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NWS YORKTOWN
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EMAIL AND COMMENTS FROM U S EPA REGION III REGARDING DRAFT PROPOSED
PLAN FOR SITE 32 NWS YORKTOWN VA
01/14/2011
U S EPA REGION III

Sawyer, Stephanie/VBO

From: Friedmann, William/VBO
Sent: Friday, January 14, 2011 2:51 PM
To: Sawyer, Stephanie/VBO
Cc: Forshey, Adam/VBO
Subject: FW: NWS-Yorktown Site 32 Proposed Plan - EPA comments
Attachments: ORC comments Proposed Plan Site 32.pdf

Follow Up Flag: Follow up
Flag Status: Completed

Stephanie,

Attached, please find the EPAs comments on the Site 32 PRAP. That's all of them, so go ahead with the changes so we can prepare a draft final.

Thanks,
Bill

From: Thomson.Bob@epamail.epa.gov [mailto:Thomson.Bob@epamail.epa.gov]
Sent: Friday, January 14, 2011 1:47 PM
To: tom.kowalski@navy.mil; Friedmann, William/VBO
Cc: Forshey, Adam/VBO; wmsmith@deq.virginia.gov
Subject: NWS-Yorktown Site 32 Proposed Plan - EPA comments

Bill:

Attached, please find EPA's comments on the draft Proposed Plan for Site 32, located at the NWS-Yorktown NPL site.

If you any problems reading the comments, please do not hesitate to call or e-mail.

Robert Thomson, PE, REM
Office of Federal Facility Remediation
US EPA - Region 3
215-814-3357

*Provenance
Comments
1/19/11*



Draft Proposed Plan

Site 32: Wetlands Area Downgradient of Beaver Pond
Naval Weapons Station Yorktown
Yorktown, Virginia

or SHE32

July 2010

(Site)

1 Introduction

This Proposed Plan describes the preferred alternative for Environmental Restoration Program (ERP) Site 32, the Wetlands Area Downgradient of Beaver Pond, at Naval Weapons Station (WPNSTA) Yorktown, Yorktown, Virginia. The preferred alternative for remedial action at the Site is No Further Action (NFA) for sediment and surface water. This alternative was selected for sediments following completion of a Non-Time Critical Removal Action (NTCRA) to mitigate potential unacceptable ecological risks from exposure to mercury, cadmium, and silver in sediments. Following completion of a Remedial Investigation (RI) and Step 7 of the Ecological Risk Assessment (ERA) process that demonstrated surface water poses no unacceptable risk to human health and ecological receptors, NFA is required for surface water. Groundwater and soil are not addressed in this Proposed Plan; however, they will be addressed in a separate document. Because there are no unacceptable risks remaining at the Site from exposure to sediment and surface water, evaluation of other remedial action alternatives is unnecessary.

This Proposed Plan is issued jointly by the United States Navy (Navy), the lead agency for environmental restoration activities at WPNSTA Yorktown and the United States Environmental Protection Agency (USEPA) Region 3, the lead regulatory agency. The plan has been coordinated with the Commonwealth of Virginia Department of Environmental Quality (VDEQ), the support regulatory agency.

This Proposed Plan will be available for public review and comment at the York County Public Library (8500 George Washington Memorial Hwy, Yorktown, Virginia 23692, (757) 890-3376) during a 45-day public comment period that includes a public meeting and fulfills public participation responsibilities as required under Section 117(a) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) as amended, and Section 300.430(f)(2) of the National Oil and Hazardous Substances Pollution Contingency Plan (NCP). The Navy and USEPA Region 3, in consultation with VDEQ, will make the final decision on this plan for Site 32 for sediment and surface water after reviewing and considering all information submitted during the 45-day public comment period.

In addition to presenting a preferred alternative for Site 32 sediment and surface water, this

Either use Site 32 or Site

but be consistent

I would use Site 32

Please Mark Your Calendar

Public Comment Period
Month d - Month d, 2010

The Navy will accept written comments on this Proposed Plan during the public comment period. To submit comments or obtain further information, please refer to the names and contact information included at the end of Section 7.

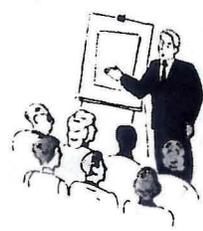
Attend the Public Meeting

Day, Month dd, 2010 X:00 - X:30 pm

Place - York County Public Library - Yorktown

8500 George Washington Highway Yorktown, Virginia 23690

The Navy will hold a public meeting to explain the Proposed Plan. Verbal and written comments will be accepted at this meeting.



