

FINAL Preliminary Assessment Report Wendell H. Ford Regional Training Center, Kentucky

Perfluorooctane-Sulfonic Acid (PFOS) and Perfluorooctanoic
Acid (PFOA) Impacted Sites
ARNG Installations, Nationwide

January 2019

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Acronyms and Abbreviations

AECOM	AECOM Technical Services, Inc.
AFFF	aqueous film forming foam
amsl	above mean sea level
AOI	area of interest
ARNG	Army National Guard
ARNG-ILE	Army National Guard Environmental Programs Division
bgs	Below ground surface
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CSM	conceptual site model
DFAC	dining facility
ft	feet
FTA	fire training area
IED	Installations and Environment Division
INRMP	Integrated Natural Resources Management Plan
KYARNG	Kentucky Army National Guard
PA	Preliminary Assessment
PFAS	per- and poly-fluoroalkyl substances
PFOA	perfluorooctanoic acid
PFOS	perfluorooctanesulfonic acid
US	United States
USACE	United States Army Corps of Engineers
USEPA	United States Environmental Protection Agency
WHFRTC	Wendell H. Ford Regional Training Center
WWTP	waste water treatment plant

Executive Summary

The United States (US) Army Corps of Engineers (USACE) Baltimore District on behalf of the Army National Guard (ARNG)-Installations & Environment Division (IED), Cleanup Branch contracted AECOM Technical Services, Inc. (AECOM) to perform *Preliminary Assessments (PAs) and Site Inspections for Perfluorooctanesulfonic acid (PFOS) and Perfluorooctanoic acid (PFOA) Impacted Sites at ARNG Facilities Nationwide*. The ARNG is assessing potential effects on human health related to processes at facilities that used per- and poly-fluoroalkyl substances (PFAS), primarily in the form of aqueous film forming foam (AFFF) released as part of firefighting activities, although other PFAS sources are possible.

AECOM completed a PA for PFAS at Wendell H. Ford Regional Training Center (WHFRTC) in Muhlenberg County, Kentucky, to assess potential PFAS release areas and exposure pathways to receptors. The performance of this PA included the following tasks:

- Reviewed data resources to obtain information relevant to suspected PFAS releases
- Conducted a 1-day site visit on 15 May 2018
- Interviewed personnel associated with WHFRTC activities during the site visit including the WHFRTC Fire Chief and Kentucky Army National Guard (KYARNG) Environmental Manager
- Completed visual site inspections at known or suspected PFAS release locations and document with photographs

One area of interest (AOI) related to PFAS release was identified at WHFRTC based on PA data. The AOI is shown on **Figure ES-1** and described in the table below:

Area of Interest	Name	Used by	Potential Release Dates
AOI 1	Fire Station/Building 325	KYARNG	2016

One adjacent off-facility potential release area located in Central City, Kentucky, was identified through interviews as an emergency response location. At the location, the WHFRTC Fire Department expelled 75 gallons of AFFF to suppress a fire at a Re-Tek Products, Inc. rubber warehouse in October 2016. Afterwards, the fire truck used to deploy AFFF may have been washed at the WHFRTC fire station/Building 325. Multiple fire departments responded to suppress the fire.

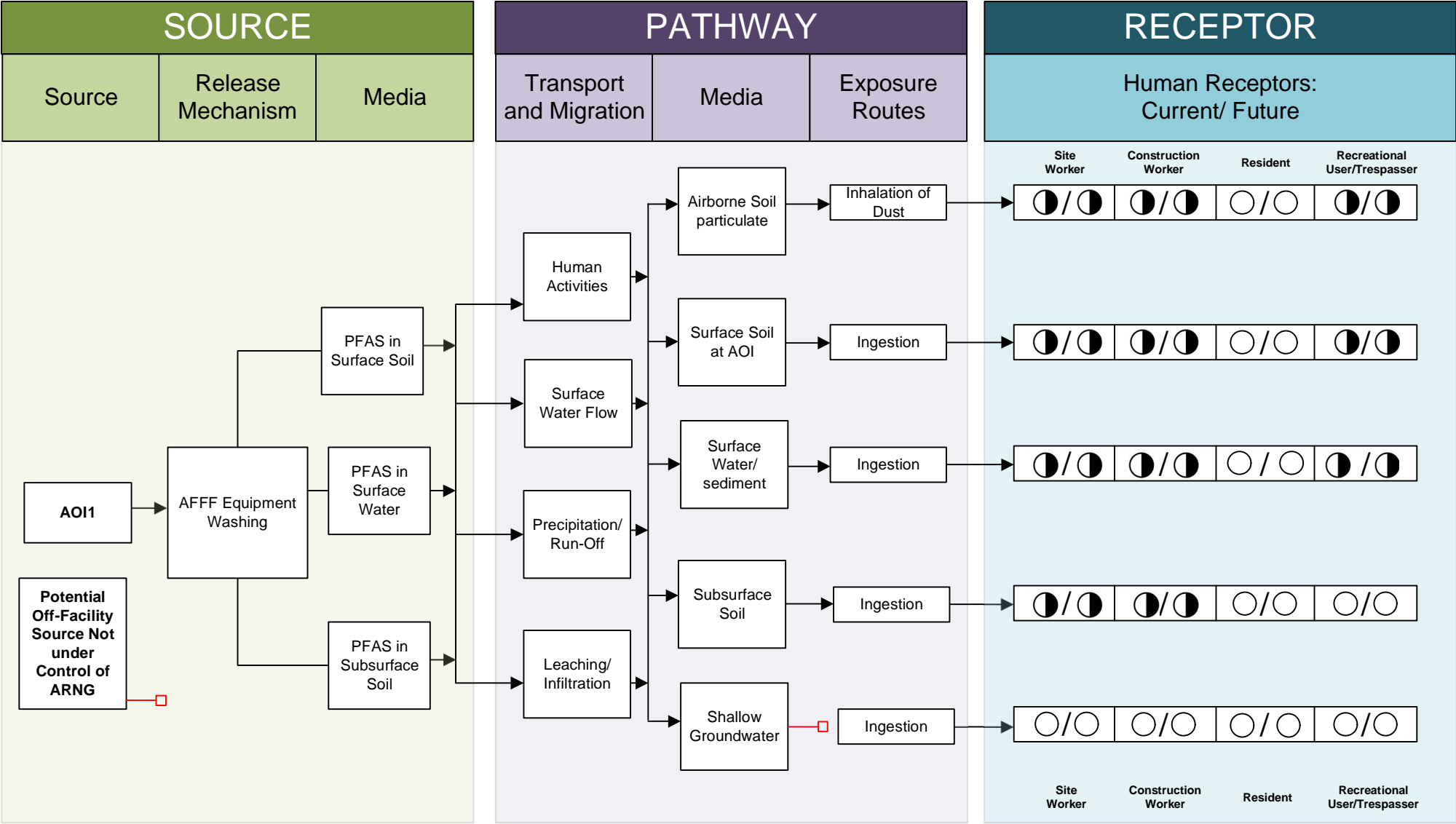
Based on the potential for AFFF releases at AOI 1, there is potential for exposure to PFAS contamination in surface soils to site and construction workers, and trespassers, and in subsurface soils to site and construction workers via inhalation and ingestion. There is also the potential for exposure to PFAS contamination in surface water and sediment for site and construction workers. No sources of PFAS release to the environment were identified in the area surrounding WHFRTC through interviews or review of previous environmental investigations. The CSM for WHFRTC is shown on **Figure ES-2**. PFAS release during emergency response at the Re-Tek Products, Inc. facility is not considered an ARNG AOI because it is outside of the WHFRTC boundary, but is considered an adjacent off-facility potential source of PFAS.



CLIENT		ARNG			
PROJECT		Preliminary Assessment for PFAS at Wendell H. Ford RTC, KY			
REVISED	11/15/2018	GIS BY	MS	11/15/2018	
SCALE	1:6,000	CHK BY	JW	11/15/2018	
National Agricultural Imagery Program, 2016.		PM	RG	11/15/2018	

TITLE		Summary of Findings	
AECOM		12420 Milestone Center Drive Germantown, MD 20876	Figure ES-1

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LEGEND

- Flow-Chart Stops
- Flow-Chart Continues
- Partial / Possible Flow
- Incomplete Pathway
- Potentially Complete Pathway
- Complete Pathway

Figure ES-2
Conceptual Site Model
Wendell H. Ford Regional Training Center

1. Introduction

1.1 Authority and Purpose

The United States (US) Army Corps of Engineers (USACE) Baltimore District on behalf of the Army National Guard (ARNG)-Installations & Environment Division (IED), Cleanup Branch contracted AECOM Technical Services, Inc. (AECOM) to perform *Preliminary Assessments (PAs) and Site Inspections for Perfluorooctanesulfonic acid (PFOS) and Perfluorooctanoic acid (PFOA) Impacted Sites at ARNG Facilities Nationwide* under Contract Number W912DR-12-D-0014, Task Order W912DR17F0192, issued 11 August 2017, and Modification 01 issued 30 September 2017. The ARNG is assessing potential effects on human health related to processes at their facilities that used per- and poly-fluoroalkyl substances (PFAS), primarily releases of aqueous film forming foam (AFFF) although other sources of PFAS are possible. In addition, the ARNG is assessing businesses or operations adjacent to the ARNG facility (not under the control of ARNG) that could potentially be responsible for a PFAS release.

PFAS are classified as emerging environmental contaminants that are garnering increasing regulatory interest due to their potential risks to human health and the environment. The regulatory framework at both federal and state levels continues to evolve. The U.S. Environmental Protection Agency (USEPA) issued Drinking Water Health Advisories for PFOA and PFOS in May 2016, but there are currently no promulgated national standards regulating PFAS in drinking water. In the absence of federal maximum contaminant levels, some states have adopted their own drinking water standards for PFAS; however, Kentucky has not.

This report presents findings of a PA for PFAS at Wendell H. Ford Regional Training Center (WHFRTC) in Muhlenberg County, Kentucky, in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as amended, the National Oil and Hazardous Substances Pollution Contingency Plan (40 Code of Federal Regulations Part 300), and USACE requirements and guidance.

This PA documents the locations where PFAS may have been stored or released into the environment at WHFRTC. The term PFAS will be used throughout this report to encompass all PFAS chemicals being evaluated, including PFOS and PFOA, which are key components of AFFF.

1.2 Preliminary Assessment Methods

The performance of this PA included the following tasks:

- Reviewed data resources to obtain information relevant to suspected PFAS releases
- Conducted a 1-day site visit on 15 May 2018
- Interviewed personnel associated with WHFRTC activities during the site visit including the WHFRTC Fire Chief and Kentucky Army National Guard (KYARNG) Environmental Manager
- Completed visual site inspections at suspected PFAS release locations and documented with photographs
- If areas of interest (AOIs) were identified, developed a conceptual site model (CSM) to outline the potential release and pathway of PFAS for each AOI

1.3 Report Organization

This report has been prepared in accordance with the USEPA *Guidance for Performing Preliminary Assessments under CERCLA* (USEPA, 1991). The report sections and descriptions of each are:

- **Section 1 – Introduction:** identifies the project purpose and authority and describes the facility location, environmental setting, and methods used to complete the PA
- **Section 2 – Fire Training Areas:** describes the potential or suspected fire training areas (FTAs) at the facility identified during the site visit
- **Section 3 – Non-Fire Training Areas:** describes other locations of potential or suspected PFAS releases at the facility identified during the site visit
- **Section 4 – Emergency Response Areas:** describes areas of suspected or potential AFFF release at the facility, specifically in response to emergency situations
- **Section 5 – Adjacent Sources:** describes sources of PFAS release adjacent to the facility that are not under the control of ARNG
- **Section 6 – Conceptual Site Model:** describes the pathways of PFAS transport and receptors at the facility
- **Section 7 – Conclusions:** summarizes the data findings and presents the conclusions of the PA
- **Section 8 – References:** provides the references used to develop this document
- **Appendix A – Data Resources**
- **Appendix B – Preliminary Assessment Documentation**
- **Appendix C – Photographic Log**

1.4 Facility Location and Description

Section 1.4 presents information obtained from the KYARNG 2012 Integrated Cultural Resources Management Plan (ICRMP) (KYARNG, 2012). The WHFRTC, formerly referred to as the Western Kentucky Training Site, is located on 11,261 acres of state-owned reclaimed coal strip-mine land in west-central Muhlenberg County. WHFRTC is located approximately 2,000 feet west of the corporate boundary of Central City and 4 miles north of Greenville (**Figure 1-1**). The facility is accessed via Exit 53 on the Wendell H. Ford Western Kentucky Parkway at Kentucky Highway 181. The site boundary includes various training areas in a complex pattern shown in **Figure 1-1**.

KYARNG began operating WHFRTC in 1969. Any structures that had existed prior to ARNG were demolished by the Peabody Coal Company prior to strip-mining operations. The facility currently includes about 70 structures consisting of the Headquarter/ Administration Building; a Dining Hall; five Enlisted and four Non-commissioned Officer Barracks; two Field Grade Officers Quarters; a fire station; various military operation training areas, two firing ranges; and various smaller outbuildings, control towers, and storage sheds.

1.5 Facility Environmental Setting

Section 1.5 presents information obtained from the WHFRTC Updated Integrated Natural Resources Management Plan (INRMP) (KYARNG, 2010), updated as necessary with recent data. WHFRTC lies within the Shawnee Hills section of the Interior Low Plateaus Physiographic

Province (Fenneman, 1938; Quarterman and Powell, 1978). This physiographic region has also been called the Western Kentucky Coalfield Region. Within the Shawnee Hills, the site is situated near the middle of the Ohio River Hills and Lowlands subsection (Quarterman and Powell, 1978).

The area surrounding the WHFRTC is characterized by hilly uplands of low to moderate relief, dissected by streams, which occupy wide, poorly drained valleys. However, the topography of most of the site has been drastically changed by both surface and deep coal mining operations. Elevation varies from approximately 395 feet along Cypress Creek and Little Cypress Creek to just over 645 feet at the crests of strip mine spoil banks near the southern boundary of the training site.

Land cover at the WHFRTC includes open grassland and shrubs (ideal for maneuver training exercises), pine and hardwood forest (ideal for dismounted training, bivouacking, and concealment), open water bodies, wetlands, and riparian areas along Little Cypress Creek and Cypress Creek, and the developed cantonment area. Numerous active or abandoned oil wells can be found in the western portion of the training site.

The abandoned strip mined areas have very rugged topography with 50 feet or more of relief; whereas, the reclaimed strip mine areas have gently rolling topography with less severe relief.

1.5.1 Geology

WHFRTC is underlain by Recent soils, and by Pennsylvanian-aged bedrock from which coal, natural gas, and oil have been extracted. Part of the bedrock is of the Lisman Formation of Upper Pennsylvanian age and part is of the Carbondale Formation of Middle Pennsylvanian age. These formations are made up mostly of sandstone, siltstone, and shale. Thin beds of limestone, coal, and clay also occur. Limestone layers include the Madisonville and Providence Members of the Lisman Formation.

1.5.2 Hydrogeology

Water-bearing units in the region are the Tradewater and the Caseyville Formations. These formations yield significant quantities of water but become saline with depth. Median depths to water level in the Tradewater and Caseyville Formations are 18.2 feet and 34.4 feet below the ground surface (bgs), respectively. Regional groundwater flow is toward the broad alluvial area along the Green River, northeast of WHFRTC. No sole source aquifers have been designated in Kentucky. A freshwater aquifer – approximately 1,100 feet (ft) bgs – lies several miles west of the facility. The aquifer is within the New Cypress Pool.

The natural water table and drainage patterns beneath WHFRTC have been altered by mining activities. The water table is relatively close to the surface throughout most of WHFRTC as a result of surface mining activities. Abandoned underground mines found in the Kentucky No. 9 coal seam beneath WHFRTC are known to be flooded. Water levels in ten monitoring wells located at WHFRTC ranged from 5 to 64 ft bgs and averaged 29.74 ft bgs during a groundwater sampling event conducted in June 2004. Groundwater flow in the unconfined aquifer is generally perpendicular to topographic contours and toward downgradient surface streams.

Because of the proximity of the Green River, most water supplies are obtained from surface-water. Public water supplies obtained from the Green River are available to local residents. Wells are not used to obtain drinking water.

Peabody Coal Company maintained and monitored several groundwater monitoring points on the property, as required by previously held mining permits; however, this monitoring is no longer required. The Kentucky Geological Survey installed 10 groundwater wells on WHFRTC in

the spring of 2001 to monitor groundwater quality and water level fluctuation in the soil through wet and dry seasons (spring and fall) (KYARNG, 2010). Groundwater features are shown on **Figure 1-2**.

1.5.3 Hydrology

The WHFRTC is situated in the Cypress Creek sub-basin of the Pond River Watershed Basin. The only major tributary to Cypress Creek is Little Cypress Creek. Cypress Creek originates in west-central Muhlenberg County and flows 35.5 miles north and then west through McLean County before discharging into the Pond River 1.1 miles upstream from its confluence with the Green River (Bower and Jackson, 1981).

The immediate watershed receiving discharge from the facility is Cypress Creek. Cypress Creek is a low-gradient stream with 97 percent of its channel having been altered by channelization.

The only other major tributary in the watershed is Little Cypress Creek (a second-order creek), which originates 4.16 miles north of Greenville and flows 9.32 miles in a northerly direction before joining Cypress Creek northwest of Central City. Approximately 35 percent of Cypress Creek and 44 percent of Little Cypress Creek were channelized during the 1920s. Materials from dredging were placed into two spoil banks on either side of the creek, impeding the natural flow of water to adjacent wetlands.

