

**TECHNICAL BRIEFING – DRAFT PHASE II REMEDIAL ACTION WORKPLAN (RD WP)
SITE 34 (PICA 002) LOWER BURNING GROUND - NOVEMBER 2013**

The document reviewed was a remedial action work plan for Site 34 (PICA 002), which is the Lower Burning Ground. This document has been referred to as a Remedial Design Work Plan (RD WP) for the site since it covers specifics for construction related to the asphalt cap and soil cover cap at the subject site. The document was submitted to regulators in mid-November 2013. The New Jersey Department of Environmental Protection (NJDEP) responded with comments on January 13, 2014; comments pertained primarily to the fill proposed for use in the project and to groundwater analytical parameters. The U.S. Environmental Protection Agency (USEPA) supplied comments on December 17, 2013. The Army responded to both sets of comments on January 17, 2014. The USEPA then approved the document on January 22, 2014.

Work Plan Elements

The work plan includes the following elements:

- Design drawings, technical specifications, construction quality control (QC) methods and description of construction activities;
- Long-term monitoring details including a groundwater monitoring program;
- Land Use Controls (LUCs) for the site and maintenance inspections for the cover and retention pond;
- and permit equivalencies.

Background

The record of decision (ROD) for the site was approved in 2005. The proposed remedy was subsequently changed; the ROD was amended by an Explanation of Significant Differences in 2013. The original remedy called for a more extensive asphalt cover. The amended remedy reduced the areal extent of the asphalt cover thereby reducing the amount of stormwater expected to be generated and included a soil cover to provide a barrier to exposure for less contaminated soil. The asphalt cover is to provide a barrier over lead-impacted soils which could potentially leach to groundwater. Besides the asphalt cap and the soil cover, the remedy will include the installation of stormwater management features including a bio-retention infiltration pond, central drainage swale, and soil diversion berm).

Site Description

The site is located near the southern boundary of Picatinny Arsenal. The site is within the 100-year floodplain of Green Pond Brook. The land is low lying and consists of reclaimed marshy wetlands. The Lower Burning Ground comprises three areas as follows:

- Open Burning Area – including the Burning Pan Area;
- Landfilled Area; and
- Former Waste Pile Area.

Direct burning on the ground was stopped in 1985. Burning at the area was discontinued completely in 2011 when an incinerator was put online at the base. Landfilling at the site occurred from 1960 to 1980. Metal flashed during burning was stored in the Waste Pile Area until 1991; at that time salvageable metal was removed. Other residual debris including cement, bricks and wood was left on the ground. Numerous previous investigations have taken place at the site. Most investigations were completed by 2001 although some additional sampling was conducted in 2002, 2003, and 2010. The additional sampling results were included in the Proposed Plan (2004) and in a subsequent letter report in 2010.

Phase I work for the remedy has already been completed. Vegetation clearing was done in the spring of 2012. A total of 7.5 acres was cleared; clearing had to be completed before March 31, 2012 to satisfy the requirements of the Picatinny tree clearing program. The tree clearing program has a stipulated deadline each year due to the potential presence of bats later in the season. After tree clearing Munitions and Explosives of Concern (MEC) and Materials Potentially Presenting an Explosives Hazard (MPPEH) surface clearance were completed in the same year.

Remedial Action Objectives (RAOs)

The RAOs are as follows:

- Reduce risks to future on-site work from exposure to affected surface and subsurface soils.
- Control erosion and transport of sediments to surrounding drainage features.
- Mitigate any potential ecological risk and protect the environment.
- Prevent or mitigate impacts to groundwater from leaching of contaminants via groundwater infiltration.

- Manage potential groundwater risk at compliance points.

Remedial Goals

The final ROD included soil remedial goals that were based on the higher of the NJDEP Non-Residential Direct Contact Soil Cleanup Criteria (in effect at the time of the ROD completion) or the human health risk-based criteria. The RGs for subsurface soil were based on site specific impact to groundwater cleanup criteria in the ROD. Although the NJDEP promulgated soil remediation standards in June 2008, after the ROD was signed, the Lower Burning Ground remedial design was based on the ROD remedial goals because it was determined that those values continue “to be protective of human health and the environment.”