Location of Administrative Record File:
NAVFAC Atlantic
6506 Hampton Boulevard, Norfolk, VA 23508
Phone: 757.322.4785

Proposed Plan summarizes previous CERCLA investigations that have been conducted at the Site. Information documenting environmental investigations at Site 32 is available to the public in the Administrative Record (AR) file for WPNSTA Yorktown. Details regarding the dates of the public comment period, the date and time of the public meeting, and the location of the AR are included in the text box entitled "Please Mark Your Calendar." In addition, a glossary of key terms is provided at the end of this Proposed Plan; glossary terms are identified in bold print the first time they appear.

2 Site Background

Site 32, the Wetlands Area Downgradient of Beaver Pond (formerly Site Screening Area [SSA] 25) encompasses an area of approximately 5.6-acres in the extreme eastern portion of WPNSTA Yorktown, the centerline of which represents the boundary between the installation and the National Park Service (NPS) Colonial National Historic Park (Figure 1).

Site 32 is located between two impounded portions of Ballard Creek (Figure 1):

Impoundment No. 1 is a natural beaver dam that forms the western boundary, while Impoundment No. 2 forms the eastern boundary; the construction of Impoundment No. 2 is unclear. Ballard Creek flows around the northern edge of Impoundment No. 1, through the wetland area, around the southern edge of Impoundment No. 2, and eventually discharges to the York River.

Previous Investigations and Actions

Site 32 has been characterized as part of several investigations and actions since 1998. Detailed information from previous investigations conducted at Site 32 is available in the AR for Yorktown. The investigations conducted at Site 32 are summarized below and listed in Table 1.

Sediment at Site 32 was adversely impacted by releases of mercury from the former Sewage Treatment Plant 2 (STP 2), which was located along the northern bank of the wetland area. In 2000, when the STP 2 was dismantled and removed, beaded elemental mercury was discovered at the base of the trickling filter. Twelve drums