The training site is divided into 11 unique hydrologic planning units based on topography, direction of water flow, and receiving perennial stream. Cypress Creek Watershed is divided into four sub-watersheds, and Little Cypress Creek Watershed is divided into three sub-watersheds.

Several small unnamed tributaries and intermittent streams cross the facility and drain into Cypress Creek on the west and north and into Little Cypress Creek on the south and east. In addition to surface streams, there are numerous sediment retention basins and ponds and lakes on the property related to mine reclamation activities. Surface water features are presented on **Figure 1-3**.

1.5.4 Climate

Data from nearby Madisonville, Kentucky, indicate that the average annual temperature between 1981 and 2010 in was 58.6 degrees Fahrenheit (°F) (National Oceanic and Atmospheric Administration [NOAA], 2018). The warmest months are July and August, with normal daily mean temperatures of 78.9°F and 78.1°F, respectively. January is the coldest month, with a mean temperature of 35.5°F. Average annual precipitation measured from 1981 to 2010 in Madisonville, Kentucky was 49.2 inches. Rainfall is heaviest during the months of March through May, averaging between 4.62 and 5.5 inches per month; August and September are the driest months. Average monthly precipitation ranges from 2.87 inches in August to 3.28 inches in September.

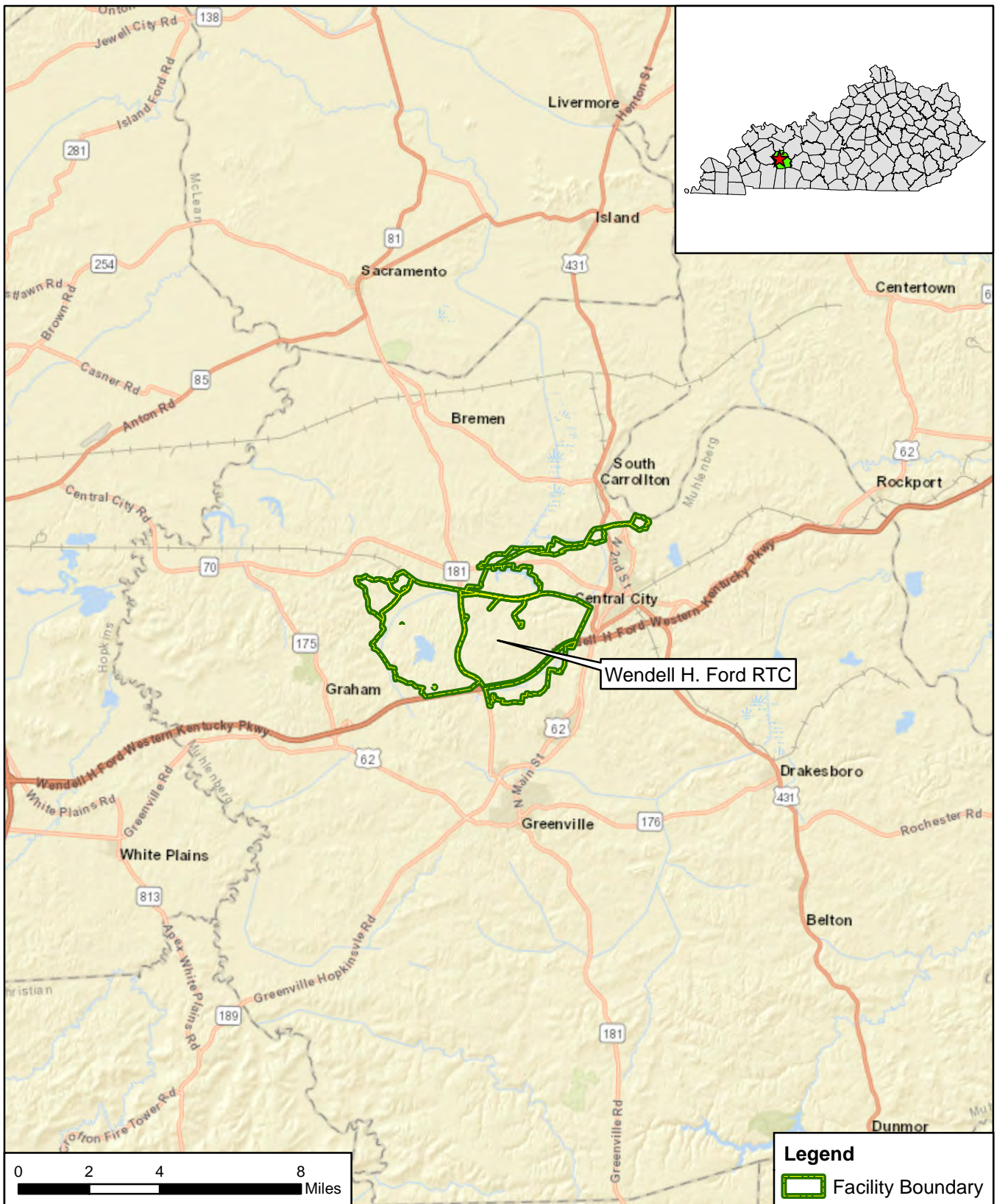
1.5.5 Current and Future Land Use

The WHFRTC serves as the primary training area for the KYARNG. The majority of training occurs between June and October; however, training does occur throughout the remainder of the year.

WHFRTC is used almost entirely by military groups. Military users include units of the KYARNG and Kentucky Air National Guard, the Army and Marine Reserves, Active Army units from Fort Knox and Fort Campbell, and Army schools. The WHFRTC is also used for other training activities for Reserve Components from Kentucky and surrounding states. Other users include Youth Challenge, 4-H and Boy Scouts, Junior and Senior Reserve Officer's Training Corps, deer

and turkey hunters (during scheduled hunts), Kentucky State Police, Department of Corrections, and local law enforcement agencies.

Some expansion of the training facilities is in the planning phase but, in general, the future use of the facility is not anticipated to change significantly.

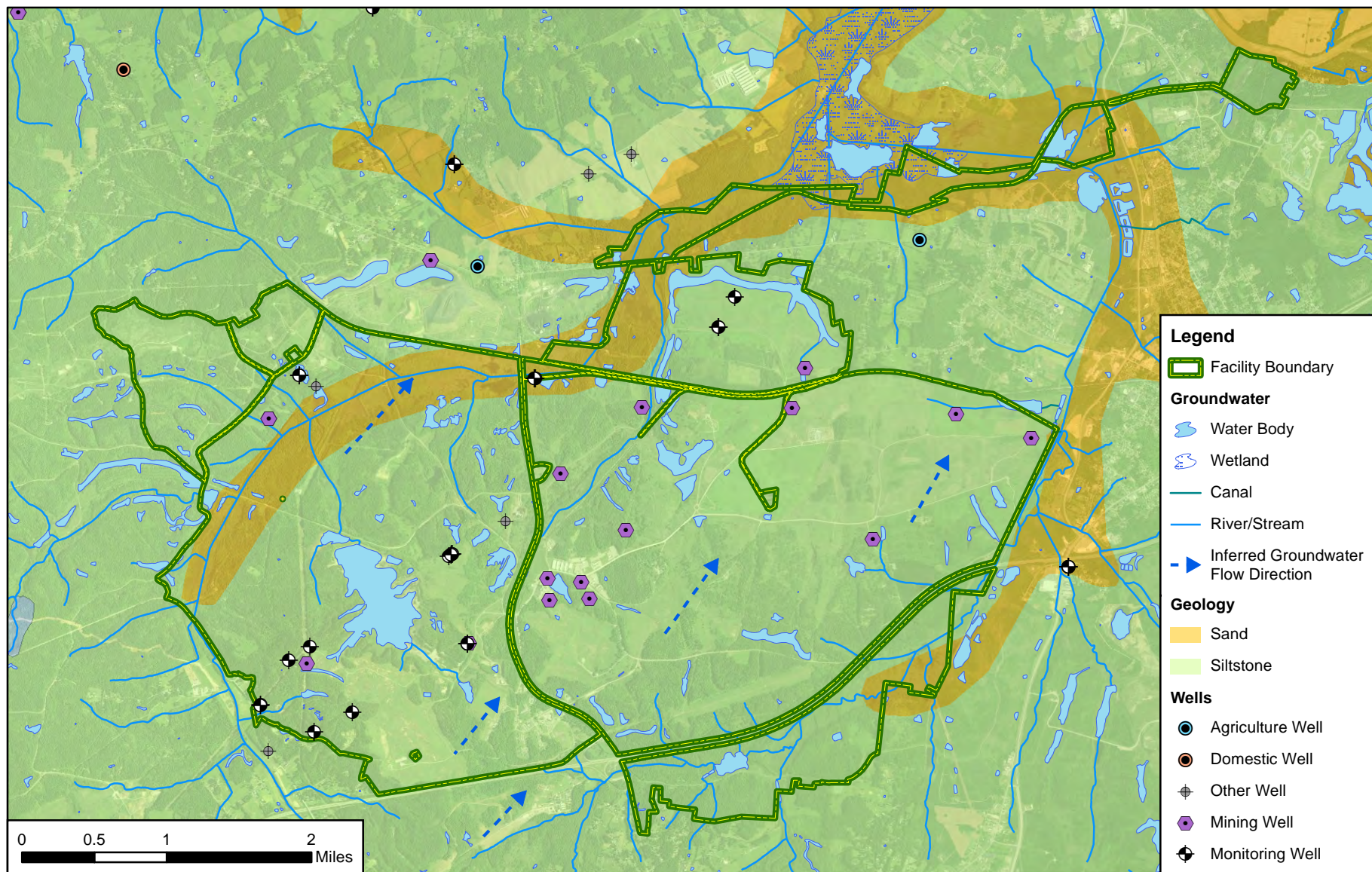


CLIENT	ARNG			
NOTES	Preliminary Assessment for PFAS at Wendell H. Ford RTC, KY			
REVISED	9/11/2018	GIS BY	MS	9/11/2018
SCALE	1:253,440	CHK BY	JW	9/11/2018
Base Map: Sources: Esri, HERE, DeLorme, USGS, Intermap, increment P Corp., NRCAN, Esri Japan, METI,		PM	RG	9/11/2018



Facility Location	
AECOM 12420 Milestone Center Drive Germantown, MD 20876	Figure 1-1

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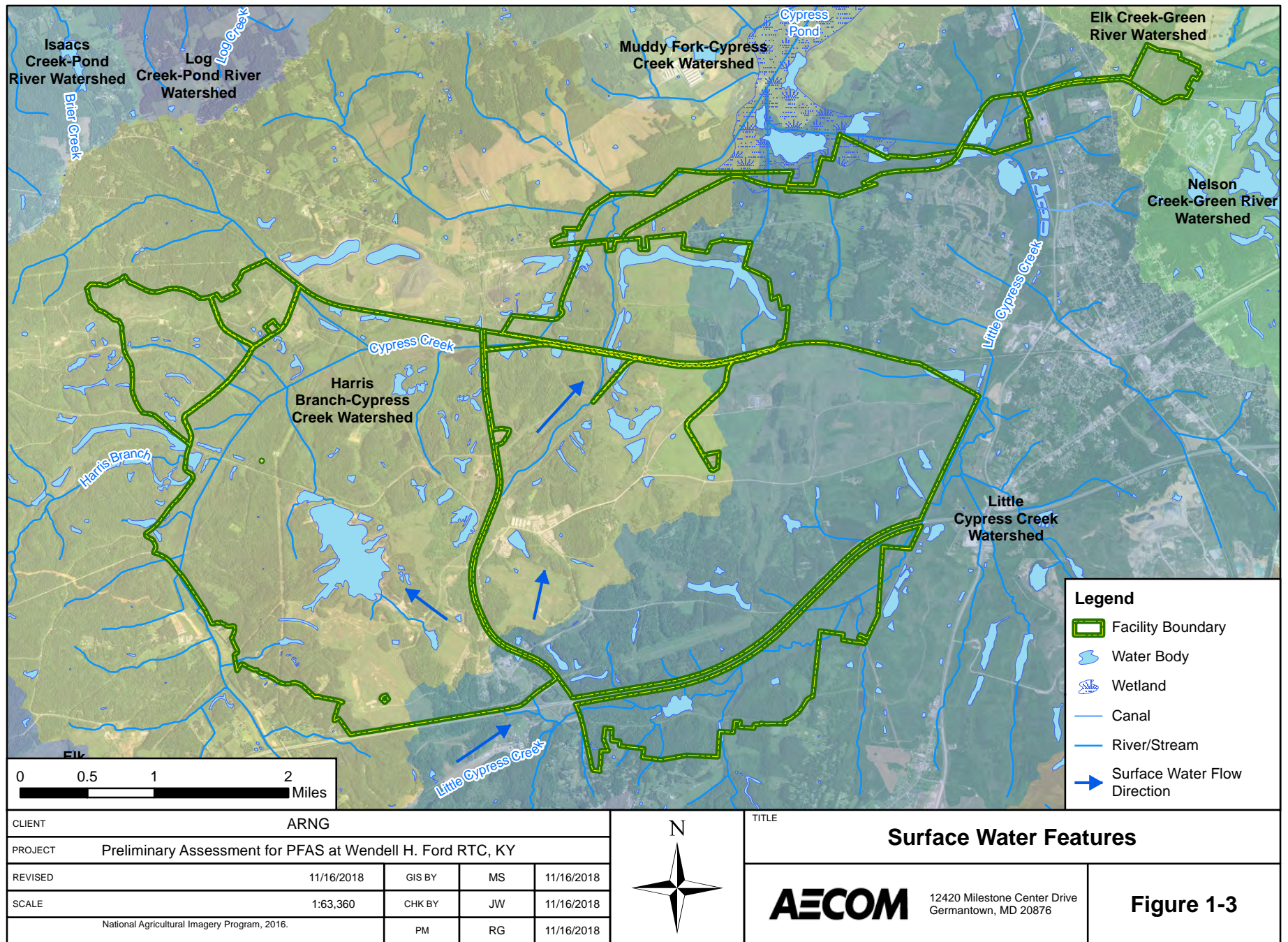


CLIENT	ARNG			
PROJECT	Preliminary Assessment for PFAS at Wendell H. Ford RTC, KY			
REVISED	11/16/2018	GIS BY	MS	11/16/2018
SCALE	1:63,360	CHK BY	JW	11/16/2018
National Agricultural Imagery Program, 2016.		PM	RG	11/16/2018



TITLE	Groundwater Features	
	12420 Milestone Center Drive Germantown, MD 20876	
	Figure 1-2	

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2. Fire Training Areas

During the site visit interviews, the WHFRTC Fire Chief and KYARNG Environmental Manager reported that there are no FTAs at WHFRTC.

The KYARNG routinely uses prescribed burns to maintain grassland ecosystems and control undesired exotic vegetation; however, the WHFRTC Fire Chief stated during interviews that no AFFF is used during prescribed burns or responses to wildfires. The WHFRTC has defined 20 burn units, which are burned on a rotation basis. These areas are maintained according to the KYARNG state-wide Integrated Wildland Fire Management Plan.

FTAs are considered a primary potential release area for PFAS because of the common use of AFFF in training events. The 2010 INRMP for WHFRTC provided a list of all types of training areas and ranges; FTAs do not appear in that list (KYARNG, 2010).

3. Non-Fire Training Areas

Non-FTAs were investigated as part of the PA, but KYARNG and WHFRTC personnel stated during interviews that no releases of AFFF have occurred in these areas. A description of each non-FTA is presented below, and the non-FTAs are shown on **Figure 3-1** with photographs appearing in **Appendix C**.

3.1 Ambulance Pick-Up Point (Building 334)/Helipad

The Ambulance Pick-Up Point (Building 334)/Helipad is located in the southeastern portion of the cantonment area at WHFRTC. The area was considered a potential PFAS release site because airfields can be a common location of crashes or refueling accidents. The Ambulance Pick-Up Point (Building 334)/Helipad is located at the intersection of St-1000 and St-1014. The Ambulance Pick-Up Point (Building 334)/Helipad was considered a potential PFAS release site because helipads can be a common location for crashes or refueling accidents, and firefighting devices were confirmed to be present at the site during KYARNG interviews. The geographic coordinates are 37°25'58.65"N and 87°20'57.28"W.

The area consists of a paved asphalt helipad and a support building (Building 334) west of the helipad. The site does not have any refueling equipment. Dry chemical mobile ABC fire extinguishers are stored at the southwest and northeast corners of the helipad. The WHFRTC Fire Chief reported that no training activities use AFFF at the Ambulance Pick-Up Point (Building 334)/Helipad, nor have there been any releases of AFFF.

3.2 Fire Station – Building 325

Building 325, the facility fire station, is located in the northern portion of the cantonment area at WHFRTC, east of the intersection of St-1032 and St-1026. The fire station was considered a potential PFAS release site based on the potential storage of AFFF. The geographic coordinates for the fire station are 37°26'03.60"N and 87°21'00.37"W. According to interviews with the facility fire department staff, Building 325 was completed in 2005.

WHFRTC Fire Department stores AFFF on two trucks kept at the fire station apparatus bay. Angus Tridol S 3% AFFF is stored in 5-gallon buckets on each truck and in a material storage room at the fire station. Angus Tridex 3% AFFF is also stored in the fire station storage room, as well as non-AFFF fire suppressants such as Purple K and ABC fire extinguishers. The fire chief stated during interviews that AFFF concentrate has not spilled from their storage containers. Fire-fighting chemical material data stored by the WHFRTC Fire Station is included in **Appendix A**. Only water and Class A foam has been used by the WHFRTC Fire Department on facility, according to WHFRTC staff. Additionally, no crashes have occurred at WHFRTC that required fire department emergency response, and no fire training operations are performed by the fire department at WHFRTC. WHFRTC Fire Department performs prescribed burns at the facility, but only uses water to mitigate forest and wild fires. No fire department equipment that uses AFFF is tested or washed out at the facility. There is no fire suppression system at Building 325. According to interviews with WHFRTC Fire Department staff, all building fire suppression systems at WHFRTC use water or dry chemical suppression agents, such as Purple K. There are no documented uses of AFFF at Building 325, or anywhere on facility by the WHFRTC Fire Department.

