roles and Responsibilities**

USACE	EPA/DEQ	City of Suffolk	Property Owner
<ul style="list-style-type: none"> <li>• Prepare plans and reports</li> <li>• Conduct removals</li> <li>• Provide construction support</li> <li>• Respond to ordnance and explosives discoveries</li> <li>• Monitor zoning/land use</li> <li>• Provide educational materials</li> <li>• Maintain database of ordnance and explosives removal activities</li> <li>• Conduct meetings, educate landowner and public</li> </ul>	<ul style="list-style-type: none"> <li>• Review documents</li> <li>• Participate in public meetings</li> </ul>	<ul style="list-style-type: none"> <li>• Prosecute trespassers</li> <li>• Coordinate with USACE (zoning and land use changes, incursions, etc.)</li> <li>• Notify landowners</li> <li>• Request construction support, where appropriate</li> <li>• Support education programs</li> <li>• Participate in public meetings</li> <li>• Notify USACE of ordnance and explosives encounters through 911 calls</li> </ul>	<ul style="list-style-type: none"> <li>• Prosecute trespassers</li> <li>• Adhere to the advisories provided by USACE</li> <li>• Voluntarily record advisories in property deeds</li> <li>• Notify USACE of known incursions and damage</li> <li>• Participate in public meetings</li> <li>• Notify tenants and occupants of hazards</li> <li>• Follow city of Suffolk permitting process, where applicable</li> <li>• Non-private landowners coordinate residential or similar construction with USACE</li> </ul>

### Contact Information

For more information about the FNOD project, please contact the following people:

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### Information Repository

Information about the FNOD project is available for public review at the Information Repository:

Tidewater Community College Library  
 Information Desk  
 7000 College Drive  
 Portsmouth, Virginia

Library Hours:  
 8 a.m. to 9 p.m. Monday through Thursday  
 8 a.m. to 4 p.m. on Friday

<http://www.nao.usace.army.mil/Projects/Nansemond/facts.htm>