Figure 1 - Site 32 Site Map

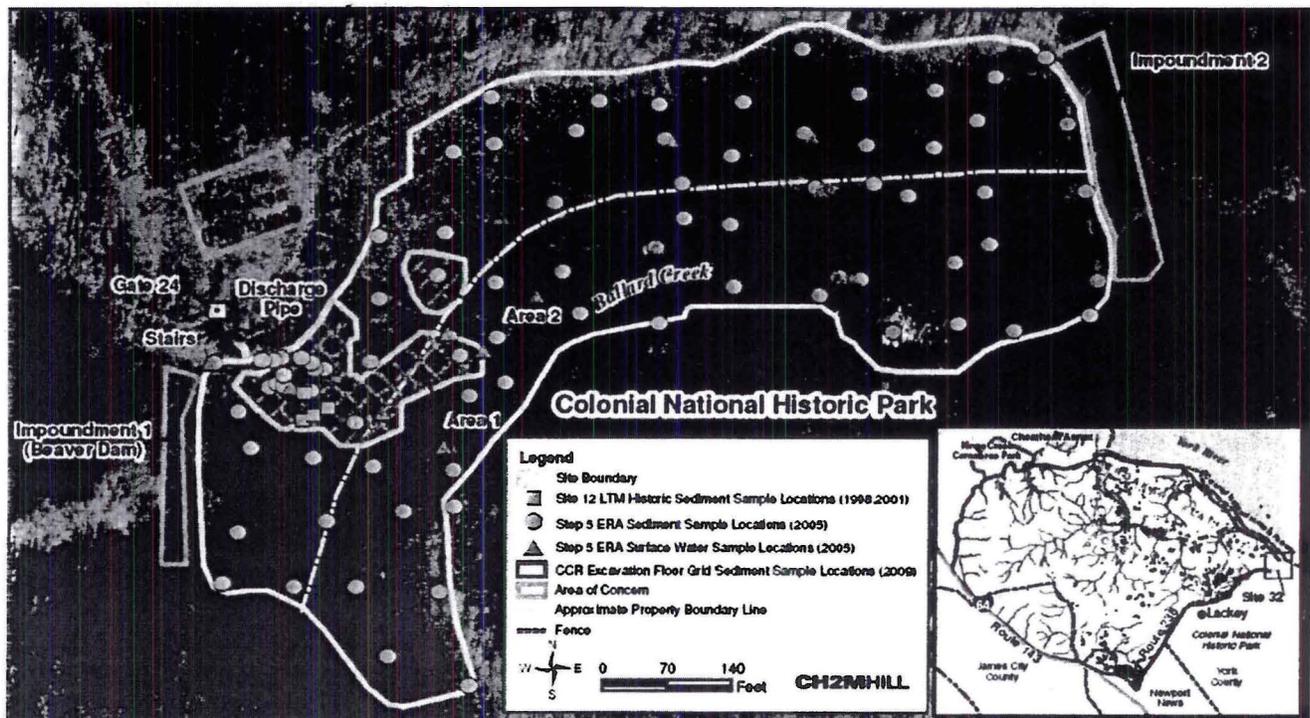


Table 1 - Site 32 Previous Investigations

Document Title /Milestone	Author/Date	AR Document Number
Consensus Statement 5-18-04-37	May 18, 2004	Not Applicable
Consensus Statement 8-17-05-42	September 26, 2005	01739
Final Project Plans Step 3B and 4 of the Baseline Ecological Risk Assessment	Baker, 2005a	01873
Final Site 12 Final Long-term Monitoring Report (1998-2003)	Baker, 2005b	02078
Final Steps 6 and 7 of the Aquatic Baseline Ecological Risk Assessment	GH2M HILL, 2008	02412
Final Engineering Evaluation/Cost Analysis (EE/CA) Site Screening Area 25	CH2M HILL, 2009	AR No. Pending
Draft Final Construction Completion Report Removal Action at Site 32	Shaw, 2010	AR No. Pending

of mercury-contaminated soils were removed for proper disposal. *by who, under what order?*

Limited Field Investigation

In August 2003, a limited field investigation was conducted within the Site 32 wetland area to delineate total mercury concentrations in sediment in the vicinity of the WPNSTA Yorktown Site 12 Long Term Monitoring (LTM) sediment sampling locations. This investigation included 39 surface and 12 subsurface sediment samples. The maximum detected concentrations of total mercury in surface and subsurface sediment were 15.3 milligrams per kilogram (mg/kg) and 19.5 mg/kg, respectively. Based upon the results of the limited field investigation, the WPNSTA Yorktown Partnering Team agreed to develop a work plan for the continued investigation of mercury associated with the former STP 2 area.

Consensus Statement 5-18-04-37

On May 18, 2004, based on the results of the 2003 limited field investigation, the WPNSTA Yorktown Partnering Team agreed to move forward with a **Baseline Ecological Risk Assessment (BERA)** to further characterize the nature and extent of mercury in the wetland area and to assess potential ecological impacts within the wetland area from exposure to mercury.

Consensus Statement 8-17-05-42

On September 26, 2005, the WPNSTA Yorktown Partnering Team agreed that the Work Plan for the Site 32 investigation could be

finalized and that fieldwork could be scheduled with an understanding that the major focus of the work plan was to address the known release of mercury from STP 2.

Final Project Plans Step 3B and 4 of the BERA

In October 2005, a Step 3B (problem formulation) and 4 (study design/data quality objectives) BERA ~~was~~ ^{were} completed to:

- Define the key pathways, chemicals, and receptors that could be driving potential risks within Site 32
- Establish the **measurement endpoints**, study design, data quality objectives, and data analysis methods for additional ^{Site 32} investigations necessary to complete the ERA

The BERA concluded that mercury may have been historically transported from the STP 2 trickling filter tank, via a regulated outfall to Site 32.

The BERA Project Plans recommended the following field activities:

- Collection of surface water, sediment, and fish and frog tissue samples for analytical testing
- Collection of sediment samples for **toxicological testing**
- Collection of **background** samples for analytical and toxicological testing

by who?
more detail in the plan in what is called in the AR.

Site 12 Final Long-term Monitoring Report (1998-2003)

Sampling of sediments within the Site 32 wetland area began as part of WPNSTA Yorktown Site 12 LTM, which was conducted in 1998 and from 2000 through 2003. Site 12 is a former disposal area containing drainage channels that discharged into Ballard Creek. The sediment samples collected from 2000 through 2003 were analyzed for arsenic, barium, cadmium, chromium, lead, mercury, selenium, and silver. The LTM results for these sediment samples indicated that mercury, cadmium, and silver were elevated relative to background levels.

elevated

Final Steps 6 and 7 of the Aquatic Baseline Ecological Risk Assessment

In November 2008, a Step 6 and 7 Aquatic BERA was completed to assess the potential for mercury, cadmium, and silver to adversely impact aquatic receptors at Site 32, following WPNSTA Yorktown Partnering Team agreement of the Aquatic BERA work plan.

what is this?

This followed the

The results of the Aquatic BERA indicated two areas where mercury, cadmium, and silver in sediment posed a potential unacceptable ecological risk in the Site 32 wetland area.

Final Engineering Evaluation/Cost Analysis Site Screening Area 25

In July 2009, an Engineering Evaluation and Cost Analysis (EE/CA) was prepared to evaluate remedial action alternatives for sediment posing potential ecological risk at Site 32.

The following remedial action alternatives were evaluated to address these potential risks:

- Alternative 1 – No Action
- Alternative 2 – Wetland Sediment Excavation and Offsite Disposal

- Alternative 3 – Wetland Sediment Cover and Land Use Controls (LUCs)

The recommended remedial action was Alternative 2, Wetland Sediment Excavation and Offsite Disposal. Because this alternative consisted of removing sediment that posed potential unacceptable ecological risk, no future monitoring or maintenance would be required. In addition, preliminary remediation goals (PRGs) for sediment were established to be protective of ecological receptors.