The WHFRTC Fire Department used AFFF during response to an off-facility fire in Central City (discussed in detail in **Section 5.1**) in 2016. The WHFRTC Fire Chief reported that the fire truck used in response to the fire was most likely washed at the WHFRTC fire station after responding to the fire. It is unclear whether any AFFF deployed remained on the truck at the time of washing. Floor drains inside the building direct runoff through sand traps and into the

facility main sanitary sewer system. The sanitary sewer system connects to the Greenville Waste Water Plant, located approximately 3 miles southeast of the facility. Runoff outside the station is channelized to a stormwater outfall adjacent to Highway 181 east of the fire station.

3.3 Dining Facility (DFAC) – Building 301

The Dining Facility (DFAC), Building 301, is located in the western portion of the cantonment area at WHFRTC at the intersection of St-1022 and Todd Drive. The DFAC was identified during the site visit as a potential PFAS release site based on its potential to have an AFFF fire suppression system. The geographic coordinates for the DFAC are 37°25'64.30"N and 87°21'01.85"W.

During the site visit potassium carbonate was confirmed as the dry chemical fire suppression agent used in the fire suppression system at the DFAC. There have been no releases of AFFF at the DFAC.

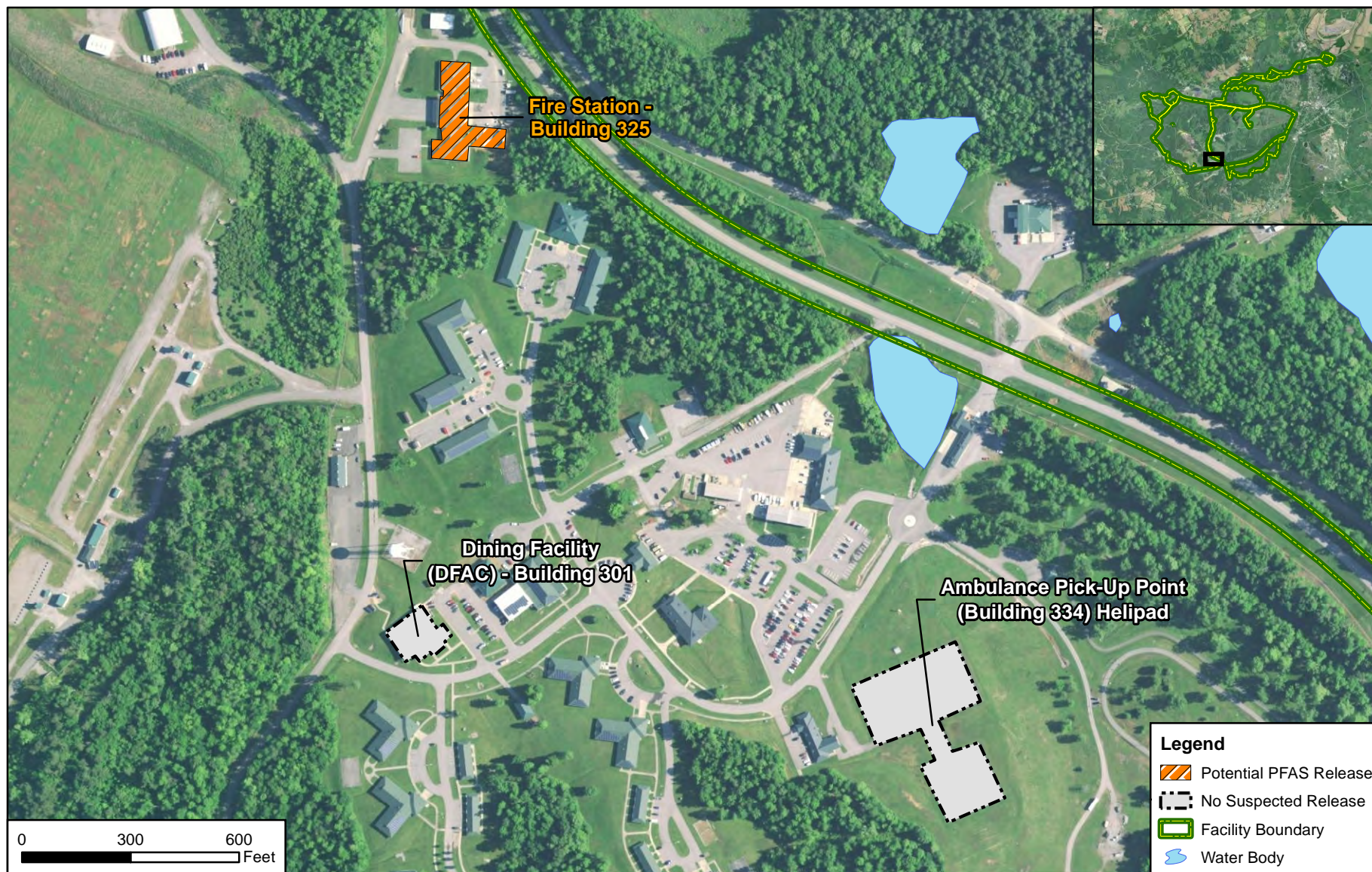
3.4 Waste Water Treatment Plant

There is no Waste Water Treatment Plant (WWTP) located at WHFRTC. Sanitary sewers at WHFRTC connect via pumping stations and gravity flow to the Greenville Waste Water Plant located approximately 3 miles southeast of the facility in Greenville, Kentucky. WWTPs are not usually a primary potential release area of PFAS, but sludges and liquids from areas of potential release that area treated at WWTPs may create a secondary source of contamination. At WHFRTC, no information obtained indicated PFAS-related materials were treated at a WWTP.

3.5 Landfills

The interviewees reported that there are no landfills at WHFRTC.

Similar to WWTPs, landfills are not usually a primary potential release area of PFAS, but materials disposed of in landfills may create a secondary source of contamination. Such materials, to name a few, may include sludge from a WWTP that processes PFAS-laden water, used AFFF storage containers, or products associated with waterproofing uniforms or boots. At WHFTRC, no information obtained indicates PFAS-related materials were disposed of in a landfill.



CLIENT	ARNG			
PROJECT	Preliminary Assessment for PFAS at Wendell H. Ford RTC, KY			
REVISED	11/15/2018	GIS BY	MS	11/15/2018
SCALE	1:4,800	CHK BY	JW	11/15/2018
National Agricultural Imagery Program, 2016.		PM	RG	11/15/2018



TITLE		Non-Fire Training Areas	
AECOM		12420 Milestone Center Drive Germantown, MD 20876	Figure 3-1

Q:\Projects\ENV\GEARS\GEO\MAES 2012 Unrestricted\Fort Meade\I. Data Management\GIS\MXDs\Chisholm_6th\March2017\Fig_3-1_WHF_Non-Fire_Training_Areas.mxd

4. Emergency Response Areas

The WHFRTC Fire Chief and KYARNG Environmental Manager stated during interviews that no emergency response locations exist at WHFRTC. Emergency responses to crashes sometimes require flame suppression, which may result in the release of PFAS to the environment in the form of AFFF. No locations involving the potential release of AFFF were identified at WHFRTC during the site visit.

The WHFRTC Fire Department responded to an off-facility fire in 2016. This emergency response is discussed in **Section 5**.

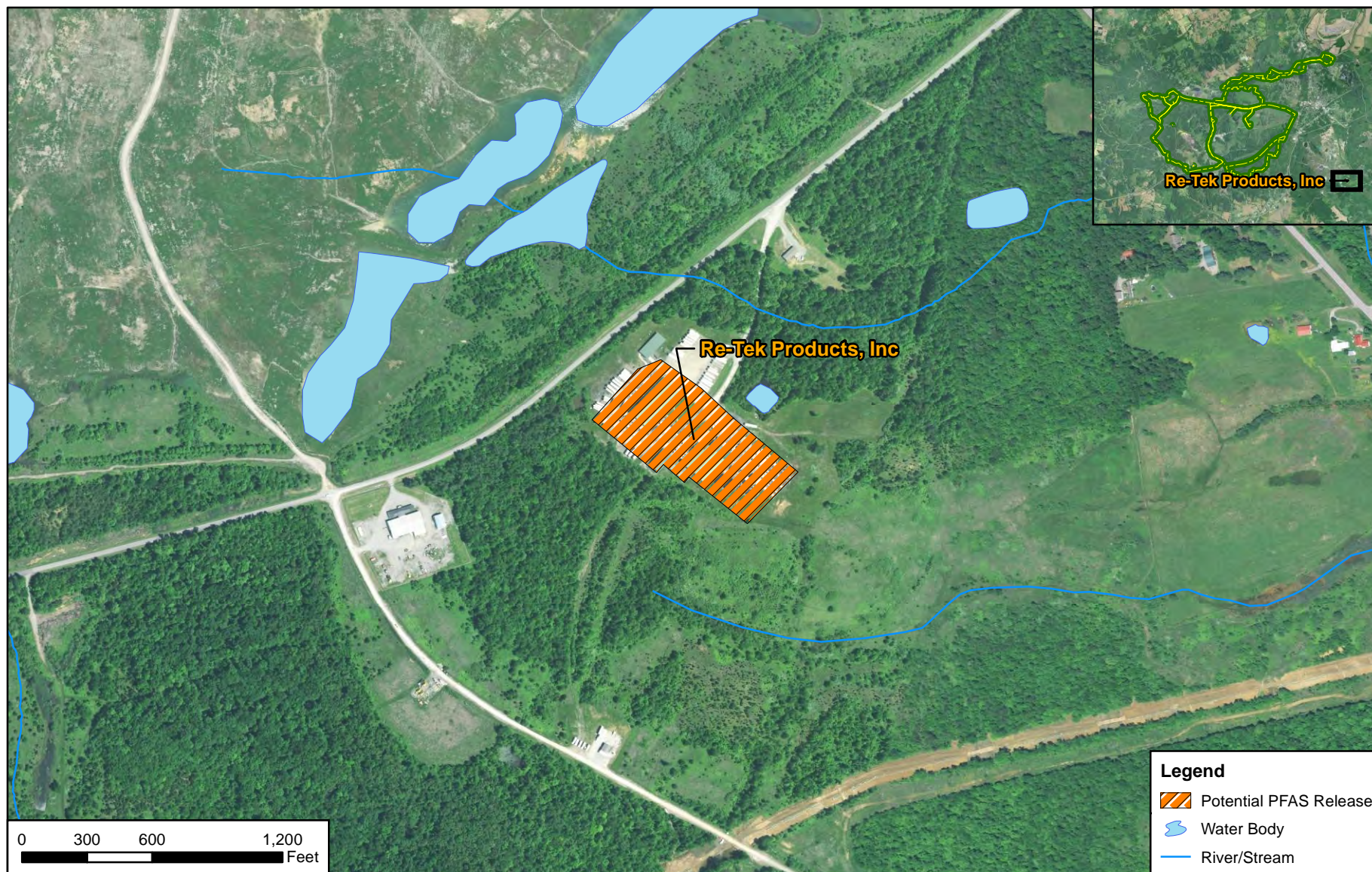
5. Adjacent Sources

No off-facility PFAS sources adjacent to the WHFRTC facility were identified during the PA. One off-facility emergency response location was identified during the PA through interviews (**Appendix B**). **Figure 5-1** presents the location of the off-facility emergency response area.

5.1 Re-Tek Products, Inc. Fire Emergency Response in Central City

WHFRTC has a mutual agreement to respond to emergencies within Muhlenberg County. The mutual agreement is included in **Appendix A**. According to WHFRTC Fire Chief, the WHFRTC Fire Department used AFFF during response to a fire at a rubber warehouse owned by Re-Tek Products, Inc. located at 3320 Cleaton Road, Central City, Kentucky on 15 October 2016. The site of the fire is approximately 5.8 miles east of WHFRTC. During their response the WHFRTC Fire Department expelled water and AFFF. Approximately 75 gallons of AFFF was used to suppress the fire by the WHFRTC Fire Department, according to the KYARNG incident report (**Appendix A**). Other local fire departments responded to the emergency, including McLean County Fire Department. The WHFRTC Fire Chief reported that the fire truck used in response to the fire was most likely washed at the WHFRTC fire station after responding to the fire.

The Re-Tek Products, Inc. fire location is shown as a potential release area on **Figure 5-1**. The geographic coordinates of the fire location area 37°24'59.64"N and 87°10'33.87"W. Because it is outside the boundary of WHFRTC, the Re-Tek Products, Inc. fire area is considered an adjacent off-facility potential source of PFAS for WHFRTC.



CLIENT	ARNG			
PROJECT	Preliminary Assessment for PFAS at Wendell H. Ford RTC, KY			
REVISED	9/11/2018	GIS BY	MS	9/11/2018
SCALE	1:8,000	CHK BY	JW	9/11/2018
National Agricultural Imagery Program, 2016.		PM	RG	9/11/2018




TITLE		Adjacent Sources	
		12420 Milestone Center Drive Germantown, MD 20876	

Figure 5-1

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6. Conceptual Site Model

Based on the PA findings, one potential release area was identified: AOI 1 Fire Station/Building 325. The AOI location is shown on **Figure 6-1**. The following sections describe the CSM components and the specific CSM developed for each AOI. The CSM identifies the three components necessary for a potentially complete exposure pathway: (1) source, (2) pathway, (3) receptor. If any of these elements are missing, the pathway is considered incomplete. Receptors at WHFRTC include site workers, construction workers, and trespassers.

In general, the potential PFAS exposure pathways are ingestion and inhalation. Dermal contact is not considered to be a potential exposure pathway as studies have shown very limited absorption of PFAS through the skin (National Ground Water Association, 2018).

An additional potential PFAS release area exists at the site of the Re-Tek Products, Inc. Central City fire location (**Section 5.1**). PFAS release during emergency response at the Re-Tek Products, Inc. facility is not considered an ARNG AOI because it is outside of the WHFRTC boundary, but is considered an adjacent off-facility potential source of PFAS.

6.1 AOI 1 WHFRTC Fire Station / Building 325

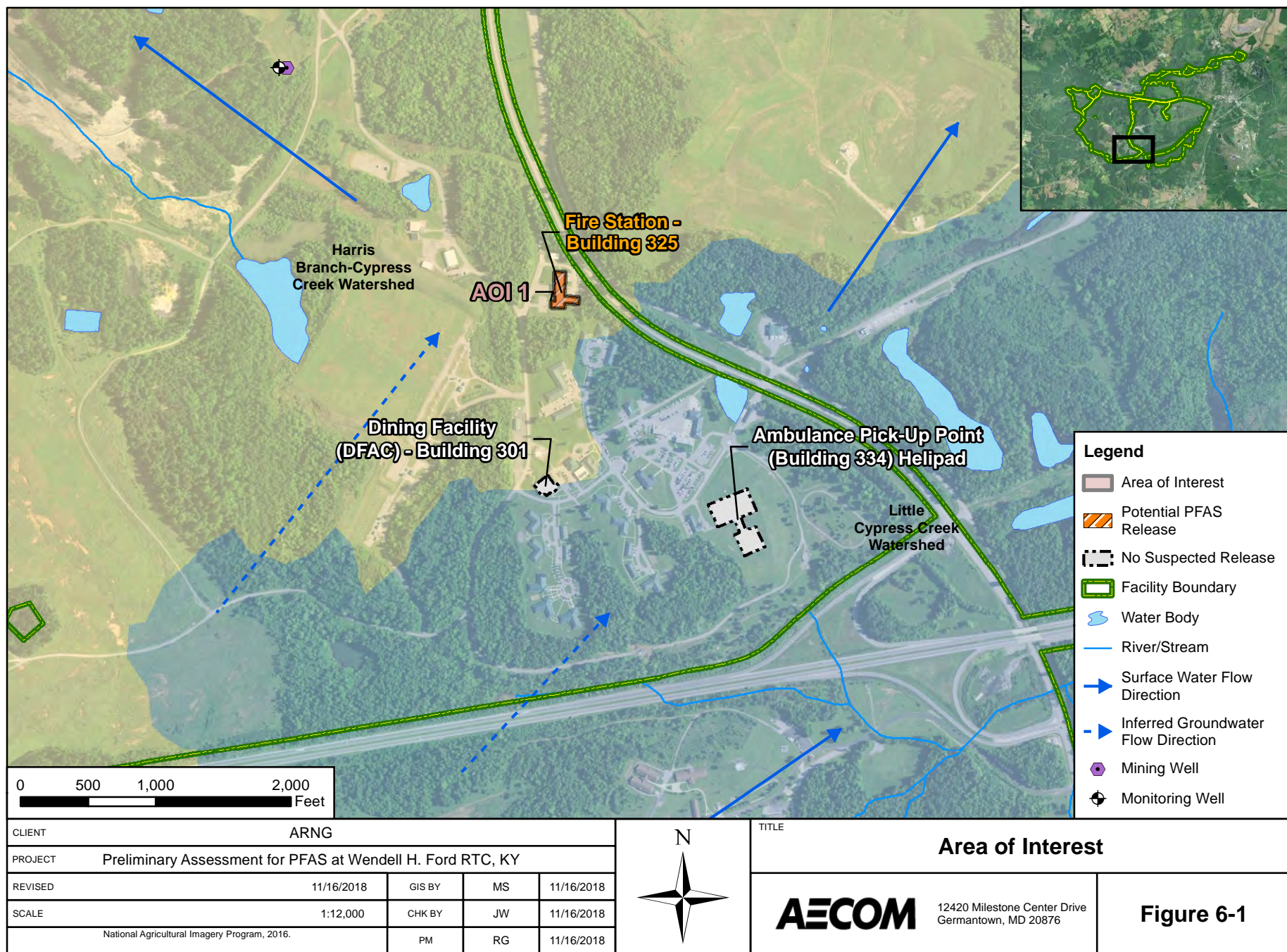
AOI 1 is the WHFRTC Fire Station/Building 325 located in the northern portion of the cantonment area at WHFRTC, east of the intersection of St-1032 and St-1026. This AOI includes the fire station office areas, material storage areas, and apparatus bay where two trucks fire trucks are stored.