The response action consists of the following major components:

- Utility clearance
- Site setup, installation of erosion/sediment controls, designate staging areas, establish exclusion, contamination reduction, and support zones
- Install temporary and permanent stormwater management controls
- Import and place sub-base soils
- Import and place fill
- Install asphalt cap (75,550 square foot [SF] area)
- Construct 24-inch thick vegetated soil cap (5.8 acre area)
- Import and place 6-inch top soil layer
- Grade road
- Site restoration and
- Implementation of long-term monitoring and land use controls (LUCs).

Permit Equivalencies

The project does not require permits since the work is being completed under CERCLA. However, the project must meet the substantive requirements of permits. Permit equivalencies were required for the following:

- General Permit 4 (GP-4)
- Flood Hazard Area Individual Permit
- Stormwater Equivalency

An appendix to the document included documentation.

Work Phases

A brief description of each phase of work was included in the work plan. Construction drawings were also provided. Each of the phases and sub-tasks are listed below.

- Pre-Mobilization
 - Pre-construction inspection
 - MEC/MPPEH surface clearance
 - Compliance with Picatinny procedures
 - Utilities clearance
- Site Preparation and General Site Activities
 - Construction survey
 - Site layout and control (establish zones and work areas)
 - Erosion and sediment controls
 - Traffic management
 - Spill prevention and response
 - Dust control measure
 - Decontamination procedures
 - Clearing and grubbing
 - Monitoring well protection/abandonment
 - Existing structures demolition and asbestos-containing material (ACM) survey
- Analytical sampling
 - Clean soil cap (common borrow and topsoil)
 - Imported on-site sub-base fill
 - Waste characterization
- Construction of stormwater management features
- Asphalt cap and vegetative cap soil installation
 - Sub-base preparation
 - Construction of asphalt cap
 - Construction of vegetative soil cover

- Off-site waste disposal
- Demobilization, site restoration, wetlands/riparian mitigation (discussed below in more detail)
- Long-term maintenance

Wetlands/Riparian Mitigation

A mitigation plan is included in the appendices of the work plan. The mitigation plan describes the resource types that are affected and details the mitigation actions. A 1:1 compensation ratio is dictated for the size of the area disturbed by remedial construction (over 6,000 SF). Impacts from construction are to wetlands and riparian areas. The mitigation plan will result in the enhancement of 12 acres of degraded wetlands proximate to the remediation site. Enhancement will occur through herbicide control, mowing of standing dead biomass, grading of microtopography, and planting of a complex “mosaic” of native plant communities.

Long-term Monitoring

Groundwater monitoring will be completed after the caps are installed. Seven monitoring wells in the unconfined shallow aquifer and two monitoring wells in the lower semi-confined aquifer will be sampled on a quarterly basis for two years; after two years the frequency will be reduced to semiannual. Three locations have been designated for surface-water monitoring; locations are upstream, adjacent and downstream of the site. Sediment sampling in the area of the site is already being completed as part of PICA 193 (Green Pond Brook and Bear Swamp Brook); no additional sediment sampling is provided for with the Site 34 remedy.

LUCs and Soil Excavation Restrictions

The LUC performance objectives are as follows:

- Control excavation at the site
- Prevent development and use for residential housing, schools, child care facilities, and play grounds
- Maintain integrity of cap.

The base has numerous systems in place to prevent unauthorized activities at Picatinny including the following: site clearance/soil management procedures, master plan regulations, base access regulations, safety program, and GIS database.

Remedy Implementation Actions

The remedy will also include engineering controls and employee/Picatinny resident awareness. An annual LUC certification report will be completed. In addition the site performance and status will be addressed in CERCLA 5-year reviews completed for all remedies in place at the base. A deed notice in accordance with NJDEP regulations will not be filed since it is not required for federal sites. However, the master plan will be amended to include the intent of a deed notice.

Documentation

At the completion of remedy implementation a remedial action report (RAR) will be prepared to document the construction of the remedy.