Based on the streamlined human health risk screening evaluation, completed as part of the EE/CA, there are no potential human health risks present at Site 32 from exposure to sediment or surface water.

- because it was removed under the EE/CA?

Site 32 Draft Final Construction Completion Report

In July 2010, the Final Construction Completion Report (CCR) was prepared to document the completion of a NTCRA of contaminated sediments (Contaminants of Concern [COCs] concentrations above the PRGs) at Site 32.

A total of 2,041 tons of contaminated sediment was disposed of from Site 32. Post excavation confirmation samples were collected from the excavation floor of each grid and sidewalls to document that the PRGs for the Site 32 COC were met.

Site 32 was restored to pre-construction conditions with clean fill and wetland vegetation to return it to the same hydrologic, topographic, and vegetative states. The PRGs for the Site 32 COC were met based on the post excavation confirmation samples (Table 2). Based on the removal of contaminated sediments to below PRGs and site restoration to pre-construction conditions, no LTM is warranted.

Table 2 – Site 32 Maximum Detection of COCs

COC	PRG (mg/kg)	Maximum Detection of COC following completion of NTCRA (mg/kg)
Cadmium	3.8	3.7
Mercury	4.2	3.5
Silver	102	70.7

3 Site Characteristics

Site 32 is a wetlands area located in the extreme eastern portion of WPNSTA Yorktown. The **topography** of this wetland area is characterized as a broad, flat area between steep upland slopes with elevations at the top of slope on the order of 30 to 50 feet above mean sea level. One main surface water channel, along with numerous small braided surface water channels and small ponds, all no deeper than about 6 inches, are located between two impoundments within this wetlands area.

Upland canopy tree species, including American sycamore, loblolly pine, sweet gum, and yellow poplar, are present along the site perimeter and across each impoundment while **freshwater emergent wetland vegetation** is present within the wetland itself.

The groundwater within the unconfined Columbia Aquifer encountered at Site 32 is expected first occur at relatively shallow depths and discharge locally and because the site is a wetland. There is no current or expected future use for groundwater at the site. Potable water at WPNSTA Yorktown is supplied by the City of Newport News Waterworks.

4 Scope and Role of Response Action

WPNSTA Yorktown was placed on the **National Priorities List (NPL)** in October 1992. A federal facilities agreement, signed in 1994, identified 16 Sites for remedial investigation and 19 Site Screening Areas (SSAs) for the **Site Screening Process (SSP)**. Subsequent to the FFA, six additional SSAs were identified for consideration under CERCLA. Site 32 is one of 28 sites at WPNSTA Yorktown currently in various stages of being investigated, addressed, and/or closed out in accordance with CERCLA and the NCP. A summary of how the Navy, in partnership with the USEPA Region 3 and VDEQ, is addressing all CERCLA sites at WPNSTA Yorktown is provided in the **Site Management Plan**, which is updated annually and available in the AR file.

5 Summary of Site Risks

Detailed results of the human health screening and ecological risk assessment conducted at Site 32 are presented in the EE/CA (CH2M HILL, 2009) and the Steps 6 and 7 of the Aquatic BERA (CH2M HILL, 2008), respectively. These documents are available in the AR. In summary, prior to any removal actions at the site, no unacceptable human health risks were identified resulting from exposure to sediment and surface water, while potential unacceptable ecological risks were identified for aquatic receptors from exposure to sediment. No ecological risks were identified from exposure to surface water.

removal The Site 32 PRGs, as discussed in the Aquatic BERA (CH2M HILL, 2008) and agreed upon by the WPNSTA Yorktown Partnering Team, include considerations for methyl mercury. The PRG for mercury is protective of methyl mercury due to regulation of the flow through the site channels and the restriction of tidal influences by the existing impoundments (Impoundment No. 1 and Impoundment No. 2). Site 32 is primarily regulated by rainfall and runoff from the upgradient areas; therefore, the pre-construction conditions in which the site was assessed are representative of the post-construction site conditions.

Post-removal confirmation samples were collected to verify that subsequent to the NTCRA unacceptable risk attributable to Site 32 sediment had been mitigated. The CCR (Shaw, 2010) documents that the NTCRA activities successfully removed sediments containing contaminants at concentrations posing unacceptable ecological risk; therefore no LTM is warranted. Additional information regarding human health and ecological risks, as well as how they are calculated, is included in text boxes within these sections.

5.1 Sediment

Based on the human health risk screening, no unacceptable human health risks associated with sediment were identified.

Potentially unacceptable ecological risks associated with sediment have been mitigated by the NTCRA. Site-specific remediation goals