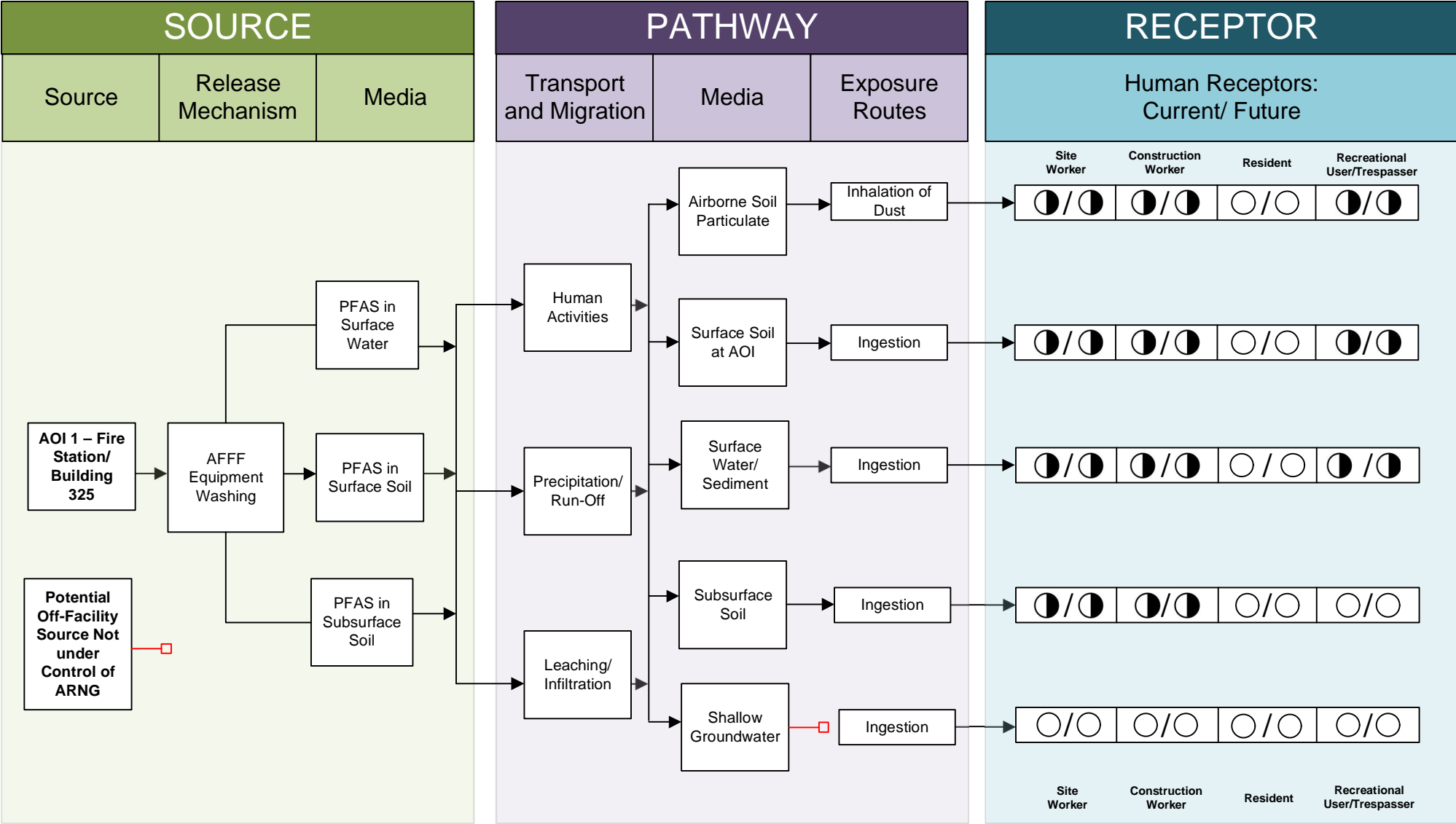
Potential AFFF releases to soil by KYARNG may have occurred when a fire truck used to deploy AFFF in response to the Re-Tek Products, Inc. fire in Central City described in **Section 5.1** was washed at the fire station/Building 325. The WHFRTC Fire Chief reported that the truck was likely washed following the emergency response at the fire station apparatus bay. It is unclear whether any deployed AFFF remained on the truck at the time of washing.

Floor drains inside the fire station direct runoff through sand traps and into the facility main sewer system. Runoff outside the station is channelized to a stormwater outfall adjacent to Highway 181 east of the fire station. Potential runoff that is not captured by floor drains generally flows northeast towards Kentucky Highway 181. No surface water bodies exist in the areas immediately surrounding AOI 1; however, PFAS are water soluble and can migrate readily from soil to groundwater or surface water via leaching and run-off. Because potential AFFF releases to surface soil may occurred at AOI 1, it is possible that potential PFAS contamination has migrated from the soil at AOI 1 to shallow groundwater or nearby surface water.

There are no drinking water supply wells present on-facility at WHFRTC, and the pathway for PFAS contamination in groundwater is considered incomplete to all receptors.

Ground-disturbing activities to surface soil at AOI 1 could result in site worker, construction worker, and trespasser exposure to potential PFAS contamination via inhalation of dust particles or ingestion of surface soil if a PFAS release occurred. Ground-disturbing activities to subsurface soil could result in site worker, construction worker, and trespasser exposure via ingestion of subsurface soil. Therefore, the exposure pathways for these receptors are potentially complete. The CSM for AOI 1 is shown on **Figure 6-2**.





LEGEND

- Flow-Chart Stops
- Flow-Chart Continues
- Partial / Possible Flow
- Incomplete Pathway
- Potentially Complete Pathway
- Complete Pathway

Figure 6-2
Conceptual Site Model
AOI 1 Fire Station/Building 325

7. Conclusions and Data Uncertainty

This report presents a summary of available information gathered during PA efforts on the use and storage of AFFF at WHFRTC. The PA findings are based on personnel interviews, environmental investigations and reports, historical documents, and the visual site inspection.

7.1 Conclusions

One area of interest (AOI) related to PFAS release was identified at WHFRTC based on PA data. The AOI is shown on **Figure 7-1** and described in the table below:

Area of Interest	Name	Used by	Potential Release Dates
AOI 1	Fire Station/Building 325	KYARNG	2016

During their response to an off-facility fire, the WHFRTC fire department deployed approximately 75 gallons of AFFF. Afterwards, the fire truck used to deploy AFFF may have been washed at the WHFRTC fire station/Building 325. Therefore, the fire station/Building 325 was identified as AOI 1.

The potential off-facility PFAS source area (over 5 miles to the east of WHFRTC) identified at the location of the Re-Tek Products, Inc. Central City fire is not considered an ARNG AOI because it is outside of the WHFRTC boundary, but is considered an adjacent off-facility potential source of PFAS.

Based on the potential for AFFF releases at AOI 1, there is potential for exposure to PFAS contamination in surface soils to site and construction workers, and trespassers, and in subsurface soils to site and construction workers via inhalation and ingestion. There is also the potential for exposure to PFAS contamination in surface water and sediment for site and construction workers. No sources of PFAS release to the environment were identified in the area surrounding WHFRTC through interviews or review of previous environmental investigations.

7.2 Uncertainty

A number of information sources were investigated during this PA to determine the potential for PFAS-containing materials to have been present, used, or released at the facility. Historically, documentation of PFAS use was not required because PFAS were considered benign. Therefore, records were not typically kept by the facility of available during the PA on the use of PFAS in training, other non-traditional activities, or on its disposition.

The conclusions of this PA are predominantly based on the information provided during interviews with personnel who had direct knowledge of PFAS use at the facility. Gathered information has a degree of uncertainty due to the absence of written documentation, the limited number of personnel with direct knowledge due to staffing changes, the time passed since PFAS was first used (early 1970s), and a reliance on personal recollection. Inaccuracies may arise in potential PFAS release/storage locations, dates of release, volume of releases, and the concentration of AFFF used. There is also a possibility the PA has missed a source of PFAS, as the science of how PFAS may enter the environment continually evolves.

In order to minimize the level of uncertainty, readily available data regarding the use and storage of PFAS were reviewed, current personnel from several KYARNG facilities were

interviewed, multiple persons were interviewed for the same potential source area, and potential source areas were visually inspected.

Area of Interest	Source of Uncertainty
AOI 1	No personnel available with direct knowledge of washing the fire truck following the 2016 Central City fire response. It is unknown if any AFFF remained on the truck that was washed at the facility. No records kept for washing of fire trucks.



CLIENT	ARNG			
PROJECT	Preliminary Assessment for PFAS at Wendell H. Ford RTC, KY			
REVISED	11/15/2018	GIS BY	MS	11/15/2018
SCALE	1:6,000	CHK BY	JW	11/15/2018
National Agricultural Imagery Program, 2016.		PM	RG	11/15/2018



TITLE		Summary of Findings	
AECOM 12420 Milestone Center Drive Germantown, MD 20876		Figure 7-1	

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8. References

Bower, D.E. and W.H. Jackson. 1981. Drainage Areas of Streams at Selected Locations in Kentucky. Open File Report 81-61. Geological Survey, United States Department of the Interior, Louisville, Kentucky.

Fenneman, N.M. 1938. Physiography of the Eastern United States. McGraw-Hill Company, New York, New York.

Quarterman E. and R.L. Powell. 1978. Potential ecological/geological natural landmarks on the Interior Low Plateaus. National Park Service, United States Department of the Interior, Washington, District of Columbia.

Kentucky Army National Guard (KYARNG). 2010. *Updated Integrated Natural Resources Management Plan*, Wendell H. Ford Regional Training Center, Muhlenberg County, Kentucky. June 2010.

KYARNG. 2012. Draft Integrated Cultural Resources Management Plan Update for Sites and Training Installations of the Kentucky Army National Guard, Fiscal Years 2013-2018. February 2012.

National Oceanic and Atmospheric Administration (NOAA). 2018. 1981-2010 Climate Normals for Starke, FL US. <http://www.ncdc.noaa.gov/cdo-web/datatools/normals>. Accessed 12 June 2018.

USEPA. 1991. *Guidance for Performing Preliminary Assessments under CERCLA*. EPA/540/G-91/013. September 1991.

Appendix A

Data Resources

Data resources will be provided separately on CD. Data resources for Wendell H. Ford Regional Training Center include:

Previous Environmental Assessments and Management Plans at WHFRTC

- 1993 Final Environmental Assessment, Master Planning at the Western Kentucky Training Site, Greenville, Kentucky
- 2010 Updated Integrated Natural Resources Management Plan for the Wendell H. Ford Regional Training Center, Muhlenberg County, Kentucky
- 2012 Integrated Cultural Resources Management Plan Update for Sites and Training Installations of the Kentucky Army National Guard, Fiscal Years 2013-2018

Mutual Aid Agreements and Incident Reports

- 2016 WHFRTC Fire/Rescue Incident Report for the Re-Tek Products, Inc. Central City Fire
- 2018 Agreement for Mutual Aid in Fire Protection and Hazardous Materials Incident Response Between WHFRTC Fire/Rescue and Central City Fire Department
- 2018 Agreement for Mutual Aid in Fire Protection and Hazardous Materials Incident Response Between WHFRTC Fire/Rescue and City of Greenville Fire Department and Greenville Volunteer Fire Department
- 2018 Agreement for Mutual Aid in Fire Protection and Hazardous Materials Incident Response Between WHFRTC Fire/Rescue and Muhlenberg County (EMA) Emergency Management Agency

Stormwater Discharge Information at WHFRTC

- 2013 KPDES Permit Number KYR003209 for stormwater outfall discharge to Cypress Creek
- KYARNG Fire Station Utility Lines Photograph

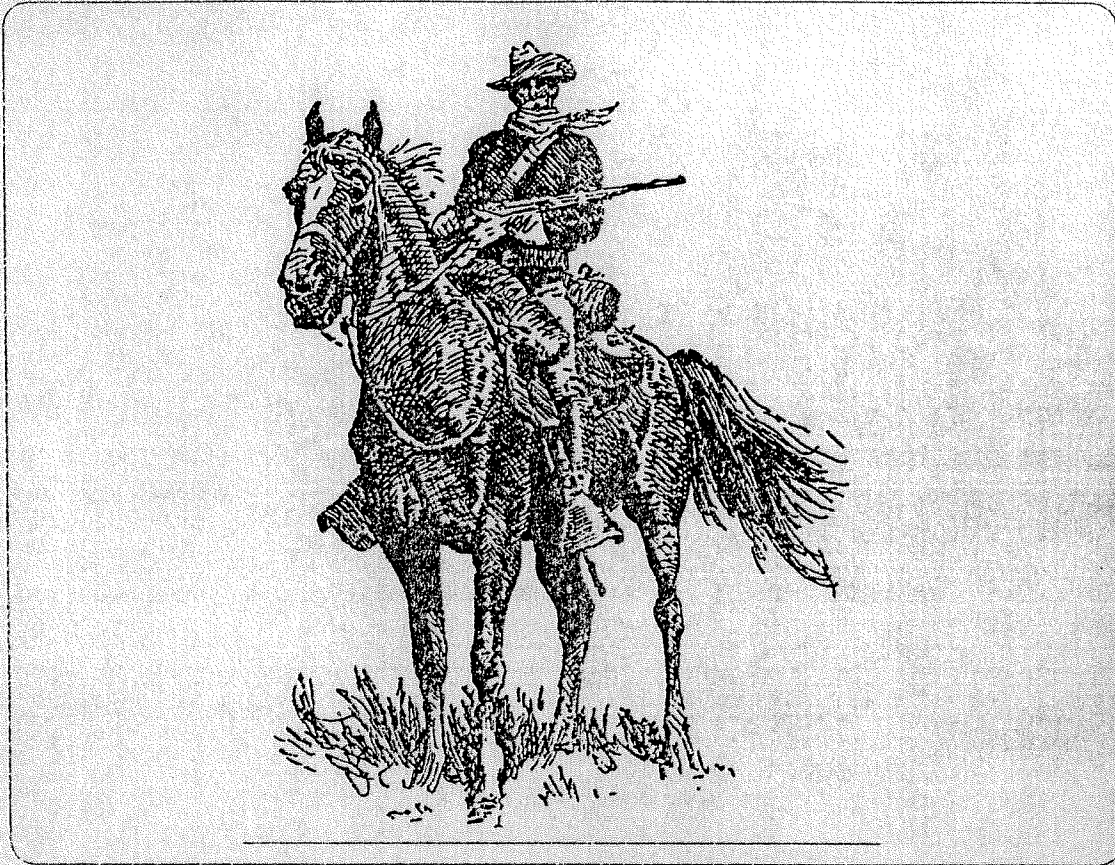
Chemical Data for Firefighting Chemicals Stored at WHFRTC

- 2013 Badger Wheeled Regulated Portables, Dry Chemicals Technical Data Sheet
- 2014 Angus Fire Tridol S1 AFFF Safety Data Sheet
- 2015 Angus Fire Tridol C6 S1 Synthetic AFFF Concentrate Data Sheet
- 2015 Angus Fire Tridol S3 Synthetic AFFF Concentrate Data Sheet
- 2017 List of Firefighting Chemicals Stored by KYARNG

WHFRTC Environmental Data Resources Report

- 2018 Wendell H. Ford Regional Training Center EDR Report

**COMMONWEALTH OF KENTUCKY
DEPARTMENT OF MILITARY AFFAIRS**



FINAL ENVIRONMENTAL ASSESSMENT

**Master Planning At The
Western Kentucky Training Site
Greenville, Kentucky**

Finding of No Significant Impact (Master Planning at the Western Kentucky Training Site Greenville, Kentucky)

1. DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES

The Kentucky Department of Military Affairs proposes to implement a Master Plan to develop 5,326 acres of predominantly strip-mined land in Muhlenberg County as a training site for units of the Kentucky National Guard in western Kentucky. The land has been in use for military training since 1969 and was acquired by the Commonwealth of Kentucky in 1988 for continued use as the Kentucky National Guard Western Kentucky Training Site.

The assessment examined alternatives to the proposed action. The no action alternative is not feasible in that existing facilities at the training site are inadequate, requiring replacement, addition or conversion, and do not meet safety standards or meet the mission support requirements for military training. Other alternatives considered were (1) diversify development to other locations in the commonwealth, and (2) partial development of Western Kentucky Training Site. These alternatives, however, were not desirable as no other sites are available for development in western Kentucky. Existing training sites are inadequate or too distant to train efficiently or effectively.

2. ENVIRONMENTAL IMPACT ANALYSIS

More detailed analysis of potential environmental impacts is documented in the accompanying Environmental Assessment (EA).

Normal construction techniques will be utilized during development with special concern for dust control measures and prevention of erosion and excessive runoff. The proposed approved utilities will not significantly impact existing systems.

Air quality and noise impacts during construction and training will be short-term and minimal, given the number of vehicles in actual operation, frequency of training and the wide dispersion area. Increased small arms firing should not significantly change the local noise environment due to

distance and terrain. In most cases, computerized laser range-finders will be in use. Noise from armored vehicles and construction equipment will be localized and temporary; new helicopter and small plane traffic will be held at minimal levels. Activities proposed are not expected to create unacceptable noise levels.

Removal of some vegetation may be necessary to widen roads or make other improvements within the property. Damage to vegetation in the immediate area of operations and training will be short-term. In order to protect water quality of surface streams, best management practices will be followed to maintain cover on reclaimed strip mine areas, locate and manage any areas of acid spoil, and control erosion. Erosion damage in maneuver areas and other areas will be repaired and revegetated as soon as possible to prevent damage to downstream areas from siltation. The existing sediment control ponds will continue to be maintained for stream protection and wildlife enhancement. Cooperative agreements will be made between the Department and other government agencies for assistance with soil conservation, erosion control and revegetation planning and management.

No Federally listed threatened or endangered species are known to occur on the property. Although construction and training at the site will affect some individual flora and fauna, species availability will not be affected. Historically, military installations have provided excellent habitats for both protected species as well as non-protected wildlife. Natural resources management and retention of natural vegetation and cover is consistent with the military mission; actions will be taken to maintain habitats for indigenous wildlife. Wildlife habitats will be zoned and managed to minimize impacts and conserve natural resources. Cooperative agreements will be coordinated with appropriate governmental agencies for assistance with natural resources management plans and wildlife management. If plants or animals of special concern are encountered, the sites will be protected pending consultation with the Kentucky Nature Preserves Commission or Kentucky Department of Fish and Wildlife.

An archeological study has been made which determined that there are no known sites on the property eligible for inclusion in the National Register of Historic Places. Should artifacts be encountered during construction, the State Historic Preservation Officer will be consulted to ensure mitigation of any impacts to significant cultural resources.

The Army's Integrated Training Area Management program will be initiated at the training site to maintain and enhance the quality of the land and natural resources while continuing the military training mission.

Economic impacts would benefit the local area as a result of employment opportunities during construction. A long-term benefit would result from the permanent professional, technician and support jobs generated, increased local merchandising opportunities, and increased usage of the training site by local National Guard units.

There are no indications that implementation of this proposal would violate any federal, state or local environmental laws or regulations.

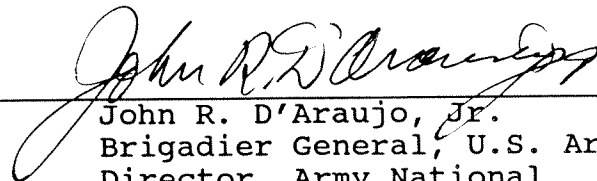
3. FINDING OF NO SIGNIFICANT IMPACT

This proposal has been coordinated with concerned agencies and interested individuals. It has been determined, after consideration of all factors included in the EA and pertinent environmental legislation, that the action will not significantly affect the quality of the human environment, and there would be no significant effects associated with this action. The requirements of the National Environmental Policy Act (NEPA) have been satisfied and an Environmental Impact Statement will not be prepared for this action.

Comments on the Environmental Assessment should be addressed to CPT Phil Miller, Public Affairs Office, Boone National Guard Center, Frankfort, Kentucky 40601. Written substantive comments received at the above address within 30 days of the published notice will be addressed.

20 APR 1993

Date


John R. D'Araujo, Jr.
Brigadier General, U.S. Army
Director, Army National
Guard

Kentucky Army National Guard
Environmental Assessment

Master Planning at the Western Kentucky Training Site
Greenville, Kentucky

PREPARED BY:



FAITH FIENE
Environmental Manager
Kentucky Department of Military Affairs

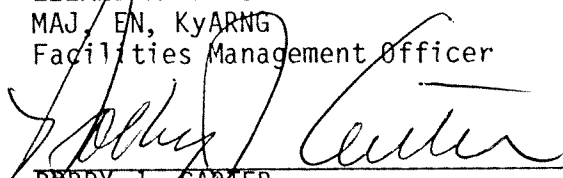
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Date 9 MAR 93



BOBBY J. CARTER
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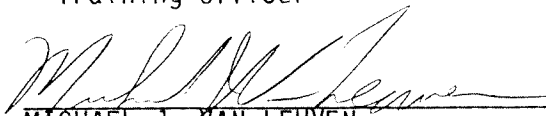
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The Adjutant General

Date 24 Mar 93

KENTUCKY ARMY NATIONAL GUARD
ENVIRONMENTAL ASSESSMENT

MASTER PLANNING AT THE WESTERN KENTUCKY TRAINING SITE
GREENVILLE, KENTUCKY

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APPENDICES

Appendix A -- Training Site Description

Appendix B -- Cultural Resources Reconnaissance of Western Kentucky
Training Site

Kentucky Army National Guard
Environmental Assessment

Master Planning at the Western Kentucky Training Site
Greenville, Kentucky

1.0 PURPOSE AND NEED FOR THE PROPOSED ACTION

1.1 BACKGROUND

Since 1969, the Department of Military Affairs has operated a weekend training site for the Kentucky Army National Guard in north central Muhlenberg County on strip-mined land located west of Central City and north of Greenville. Through an agreement with Peabody Coal Company, 3,000 acres of mining company land has been leased annually to the National Guard on a rotating basis to suit their mining plan. A 75.75 acre parcel adjacent to the maneuver area was purchased by the Department in 1970 and the existing Unit Training Equipment Site and other full-time training support facilities were built. The site is in training use by National Guard units on most weekends and several weeks of the summer. Active Army and Army Reserve units have used the maneuver area and facilities during the week.

In 1988, 5,250 acres of strip mine land were deeded to the Commonwealth of Kentucky for use by the Department of Military Affairs and the Kentucky National Guard. Most of this land, in various stages of reclamation, has been used for military training during the past twenty-three years. With ownership, the Department is planning to continue the military training activities existing on the site and to improve the support facilities for training to meet National Guard mobilization requirements.

In order to guide future development, a comprehensive Master Plan has been developed by Departmental personnel and consultants working together. This plan establishes a framework for facility growth and construction of facilities through a five-phase long-range plan to support the National Guard mission and training goals. It insures that funds are expended in a planned and economical manner and that the most effective use of land and facilities are made.

1.1.1 CURRENT FACILITIES

The Western Kentucky Training Site is presently comprised of a cantonment area, containing the support facilities for the training mission of the installation and the 5,250 acre maneuver area with firing ranges. The existing support facilities within the cantonment area include an administration/warehouse building, office trailer, two supply buildings, helipad, vehicle wash rack, loading ramp, one classroom and associated roads and parking areas. A bivouac area has showers, composting latrine, nine concrete tent slabs and two kitchen tent slabs. Colocated with the training site is the Unit Training Equipment Site (UTES #2), a three-bay vehicle maintenance facility with fuel dispensing point and fenced vehicle parking compound.

East and west of the cantonment area are the main training/maneuver areas for the installation. The firing range to the west includes two ranges which are used for at least four different individual small arms and tank crew qualification ratings. The maneuver ranges are used for a multitude of different types of tactical training. Further description of the existing training site utilization is in Appendix A of this document.

1.2 PURPOSE

The purpose of the Master Plan and the proposed development at Western Kentucky Training Site is to provide adequate facilities to house, feed, and support the Kentucky National Guard units which already train at the site. An increased reliance of the Army on the National Guard has caused an expansion in the requirements for mission essential training within the National Guard. The training required to meet the mobilization mission mandates that National Guard personnel be trained to the same standards as their active duty partners. Unlike active duty personnel, Kentucky citizen soldiers have only 24 days plus a two-week annual training period per year during which they can train to meet these requirements. The existing location allows for reduced fuel consumption in troop transit. Improved facilities will increase productive training time and speed up individual and unit training, thereby enhancing mobilization readiness of units.

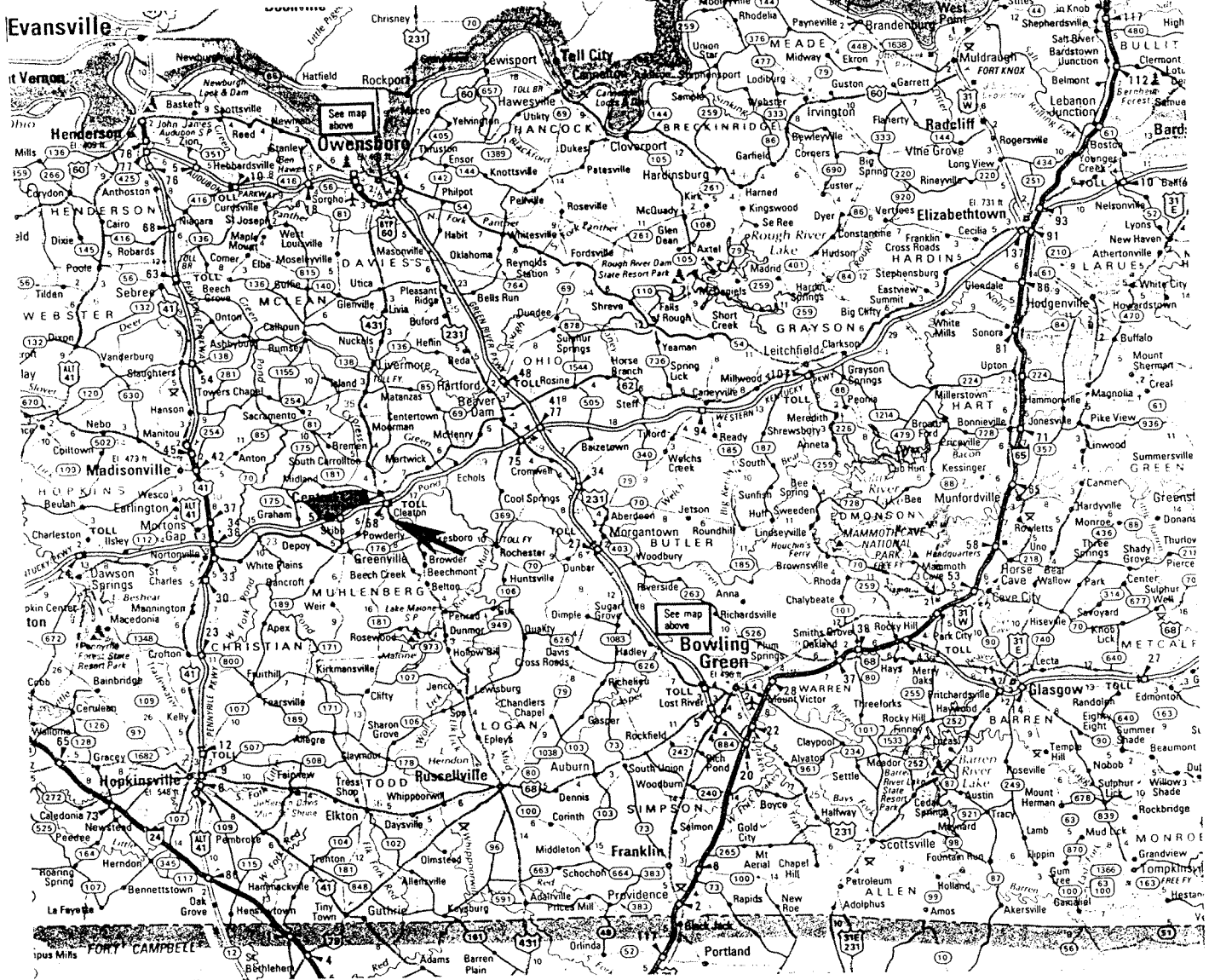
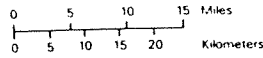
1.3 NEED

The development and expansion of the Western Kentucky Training Site, through various construction projects, is needed to support the current training requirements of the Kentucky National Guard. The KyARNG's goal is that all units will attain the desired training level. The central location of the training site will allow this at a reduced cost and increased efficiency. Existing facilities are not adequate to provide the required support to current users and must be upgraded or replaced to improve efficiency, safety and mission readiness. With anticipated budget cuts, more National Guard training will have to be conducted within the State of Kentucky rather than at distant military installations.

Figure 1

LOCATION MAP

Western Kentucky Training Site
Greenville, Kentucky



2.0 DESCRIPTION OF PROPOSED ACTIONS

The Western Kentucky Training Site Master Plan is designed to integrate the special features of the property and environmental considerations with training needs and to plan for the total use of the property. The proposed actions in the plan are intended to alleviate basic problems at the training site. Inadequate administrative and support facilities throughout the cantonment area and inadequate training facilities in the maneuver area and firing range area will be corrected.

The proposed master plan actions are geared to support part-time military training activities at the Western Kentucky Training Site. Full-time training site employees will remain on site year-round to manage facilities and training site activities. Typical usage will continue to be two National Guard companies or approximately 200 troops per weekend and one or two 14-day annual training periods per summer averaging 500 troops each. Occasional use by active Army and Army Reserve units will continue by special arrangement.

Proposed actions are listed in Table 1. Funding year refers to the sequential order of phased construction which is anticipated to begin in fiscal year 1993. Sites of proposed construction and training areas are keyed to locations on the maps in Figures 2 and 3.

2.1 CONSTRUCTION OF TROOP HOUSING AREA

New facilities will be constructed in the cantonment area in three phases using a building block approach. Each building block will consist of barracks, dining facilities and office/supply buildings. A total of fourteen 40-person Enlisted Mens Barracks (3,050 Square Feet), three 20-person Non-Commissioned Officers Barracks (2,950 SF), three 20-person Officers Barracks (2,950 SF), one 12-person Senior Officer Barracks (3,150 SF), five Dining Facilities (3,600 SF), and five Company Supply/Administration Buildings (2,200 SF) will be constructed. In addition, the Brigade Headquarters Building (3,000 SF), Battalion Headquarters Building (2,200 SF), Battalion Supply/Ration Building (2,200 SF), and Dispensary (2,515 SF) will be constructed to accommodate the troops using the training site. All buildings will be heated and contain electric, water and sewage service as required. Adjacent parking areas will be provided for privately owned motor vehicles. On completion of this master plan action, these new facilities will be capable of housing 700 troops with a maximum capacity of 1,400 if bunk beds are used.

2.2 CONSTRUCTION OF SEWAGE TREATMENT PLANT

A sewage treatment plant with a design capacity of 140,000 gallons per day will be constructed near the southern portion of the cantonment area with drainage southward beneath the Parkway into Little Cypress Creek. The plant will service all buildings in the cantonment area as well as nearby bivouac sites. In remote locations, portable latrines, pit latrines or composting latrines will be considered for bivouac sites (military camp sites). The construction will be phased into two 70,000 gallon per day construction phases and progress as more facilities are built on the cantonment area. The design of the treatment plant and associated sewer connection system will be fully coordinated with the Kentucky Division of Water; the construction permit, discharge permit application and additional public review requirements for the project will be processed when engineering plans are available.

TABLE 1 PROPOSED ACTIONS

<u>FUNDING</u> <u>YEAR</u> <u>SITE</u>	<u>PROJECT</u>	<u>MAP</u>	
1-3	Construction of Troop Housing Area	B	1
1	Construction of Sewage Treatment Plant	B	2
1	Construction of Training Site Headquarters	B	3
1	Construction of Battalion Maintenance Shelter	B	4
1	Construction of Potable Water Point	B	5
1-5	Expand Water System	*	*
1-5	Upgrade Utility System	*	*
1	Construction of Tank Crew Combat Firing Range	A	8
1	Construction of Combat Pistol Range	A	9
1	Construction of Classroom Building	B	10
2	Construction of Training Site Warehouse	B	11
2	Construction of Vehicle Recovery Training Area	A	12
2	Construction of Armor Vehicle Launch Bridge Training Area	A	13
2	Construction of Helipad	B	14
2	Construction of Fire Station	B	15
2	Construction of Crew Training and Qualification Range	A	16
2	Construction of Basic 25 Meter Firing Range	A	17
3	Construction of Combat Theater Building	B	18
3	Construction of Rail Loading Training Area	A	19
3	Construction of Tank Gunnery Range	A	20
3	Construction of Automated Record Fire Range	A	21
3	Construction of Simulated Urban Area	A	22
4	Construction of Unit Training Equipment Site (UTES) Facility	B	23
4	Construction of Class IX Activity	B	24
4	Construction of Decontamination Training Area	A	25
4	Construction of Combined Support Maintenance Shop (CSMS)	B	26
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5	Construction of Armory Building	B	29
5	Construction of Airstrip	A	30
5	Construction of Army Aviation Support (AASF) Building	A	31
5	Construction of Aircraft Loading Area	A	32
5	Construction of Facility Engineer Building	B	33
5	Construction of Grenade Range	A	34
5	Construction of Mine Training and Demolition Range	A	35
5	Construction of Intermediate Support Maintenance Training Facility	A	36

NOTES:

* Property wide project

Map A refers to Figure 2 and Map B refers to Figure 3

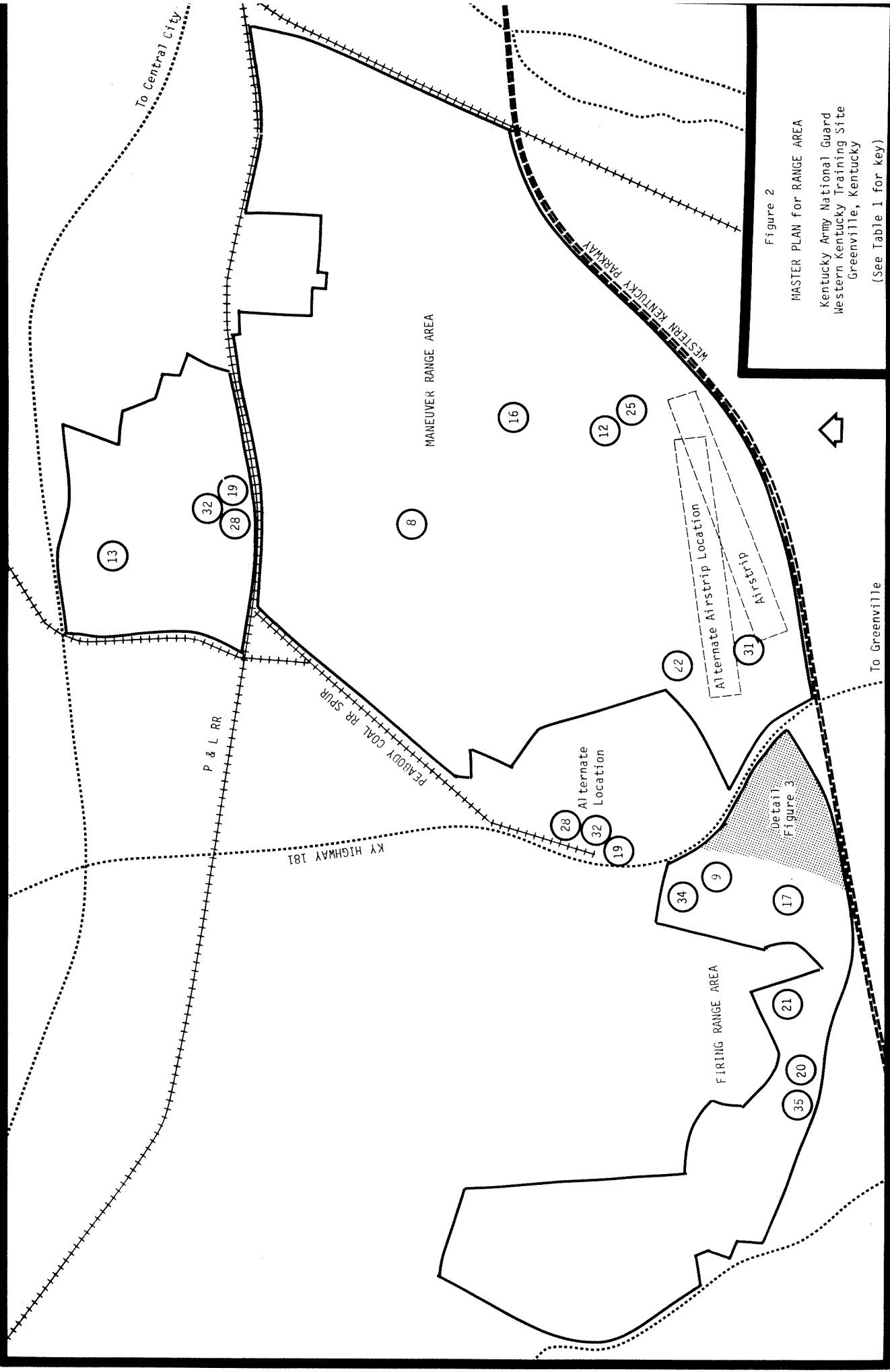


Figure 2

MASTER PLAN FOR RANGE AREA

Kentucky Army National Guard
Western Kentucky Training Site
Greenville, Kentucky

(See Table 1 for key)

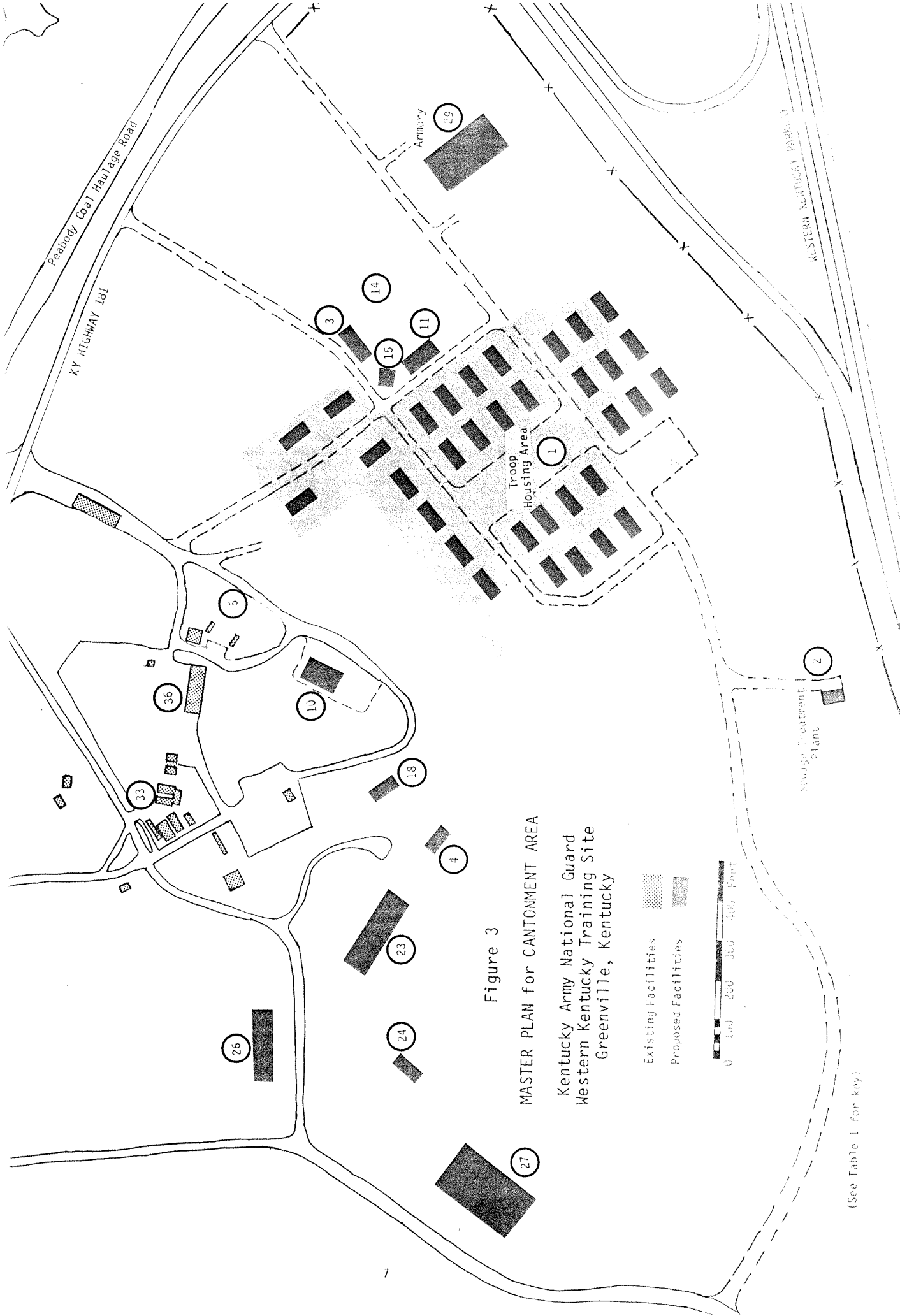


Figure 3
 MASTER PLAN for CANTONMENT AREA
 Kentucky Army National Guard
 Western Kentucky Training Site
 Greenville, Kentucky

Existing Facilities
 Proposed Facilities

0 100 200 300 400 Feet

(See Table 1 for key)

2.3 CONSTRUCTION OF TRAINING SITE HEADQUARTERS

The proposed Headquarters building will provide administrative/office space for full-time staff of the Department of Military Affairs and the Kentucky National Guard for training site management and troop support at the site. The new building will replace a trailer presently in use. It will be about 2,000 square feet in size with twenty parking places.

2.4 CONSTRUCTION OF BATTALION MAINTENANCE SHELTER

A 2,000 square foot open shed-type building with concrete floor is proposed to be constructed in the cantonment area to give units a separate work space to conduct vehicle maintenance activities for equipment that has been checked out to them. The building will have up to 400 square feet of enclosed heated office space with a latrine. Outside storage area will consist of five acres of open hardstand.

2.5 CONSTRUCTION OF POTABLE WATER POINT

An existing water dispensing point will be relocated for units to fill their water trailers with potable water for preparation of meals and sanitation in the field. The dispensing point consists of an overhead supply line with a gate valve and flexible hose for tank filling purposes. A gravel holding area for parking two additional trucks with water trailers will also be provided.

2.6 EXPAND WATER SYSTEM

Water will be required in all buildings for potable uses and for firefighting; the water distribution system will be extended as construction progresses. All buildings will have restrooms and the barracks will also have mop sinks and showers. Kitchen water supplies will be sized to accommodate a 200-person capacity at dining facilities. In addition, the water distribution system will be extended to each bivouac site. A 220,000 gallon on-site water storage tank with a 94 foot height will be incorporated into the system to handle periods of peak demand.

2.7 UPGRADE UTILITY SYSTEM

The existing electrical service to the area is inadequate to serve the proposed complex and must be replaced. New three-phase primary service to the training site will be set by the utility company at the expense of the project. Electric service for lighting will be extended to buildings and bivouac sites as construction proceeds.

2.8 CONSTRUCTION OF TANK CREW COMBAT FIRING RANGE

This proposed range, for military training exercises referred to as Tank Tables VII and VIII, is used to teach tank crews the skills needed to defeat stationary and moving targets. It will be established within the maneuver area on the training site. It consists of one tank trail with 13 stationary vehicle targets, two moving vehicle targets and 37 silhouettes with mechanized pop-up

targets placed in tactical arrays along the trail. All operations are conducted from moving tanks using computerized laser devices rather than subcaliber firing devices. It will be used by the M60 series of tanks and the M1 family of vehicles during approximately twelve training periods per year.

2.9 CONSTRUCTION OF COMBAT PISTOL RANGE

Currently, there is one small-arms range in the firing range area which is used for at least three different small-arms qualification ratings. However, it is inadequate for its uses and must be modernized. Having separate ranges is preferred for optimum training efficiency.

The proposed range will be rebuilt on the site of the existing small arms range. It will provide instructional and qualification firing with the combat pistol at a fixed location. The range will consist of 15 firing lanes, each about 31 meters long. Each lane will be equipped with seven silhouettes with electronic mechanisms to activate pop-up targets as the soldier walks the course. The range will continue to be used during ten training periods per year.

2.10 CONSTRUCTION OF CLASSROOM BUILDING

A 5000 square foot classroom building is proposed to be constructed in the cantonment area to replace a 580 square foot trailer. It will contain classrooms, offices and restrooms.

2.11 CONSTRUCTION OF TRAINING SITE WAREHOUSE

A 5000 square foot warehouse is proposed to be constructed in the cantonment area to support existing training. The warehouse will provide storage and facilities to issue equipment to troops that train at the site. The equipment list is extensive and will include items such as targets, target mechanisms, linens, and dining hall equipment. The existing warehouse has inadequate space to meet the needs of existing training activities. The proposed building will contain storage areas, offices, loading ramps and have ten parking places.

2.12 CONSTRUCTION OF VEHICLE RECOVERY TRAINING AREA

This training facility is used to teach the soldier the methods and procedures for recovery of a disabled tank or for the retrieval of a tank that may be totally operational but immobile because of simulated terrain or weather conditions. Various sites have been used but a fixed site is advantageous for management purposes. The two-acre area for this activity will be located in the maneuver area of the training site.

2.13 CONSTRUCTION OF ARMOR VEHICLE LAUNCH BRIDGE TRAINING AREA

It is proposed to locate a permanent area for placement of a mounted bridge unit across a final cut strip mine pond on the northern part of the maneuver area in the training site. This area will be used for stream crossing exercises rather than at any natural stream in order to avoid environmental damage to neighboring wetlands. The site will be specially prepared to control erosion at the banks of the pond. Anticipated usage will be approximately four times per year.

2.14 CONSTRUCTION OF HELIPAD

A 100 by 100 foot concrete pad with approach/departure lighting, safety distances and clear zones will be constructed near the Training Site Headquarters Building for helicopter access. This will replace the existing grassy pad near the existing maintenance building.

2.15 CONSTRUCTION OF FIRE STATION

To provide fire protection for the training site and storage for fire, ambulance and emergency equipment, a fire station will be constructed in the cantonment area. The building will be about 2,000 square feet and contain a garage, offices and storage.

2.16 CONSTRUCTION OF BASIC CREW TRAINING AND QUALIFICATION RANGE

It is proposed to replace an existing tank range that does not meet Army standards with a modernized standard qualification range. This range, located in the maneuver area, provides an area for the military training exercise referred to as Tank Table III and IV. These courses are designed to train the tank crew to engage in stationary and moving targets, placed in tactical arrays, from a stationary and moving tank. Table III is the first table where the entire tank crew is employed. It introduces the use of defensive positions (moving from a turret-down to a hull-down position) and offensive (moving) engagements. Table IV is the qualification course which evaluates the tank crew's skills in the basic gunnery tables and must be completed before proceeding to intermediate training exercises. These two courses will be relocated and share the same range area in the training site maneuver area; they are nonfiring, using M55 or laser devices rather than subcaliber devices. Construction of the range will include installation of moving track targets, defilades and pits, road improvements, culvert and control tower. Anticipated usage of the rebuilt range will continue to be approximately ten to twelve training periods per year.

2.17 CONSTRUCTION OF BASIC 25 METER FIRING RANGE

It is proposed to relocate this range from the existing small arms range in order to upgrade it to conform with military and safety standards. This range is used to train individuals in preparatory marksmanship, zeroing weapons, corrective instruction, for some qualification courses requiring 5.56 mm (millimeter) ammunition and for firing machine guns using 7.65 mm ammunition. The range will have twenty firing points and several types of targets. The rebuilt range will continue to be used at the same rate, approximately eight to ten training periods per year.

2.18 CONSTRUCTION OF COMBAT THEATER BUILDING

It is proposed to construct a 8000 square foot building in the cantonment area to house a computerized training simulator. This indoor scaled range provides audio and visual simulations of battle conditions for individual and crew-served computerized gunnery practice. This training technique supports field training by imposing a greater variety of battle scenarios and range characteristics at reduced cost and less hazard. The equipment is currently in storage but will be moved to the training site for concurrent training purposes.

2.19 CONSTRUCTION OF RAIL LOADING TRAINING AREA

This proposed training area simulates a railhead and is fully equipped with flat cars on rails. Here soldiers will receive training in the preparation, loading and securing equipment on the railcars for movement. The area requires about five acres with 500 square yards of parking area.

2.20 CONSTRUCTION OF TANK GUNNERY RANGE

The existing tank gunnery range on the training site has been used for Tank Tables I, II and III but is inadequate and must be modernized to meet military standards. It is proposed to rebuild this range to provide an area for the tank gunnery training exercise referred to as Tank Table I and II. These ranges are each designed for four stationary vehicles at a firing line to train and qualify individuals in basic gunnery skills. The Table I range has fixed targets and the Table II range has a moving track target. Both use the M180 Brewster device mounting the M16 rifle or M55 laser trainer device. Range construction will include installation of targets, vehicle stops at the firing line, wood frame overhead covers with a metal roof (64' x 21.5'), construction and modification of berms, shaping and draining the range and a thirty-foot control tower. Troop labor will be used in order to considerably reduce construction costs. Anticipated usage of the rebuilt range will continue to be approximately ten to twelve training periods per year.

2.21 CONSTRUCTION OF AUTOMATED RECORD FIRE RANGE

It is proposed to construct an Automated Record Fire Range in order to separate it from the existing small arms range. This range is used to give soldiers practice engaging personnel targets in a simulated combat environment and to give a qualification rating with M16 rifles. The computerized range consists of 16 firing lanes, each of which are 30 meters wide and 300 meters long containing seven automated pop-up target mechanisms. The computer quantifies the target hits and scores the user. The range will be used during approximately eight to ten training periods per year.

2.22 CONSTRUCTION OF SIMULATED URBAN AREA

It is proposed to construct this training course on a 25-acre site on the northern end of the maneuver area within the Training Site. This training area is primarily for the training of tank crews but can also be used to train troops in street battle techniques. A "city" is simulated with open lanes as streets and dense shrubbery plantings as buildings. The tank units simulate fighting down streets and across intersections as if they were in a city. Anticipated usage of this range will be during approximately twelve training periods per year.

2.23 CONSTRUCTION OF UNIT TRAINING EQUIPMENT SITE (UTES) FACILITY

It is proposed to replace the existing UTES building with a new facility in the cantonment area. The new building will be approximately 28,526 square feet and contain offices, storage, work bays and support shops for maintenance of the M60 and M1 family of tracked and wheeled vehicles at the site. Support areas will

include a fuel dispensing facility, used oil storage and flammable storage area which will be designed and constructed to comply with state and federal environmental and safety regulations to control ground and surface water contamination, spillage and safety hazards and to protect the environment. In addition, there will be a 6,000 square yard military vehicle parking area, 1,050 square yard employees parking area, 1,500 square yard home station parking area and a 10,000 square yard combat vehicle staging and maintenance area.

2.24 CONSTRUCTION OF CLASS IX ACTIVITY AREA

It is proposed to construct a 15,000 square foot building for the Class IX Activity. This facility is a receiving and distribution center for repair and maintenance parts serving shops at the site and in western Kentucky. The building will consist of a 2,000 square foot office area plus warehouse and work areas with a fenced and lighted compound, access road and parking area on a three-acre maximum site.

2.25 CONSTRUCTION OF DECONTAMINATION TRAINING AREA

An important segment of military training is to teach protection procedures against harmful Nuclear, Biological and Chemical (NBC) warfare agents. Troops are trained to dress in protective clothing, test gas masks, and to perform precise decontamination procedures to prevent transfer of agent to equipment and other personnel. An area will be designated in the maneuver area near a water source to demonstrate washing of vehicles. A concrete pad and appropriate controlled drainage will be constructed at the site. This construction proposal will improve the facility for NBC training currently being conducted at the site. The area will be used approximately six periods per year.

2.26 CONSTRUCTION OF COMBINED SUPPORT MAINTENANCE SHOP (CSMS)

A five-acre site on the cantonment area will be used for the construction of a Combined Support Maintenance Shop. The mission of this facility and its personnel is to service equipment needing repairs that are beyond the capability of the nearby Unit Training Equipment Site or Organizational Maintenance Shops in the region. There is a CSMS at Boone Center in Frankfort, but a second shop in western Kentucky could serve that region more efficiently and economically and help to balance the workload at the existing shop. The new building will include administrative areas, workbays, maintenance and repair rooms, tool and supply rooms and utility areas. Supporting areas will include a military vehicle storage compound, flammable storage building, used oil storage area, off-street employee parking, and access roads. The facility will be designed, constructed and operated to comply with state and federal environmental and safety regulations to control ground and surface water contamination, spillage and safety hazards and to protect the environment.

2.27 CONSTRUCTION OF UNITED STATES PROPERTY AND FISCAL OFFICE (USP&FO) BUILDING

A five-acre site on the cantonment area will be used for the construction of a United States Property and Fiscal Office and warehouse. This facility and its personnel will support all Federal funding and equipment for Kentucky Army National Guard units at the training site and in the western half of the state. Currently, this mission is supported from the USP&FO at Boone Center in Frankfort but for logistical reasons, it is more efficient and economical to have a second office and warehouse on the training site and closer to the units it supports. The building will consist of offices, computer facilities, warehouse, secure storage, loading ramps, service area and fenced compound with off-street parking.

2.28 CONSTRUCTION OF RAILHEAD

A working railhead is proposed to be constructed for the rail loading and shipment of military combat vehicles and other bulky equipment to and from other locations. At a railroad spur location on the property, a gravel surface, loading ramps, and an access road will be constructed. The completed railhead will be capable of simultaneous loading on two tracks with sufficient clear area for maneuvering.

2.29 CONSTRUCTION OF ARMORY BUILDING

An armory is proposed to be constructed on a 10-acre site within the cantonment area adjacent to the Parkway interchange. The armory will have offices, classrooms, supply rooms, secure storage areas, military vehicle compound, off-street parking areas, access road and other features typical of armories. Electric, water and sewage service to the building will be extended from the training site.

2.30 CONSTRUCTION OF AIRSTRIP

It is proposed to construct an airstrip on the training site to support military aviation traffic at the site. Usage may include occasional C-130 U.S. Air Force transports, but primarily light traffic by helicopters, and other small single engine and multiengine aircraft. The proposed 250-acre site is located adjacent and roughly parallel to the Western Kentucky Parkway. The airstrip will be constructed in two phases. The first 3,000 feet of runway will be of bituminous construction and later be extended to a final 6,000 foot length. The airstrip, designed according to military and Federal Aviation Administration (FAA) regulations, will be coordinated through the U.S. Air Force and FAA as appropriate. The preliminary plan requires clearing of 15-20 year old forest growth, drainage of several ponds, construction of catchment basins for surface runoff, and leveling, grading and stabilization of rugged abandoned strip mine land. The land preparation and stabilization work in the area will be accomplished under the project management of the Kentucky Department of Surface Mining, Reclamation and Enforcement-Division of Abandoned Lands. Design and construction of the airstrip will be through the Kentucky Department of Military Affairs. This construction and reuse of abandoned mine land will be completed with consideration for runoff control and protection of downstream wetlands.

2.31 CONSTRUCTION OF ARMY AVIATION SUPPORT FACILITY (AASF)

It is proposed to construct an operational and intermediate maintenance facility in support of designated aviation units adjacent to the proposed airstrip. The facility will consist of a hanger for maintenance and servicing aircraft with supporting allied shops, offices, supply rooms and operations areas. Exterior facilities will include an improved heliport, taxiways, aircraft parking areas and apron, motor vehicle parking areas, fuel dispensing area and associated improvements. The facility will be designed, constructed and managed to comply with building codes and military, environmental and safety regulations. Hazardous materials storage areas will be designed and operated to control ground and surface water contamination, spillage and to protect the environment.

2.32 CONSTRUCTION OF AIRCRAFT LOADING AREA

A five-acre site in the maneuver area will be designated to train soldiers in preparation, loading and securing equipment in aircraft for deployment. The area will consist of a full-scale mock-up of a C-130 U.S. Air Force aircraft. A hardstand surface will be constructed for access and parking.

2.33 CONSTRUCTION OF FACILITY ENGINEER BUILDING

It is proposed to remodel an existing building on the cantonment area to provide office space for full-time engineering staff supporting the training site. This requires renovation of storage and supply areas into offices and allied support areas.

2.34 CONSTRUCTION OF GRENADE RANGE

An eight-acre area will be designated to teach the tactical employment of the hand grenade, to familiarize soldiers with the grenade's delay action, safety procedures and to provide a qualification rating. Minimal construction is required other than establishing tactical targets and providing different types of cover at stations along the firing line. Training will include occasional live grenades, but mostly nonfiring practice grenades. Anticipated usage of the training course will be during approximately six training periods per year.

2.35 CONSTRUCTION OF MINE TRAINING AND DEMOLITION RANGE

It is proposed to establish a fixed Mine Training and Demolition Range in the firing range area of the training site. The range will provide for training in safe handling and emplacement of the standard military antipersonnel and antitank mines to include the emplacement and construction of mine fields. It will cover approximately five acres and a vehicle parking area will also be provided. This has been and will continue to be a minor activity at the training site; anticipated usage will be approximately four times per year.

2.36 CONSTRUCTION OF INTERMEDIATE SUPPORT MAINTENANCE TRAINING FACILITY

It is proposed to remodel the existing Unit Training Equipment Site building to establish an Intermediate Support Maintenance Training Facility. This training facility will give maintenance units an area to train to perform maintenance on wheeled and tracked vehicles and other equipment. It will also provide a location for maintenance units to do tactical training in an urban environment. To remodel an existing maintenance facility is the most cost effective means of providing this training environment.

3.0 ALTERNATIVES CONSIDERED IN DEVELOPMENT OF WESTERN KENTUCKY TRAINING SITE

3.1 STATUS QUO (No Action Alternative):

The no action alternative is not feasible in that the existing structures and training facilities currently located at the training site are inadequate, requiring replacement, addition or conversion and do not meet safety standards for Army training facilities. Present facilities do not support the existing administrative and logistical requirements, housing and troop support needs, or the support requirements for vehicle maintenance, training operations and aviation missions. The training site exists to provide military training opportunities, but without the needed improvements, the training site cannot fully support the National Guard's training program. Readiness for mobilization will not be achieved.

3.2 DIVERSIFY DEVELOPMENT TO OTHER LOCATIONS IN THE COMMONWEALTH:

The Department of Military Affairs currently manages three training sites for the Kentucky National Guard. The Eastern Kentucky Training Site near Clay City and the Artemus Training Site near Artemus provide training facilities for units in eastern Kentucky. The Western Kentucky Training Site provides facilities in western Kentucky. Although the National Guard has trained at Ft. Knox and Ft. Campbell in western Kentucky, training opportunities at those federal locations are becoming more limited due to the scheduled training requirements of the Army and Army Reserve units that they support. No other suitable sites are known to be available for development in western Kentucky.

3.3 PARTIAL DEVELOPMENT OF WESTERN KENTUCKY TRAINING SITE:

Partial development of the site is not a viable option because all of the facilities being proposed are required to provide the desired level of training support in western Kentucky. These facilities compliment each other; consolidating them at one location constitutes a more effective training program. To eliminate various cantonment facilities from the plan would impede the effectiveness of site management and training support functions. To not build the proposed ranges on the site would require units to receive qualification ratings elsewhere, increasing costs and further reducing training efficiency.

3.4 DEVELOP WESTERN KENTUCKY TRAINING SITE:

This alternative was selected after consideration of training requirements, and logistical, socioeconomic and land management factors. The Western Kentucky Training Site is most centrally located for the units that it serves. The size and nature of the undeveloped areas on the existing property provide an ideal field environment for military training, and the surrounding strip-mined properties are suitable for future acquisition to enlarge the maneuver area. The training site is ample distance from local population centers to preclude significant impacts from training operations. Its proposed development is expected to make positive contributions to the economy of the surrounding area. A positive environmental management program over land, water and natural resources can be achieved to protect and enhance the local environment. For these reasons, the decision was made to go forward with development of the training site.

4.0 AFFECTED ENVIRONMENT AND IMPACTS

4.1 CLIMATE

Current Conditions. The climate of Muhlenberg county is temperate and continental in character. Midwinter cold waves from the Canadian northwest are usually considerably cold, while summers are warm and humid. In winter the average temperature is 37 degrees F, and in summer the average is 77 degrees F.

The total annual precipitation averages 41.55 inches. Fifty percent generally falls during the period April through September, which includes the growing season for most crops. Thunderstorms occur about 45 days per year, half of which occur during this period. Average seasonal snowfall is 13.9 inches. On the average, seven days have at least one inch of snow on the ground, but the number of such days varies greatly from year to year.

The average relative humidity in midafternoon is about 60 percent. Humidity is higher at night in all seasons, and the average at dawn is about 81 percent. The percentage of possible sunshine is 45 in winter and 75 in summer. The prevailing winds are out of the south-southwest. Average wind speed is highest, 10 miles per hour, in March. (Data obtained from the U.S. Department of Commerce, Environmental Science Services Administration, Climatological Data, 1988. Station of Record: Evansville, Indiana.)

4.2 AIR QUALITY

Current Conditions. The Western Kentucky Training Site is located in the Paducah-Cairo Interstate Air Quality Control Region. The county meets all federal air quality standards and is in attainment for all ambient air standards. Current levels of training activities may generate small amounts of vehicle emissions and smoke. Dust is generated sporadically, but it dissipates rapidly or is greatly reduced through road watering. Construction and mining activities in the area or adjacent properties may also occasionally produce dust with minimal impacts.

Impacts and Mitigations. During the construction phases, dust and vehicle exhaust emissions from workers vehicles, earthmoving equipment and construction traffic may cause a short term local degradation of the existing air quality (particulates and carbon monoxide). It is expected that construction vehicle engines would be equipped with emission control required by EPA for the year of manufacture and that these engines would be maintained in accordance with manufacturer's specifications and applicable federal, state and local standards.

Training operations at the site will continue on a part-time basis and are expected to make slight emission contributions to air pollution in the area. Due to the part-time and noncontinuous vehicle use at the site, the addition of 40 tactical vehicles to the training site inventory will not significantly effect air quality. Exhaust emissions are minimized by a strictly supervised maintenance schedule and program prescribed by Army regulations and are not expected to be generated in any significant amount. Emissions from other new sources are expected to be insignificant due to their occasional and noncontinuous nature. Fuel tanks will be designed and maintained to comply with Air Quality regulations as required by law.

TABLE 2 -- EXISTING AIR EMISSION SOURCES (WORST CASE BASIS)

<u>Source(s)</u>	<u>Quantity</u>
Civilian Vehicles	75
Military Vehicles, Assigned --	
Wheeled:	20
Tracked:	80
Military Vehicles, Transient, Wheeled:	40
Military Aircraft, Daily Traffic --	
Helicopters:	3
Fixed Wing:	1
Propane Heaters	15
Fuel Storage Tanks --	
DIESEL, Underground (1)	10,000 gallons
GASOLINE, Underground (1)	6,000 gallons
USED OIL, Underground (1)	1,000 gallons
Aboveground (drums)	500 gallons
PROPANE, Aboveground (4)	3,000 gallons

TABLE 3 -- PROPOSED NEW AIR EMISSION SOURCES

<u>Source(s)</u>	<u>Quantity</u>
Civilian Vehicles	50
Military Vehicles, Assigned --	
Wheeled:	10
Tracked:	30
Military Aircraft, Assigned --	
Helicopter:	20
Fixed Wing:	2
Military Aircraft, Daily Traffic	6
Propane Heaters	40
Used Oil Heaters	5
Fuel Storage Tanks --	
DIESEL FUEL, Underground	20,000 gallons
USED OIL, Underground	3,000 gallons
AVIATION FUEL, Underground	20,000 gallons
PROPANE, Aboveground	10,000 gallons

During dry weather conditions, localized short-term dust may be created by vehicles on unimproved or unpaved roads. Road-watering will reduce this condition. In any event, the amounts of dust from training activities should be less than what has been generated by strip-mining activities and will dissipate before reaching property boundaries.

With development of the training site, there may be a slight increase in dust and emissions compared to the existing level of military training activities. However, the slight increases are not expected to create a significant deterioration of existing conditions.

4.3 NOISE

Current Conditions. Major sources of noise in the area include traffic from the Western Kentucky Parkway and local highways. Mining activity has virtually ceased, but there continues to be minor amounts of vehicle and construction noise from reclamation and coal hauling activities. Existing sources of noise within the training site include occasional noise generated from weapons firing at two existing firing ranges on the site, and military vehicle operations in the cantonment and maneuver areas. Current helicopter traffic to the site may be a few flights per week. No noise complaints on military operations have been received in the 23 years that the Kentucky National Guard has been training at the site.

Central City, with a population of 4,730, is the closest community to the training site. Its corporate boundaries are about 2000 feet east of the training site boundaries. There are also numerous rural residences and farms along State Route 70 to the north of the training site. Some residences are also located along State Route 601 in the New Cypress area to the southwest of the training site.

Impacts and Mitigations. Development of the training site and the moderate increases in training activities will have few impacts on the local noise environment. There will be daytime construction noise produced during development of the site and construction of buildings, roads, vehicle storage compounds and ranges. However, any construction noise impacts will only be temporary and indistinguishable from other normal daily movements of heavy equipment within the training site. Persons beyond the boundary of the training site will not be affected.

Noise from the proposed maneuver range facilities is not expected to have noticeable off-site impacts. The basic crew training and qualifications range, tank crew combat firing range and other training ranges on the maneuver area are nonfiring ranges. For safety and environmental reasons, tanks primarily use computer simulator systems rather than weapons firing. The principle simulator system that will be used is the nonfiring Multiple Integrated Laser Equipment System (MILES) which uses infrared light and special computerized targets.

Addition of 40 tactical vehicles to the site inventory has no great potential to impact the local noise environment. Most training exercises do not require large percentages of the training site inventory. Maneuver noise characteristically dissipates within a few hundred yards from the vehicle so off-site noise from vehicle maneuver exercises is minimal.

The proposed firing ranges are not expected to significantly change the local noise environment. Three different firing ranges for rifles and small arms (automated record fire range, combat pistol range, and basic 25 meter firing range) will replace the two existing ranges. With this improvement, firing volume will increase from about 73,440 rounds to about 115,920 rounds per year. The tank gunnery range, using rifles or MILES computer simulations, will generate no artillery firing. The proposed hand grenade range and the mine training and demolition range are existing activities with highly variable and infrequent usage.

The highest noise levels for these activities will be located at firing points, concentrated in the center of the training site. These proposed sites were selected from other alternatives which were closer to residences. The nearest residences are all located at least 1,000 yards from the proposed ranges, or one mile south, one mile west and two miles north. To further buffer the ranges, the rough strip mine hills form a physical barrier between property boundaries and firing ranges which serve to deflect and attenuate noise. Additional berms will be constructed at the proposed ranges for both safety and noise abatement reasons. Noise contours would extend off-site to the north and south, but no impacts are expected since the area to the north is an uninhabited strip mine sludge pond area and to the south is the Parkway. Due to physical location and infrequency of use, the proposed firing ranges are not expected to create a significant impact on the local noise environment. The actual locations of firing ranges may be modified to bring them closer to the center of the training site and further from residences.

The "Fly Neighborly" program, requiring the National Guard to use flight procedures with minimum annoyance to local populations, will be in force. Aircraft operations will not be permitted between 11 PM and 6 AM without authorization by the Adjutant General. Helicopters and other aircraft will approach the training site via designated traffic patterns and land at the air strip, helipad or other designated landing zones.

All of these activities will take place well within the training site boundaries and away from the scattered residences near the property. Measures will be taken to minimize noise impacts when feasible without jeopardizing the training mission.

4.4 PHYSICAL SETTING

The Western Kentucky Training Site is located along both sides of Kentucky Highway 181, just north of the Western Kentucky Parkway. The cantonment area is 5 miles north of Greenville and 6 miles west of Central City in Muhlenberg County. (See Vicinity Map -- Figure 1). The site is situated on the Central City West, KY, United States Geologic Survey 7.5 minute Quadrangle Map.

4.4.1 Physiography and Geology

The training site lies in the Western Coalfield physiographic region of Kentucky. This area is characterized by hilly uplands of low to moderate relief dissected by streams occupying wide, poorly drained, swampy valleys.

The topography of most of the site has been greatly reshaped by coal mining operations. The elevations on the site range from approximately 400 feet near

the northwestern corner along railroad embankments where surface streams flow into the Cypress Creek to approximately 600 feet at the crests of strip mine spoil banks near the southern boundaries. Topography on the abandoned unreclaimed strip mine areas is very rugged with 50 feet or more relief. The reclaimed strip mine areas are gently rolling with lower relief.

The broad river wetlands, floodplains, stream channels and valley slopes are underlain by Quaternary Age alluvium and lacustrine deposits consisting of clay, silt, sand and gravel. The unconsolidated strip mine spoil on the upland surface of the property ranges in thickness from about 15 to 100 feet.

The bedrock underlying the training site, the Pennsylvanian Age Sturgis and Carbondale formations, consists of mostly sandstone, siltstone and shale with beds of limestone, coal and underclay also occurring. The Western Kentucky #9, #11 and #12 coals have been removed from most areas of the property by strip-mining operations during the last 40 years or more. Most areas are also underlain by pre-1960 underground mines whose closed shaft locations are noted on Figure 4. Any subsidence of old mine workings in these areas is not presently known. Drill hole data suggest that deeper coals in the area may be of sufficient thickness and quality for future underground mining.

The coal and associated strata dip at a rate of 50 to 100 feet per mile into the Moorman Syncline to the north. Strata are generally flat lying except for faulting or structural deformation related to the Pennyryle Fault System west of the area. The eastern ends of the North Graham Fault and South Graham Fault cut through the western side of training site (Figure 4), but do not extend to the cantonment area. This set of inactive faults form a graben which gives structural control to oil and gas reservoirs in the immediate area. The New Cypress Pool lies generally to the southwest and the Graham Lake Gas Storage Field underlies part of the western side of the training site. No construction is proposed near the faulted area or the gas storage field. The mineral rights to the coal, oil and gas and the existing wells and mining operations on the property are owned and operated by private companies; the training site has no control over their operations.

4.4.2 Soils

Current Conditions. A Soil Survey for Muhlenburg County, based on field work done between 1969 and 1976, was published in 1980 by the United States Department of Agriculture Soil Conservation Service. At that time, about 70 percent of the property had been disturbed by strip mining and mapped under the Udorthent soil classification. Since then, all but 200-300 acres have been stripped and those acres have been disturbed by related mining activities, oil and gas operations, or other construction activities. More acreage is scheduled to be stripped in the near future. No additional soil mapping has been done to differentiate various types of mine spoil.

The spoil is made up of rock fragments, soil material, and coal in a mixture of variable composition. In most places, the material is about 40 to 80 percent rock fragments that range from 1/8 to 36 inches in diameter. These rock fragments include sandstone, siltstone, limestone and shale. The fines are mostly clayey, but in places they are loamy or sandy. The pH of the spoil may range from extremely acid to extremely alkaline.

The property is a combination of reclaimed and unreclaimed strip mined lands. There are approximately 1600 acres of abandoned strip mines from pre-1974 that were

not subject to reclamation laws and regulations when they were mined. These lands are the roughest areas on the property; slopes are extremely variable but range from 3 to 70 percent. Part of the abandoned land acreage on the property is scheduled for reclamation by the Kentucky Division of Abandoned Lands who completed the Environmental Assessment for the project in 1991. The remaining 3600 acres have been leveled, graded and vegetated according to the reclamation requirements of the surface mining law in effect when mined. Sediment ponds surround the newer permitted areas to prevent sediment laden stream discharges from silting downstream wetlands. Some of the reclaimed acreages have several feet of topsoil replaced at the surface.

Impacts and Mitigations. During construction, there will be a certain amount of disruption, displacement, compaction and overcovering of soils on proposed building sites, parking areas and access roads. This may induce some increases in runoff, but re-establishment of new ground cover should eliminate this effect in a short time. During training operations, vehicle traffic off established roads could induce erosion by compacting soils, creating ruts and destroying vegetation. However, compaction may not be a problem, since the large maneuver area is not in heavy or concentrated use for continuous periods of time. Maneuver areas are rotated and monitored for erosional damage on a regular basis and corrected as needed. Heavily used areas will be reseeded annually as necessary to reestablish vegetation. The existing sediment ponds are valuable means of trapping suspended sediment in surface runoff. The silt ponds and drainageways will be evaluated for land management and erosion control with the assistance of other government agencies as part of the Natural Resources Management Plan for the site. Other best management practices will continue to be introduced as needed to maintain the existing soil cover and prevent erosion, siltation and instability.

4.5 NATURAL RESOURCES

4.5.1 Vegetation

Current Conditions. The 75-acre cantonment area currently has about 16 acres of constructed facilities and parking compounds. About 30 acres are old pastures and fields now covered with grasses, shrubs and saplings. The remaining 30 acres consist of several areas of strip mines and woodlands which were partially harvested prior to state acquisition.

Of the 5,250 acres of range area, about 1,600 acres of abandoned, unreclaimed strip-mined lands are mostly covered by white pines and a mixture of hardwoods. The remaining 3,600 acres of reclaimed lands are covered predominantly with a mixture of herbaceous plants, primarily grasses, shrubs, and some areas have been planted with tree seedlings.

Impacts and Mitigations. Vegetation on about 25 acres of the cantonment area, 300 acres of the maneuver area and isolated portions of the firing range will be affected by construction. Large-scale clearing of trees will be limited to the proposed airstrip site in conjunction with the abandoned mineland stabilization project. The stabilized land will be replanted with grassland vegetation. An unmined woodland acreage in this area will be preserved for possible use as a seed area. Most of the other proposed construction sites have few trees and these will be incorporated into landscaping plans whenever possible. Vegetation in the areas surrounding the construction sites will experience temporary but minimal damage

due to increased vehicle emissions and traffic. Revegetation activities on disturbed areas will commence as soon as possible after construction phases with a preference for native species.

The primary training areas are currently established on reclaimed strip mine areas. Heavy equipment training activities may cause temporary maneuver damage or injure grassland vegetation in some areas, but cover will be restored through a regular reseedling program and rotation of training areas. Removal of some vegetation may be necessary to widen roads, construct training facilities or make other improvements within the property. Unauthorized destruction of trees and shrubs during training exercises is not allowed.

The above mentioned impacts are temporary, but landscaping and revegetation activities are expected to enhance the training site's general condition and no significant adverse effects are expected as a result of development activities.

4.5.2 Wildlife

Current Conditions. Numerous native wildlife species such as deer, ground hog, opossum, rabbit, raccoon, squirrels and other small mammals and birds inhabit all or portions of the training site on a year-round or seasonal basis according to their habitat needs. Many sediment ponds and final cut pit impoundments provide wildlife watering ponds and aquatic habitat. A wildlife management area in the northern part of the property was established by Peabody Coal Company through a cooperative agreement with the Kentucky Department of Fish and Wildlife Resources in 1986. The area is managed primarily for the benefit of Canadian Geese and the existing agreement will be continued by the Department of Military Affairs.

Impacts and Mitigations. Training activities in the range areas may cause temporary disturbances to wildlife and habitats as a result of noise and traffic. Wildlife may temporarily leave the immediate vicinity of the training activity and be absorbed into the surrounding area. The current military activities and proposed range improvements are not expected to cause permanent changes to habitats or ecological systems. Construction of some facilities, mainly within the cantonment area, may reduce habitat suitable for some wildlife species. However, the most severe reductions have already occurred as a result of strip-mining. Construction and continued military training activities is expected to have little or no impact on wildlife in the area.

Historically, military installations have provided excellent habitats for both protected species as well as nonprotected wildlife. Natural resources management is consistent with the military mission; actions will be taken to maintain habitats for indigenous wildlife. The retention of natural cover in the training areas not only meets best management practices for wildlife management, but is extremely desirable to the Kentucky National Guard in providing a realistic training environment.

4.5.3 Endangered Species

Current Conditions. Consultation with the Federal Fish and Wildlife Service, the Kentucky Department of Fish and Wildlife Resources and the Kentucky Nature Preserves Commission has not revealed any records of federally-listed or proposed

threatened or endangered species at the training site. However, a number of state-threatened or endangered species recognized by the Kentucky Academy of Science/Kentucky State Nature Preserves Commission are known to occur in part of the Cypress Creek Wetland Ecological area located two miles north of the training site.

A field survey conducted by a biologist from the Louisville District, Corps of Engineers, on 31 January 1989, determined that there was very little suitable habitat for any federal-threatened or endangered species on the site itself. It is possible that a migratory species, such as the bald eagle, might use some of the unreclaimed lands and ponds as resting areas, but such use has not been reported at the training site.

Impacts and Mitigations. Even though state species are not legally protected under existing statutes, suggested guidelines for species protection and preservation of habitats will be followed. Water quality and aquatic habitat in streams and adjacent wetlands will be protected through best management practices for erosion and sediment control, control of wastewater discharges and proper management of hazardous materials. Biological surveys on the property will continue in order to identify species and habitats of concern. If present, further assistance will be obtained to monitor and manage special habitats through cooperative agreements with state and federal governmental agencies. Training site activities will not impact any federally-protected species and are not expected to impact state species of concern within the Cypress Creek Wetland Ecological Area.

4.5.4 Wetlands

Current Conditions. The training site is surrounded by an extensive wetlands system which includes Cypress Creek, Little Cypress Creek and their tributaries. Numerous habitats and vegetational communities exist within these wetlands. The broad bottomland to the north, known as the Cypress Creek Wetland Ecological Area, has been recommended by the Kentucky Nature Preserves Commission as a priority wetland and Outstanding Resource Water. The northern boundary of the training site is 200 to 2,000 feet from this wetland. The Cypress Creek Nature Preserve, located approximately three miles north of the training site is a 90-acre portion of this extensive wetland maintained by the Commonwealth of Kentucky.

Water quality and biological diversity in these wetland systems has been impacted over the years from a number of sources. In past years, they have been severely degraded by acid mine drainage, siltation, and actual encroachment by strip mine operations. These wetlands were channelized in the 1920s and to the present in order to promote agriculture and reduce flooding caused by siltation. Another impact has been pollution from municipal wastewater treatment and other discharges into Cypress Creek and Little Cypress Creek. However, water quality has generally improved, resulting in an improvement in fish populations.

Impacts and Mitigations. The effects of existing training operations on nearby wetlands is believed to be minimal and the proposed development and minor growth of activities at the site will be monitored to avoid additional impacts. Through best management practices for erosion and sediment control, control of wastewater discharges and proper management of hazardous materials, current and proposed construction and training operations are not expected to have adverse impacts on water quality or aquatic habitat of the nearby wetlands. The continued maintenance of silt retention basins and regular reseedling of training areas will be major activities in preventing offsite impacts.

If additional wetlands areas are identified within the property during continuing natural resources surveys, appropriate steps will be taken either to avoid impacting these areas or to review any proposed activities through the Army Corps of Engineers permitting process.

4.6 LAND USE

Current Conditions. Most of the training site, which includes all of the maneuver areas, firing ranges and 30 percent of the cantonment area, has been strip mined. All of the property has been in industrial use for coal mining and oil and gas wells for the last fifty years or more. Most of the property has also been used for military training between 1969 and the present. Training was annually rotated around active mining sites in coordination with the company's mining plan. Part of the training site is managed as a waterfowl management area; the property and surrounding area is desirable hunting land.

Surrounding land uses are either in mining and agricultural use or covered by wetlands and woodlands. The corporate boundaries of Central City lie 2,000 feet east of part of the training site maneuver area. There are also numerous residences and farms along State Route 70 to the north of the training site. Some residences are also located along State Route 601 in the New Cypress area to the southwest of the training site. The River Queen Mine offices, plant and tailings ponds are located along Highway 81 north of the cantonment area. By agreement with Peabody Coal Company, the western tailings pond has been established since 1969 as the impact area for the small arms firing ranges on the training site. Gas pipeline pumping facilities and a major regional gas storage field lie to the northwest of the training site.

Major access to the site is by entrances along Highway 81, however, unimproved roads and trails on the west and north lend partial access to off-road vehicles. The property boundaries are posted and public notices are regularly published for No Trespassing due to potential hazards from existing military and coal company heavy equipment operations. A maze of unimproved roads and tank trails connect coal company haulage roads within the maneuver area.

Impacts and Mitigations. Development called for in the Master Plan will improve operations and provide proper training and support facilities for KyARNG personnel and equipment. The proposed development of the training site represents no significant change in land use since the property was originally strip-mined and leased for military training. Most of the proposed facilities to be constructed will take the place of substandard existing facilities or ranges in current use. The proposed additional training activities described in this document represent only a low to moderate increase in activities that have been conducted on site for the past 23 years.

The facilities being relocated to the training site are compatible with surrounding land uses and are not expected to cause any significant impact on nearby communities or farmland. The cantonment area, located at the center of the training site, will receive the majority of proposed construction.

Specific training site improvements are part of a continuing program being coordinated with the Kentucky Department for Surface Mining Reclamation and Enforcement--Division of Abandoned Lands to correct and stabilize abandoned

minelands on the training site. One 50-acre parcel has previously been reclaimed and other areas are in the planning stage. The proposed airstrip, Army Aviation Support Facility and associated training facilities will be constructed on a future reclaimed site. The new facility is not expected to significantly increase the general volume of air traffic at the training site.

Multiple purpose land use policies to include wildlife management and controlled public access are promoted by the Department of Defense and the Kentucky Department of Military Affairs. A Natural Resources Management Plan will be developed with the assistance of other public agencies to integrate wildlife, vegetation and watershed resources and values into site use and management. A controlled hunting program will be instituted with the assistance of the Kentucky Department of Fish and Wildlife. Through these efforts it is anticipated that there will be a positive impact on land use with National Guard ownership of the site.

4.7 WASTE DISPOSAL

4.7.1 Solid Waste

Current Conditions. Solid waste (garbage and refuse) currently generated at the Western Kentucky Training Site is picked up and disposed of off-site by a private contractor twice weekly. The contractor supplies dumpsters and disposes of the waste in a state-licensed sanitary landfill.

A continuing problem at the training site is off-road dumping of garbage by trespassers. It is hoped that the new Solid Waste Bill recently passed by the State Legislature will improve opportunities for garbage pickup in the county and surrounding areas so that dumping becomes a less convenient option. Additional coordination between the Department of Military Affairs and other state and county agencies will be undertaken to control and cleanup the existing dump area. Eventually, fencing and controlled access will minimize dumping on the training site.

Impacts and Mitigations. Construction waste generated during all phases of the construction projects will be removed by the respective contractor or his agent and disposed of in an approved landfill. Any increase in the amount of solid waste generated from offices, warehouses, barracks, dining facilities, maintenance shops and other training activities will continue to be disposed of by private contractor. The training site will cooperate with local Waste Management District programs, contribute to planning and comply with other requirements.

The KyARNG has a Recycling Program with the Defense Reutilization and Marketing Service (DRMS). Solid waste such as petroleum products, batteries, scrap metals, paper products and other items are recycled as markets are found in order to reduce the amount of material disposed as waste.

4.7.2 Hazardous Waste

Current Conditions. The training site is currently registered with the Kentucky Division of Waste Management as a small quantity generator of hazardous waste (less than 1,000 kilograms per month). Hazardous waste generated at the training site consists of small quantities of waste cleaning solvents and other wastes generated from vehicle maintenance activities.

Cleaning solvent (naphtha) is recycled through a commercial solvent service. Waste fuel is turned in to the Defense Reutilization and Marketing Office for recycling by approved federal contractors. Most wastes generated at the site consist of used oil and petroleum products which are recycled and are not regulated as hazardous waste.

Impacts and Mitigations. An increase in usage and increase in the number of vehicles will result in increased maintenance activities and a possible increase in hazardous waste generation. The increased activity will be monitored by the KyARNG for environmental compliance. All new facilities will be designed and operated to comply with appropriate state and federal environmental and safety regulations related to hazardous waste. Every opportunity for hazardous waste minimization will continue to be examined. Waste products are recycled on site whenever possible and continue in service until they are no longer useful.

4.8 WATER RESOURCES

4.8.1 Surface Water Hydrology

Current Conditions. The training area is situated in the Lower Green River drainage basin. The immediate watersheds receiving discharge from the site are the Cypress and Little Cypress Creeks. Peabody Coal Company has been monitoring surface water quality of these stream systems as part of their mining permit. In addition to surface streams, there are numerous sediment retention basins and ponds on the property related to mine reclamation activities. Periodic field testing indicates near neutral pH from waters flowing from reclaimed strip mine areas. Discharges from abandoned land areas of the strip mine have pHs ranging from 3.8 to 6.8 units; future stabilization projects with the Kentucky Department of Surface Mine Reclamation and Enforcement, Division of Abandoned Lands are expected to improve surface water quality in these areas.

A group application for a Storm Water Discharge Permit has been forwarded to the federal EPA which includes the garage and refueling facilities in the cantonment area. In past years, strong emphasis has been placed on hazardous materials management, spill prevention and cleanup at the site to prevent contamination of surface water in the area.

Impacts and Mitigations. Impacts upon surface drainage at the training site will be minimal as a result of training site development, construction activities, or training and facility operations. Run-off will increase due to soil overcovering by new facilities and vehicle compounds. However, the design of new facilities will incorporate appropriate systems to deliver storm runoff into existing water courses to minimize erosion. Efforts will be made to repair erosional damage in maneuver areas and construction areas as soon as possible to prevent damage to downstream areas from siltation. Best management practices will include use of straw mulch and temporary hay bales in construction areas, maintenance of vegetative ground covers, incorporation of diversion channels where needed, and establishment of grassed waterways for stabilization of existing channels. The existing sediment ponds on the mine site will continue to be used for stream protection and will be properly maintained. No significant changes will be made in the existing drainage patterns with the possible exception of adding more retention ponds where needed to protect water quality.

Figure 5

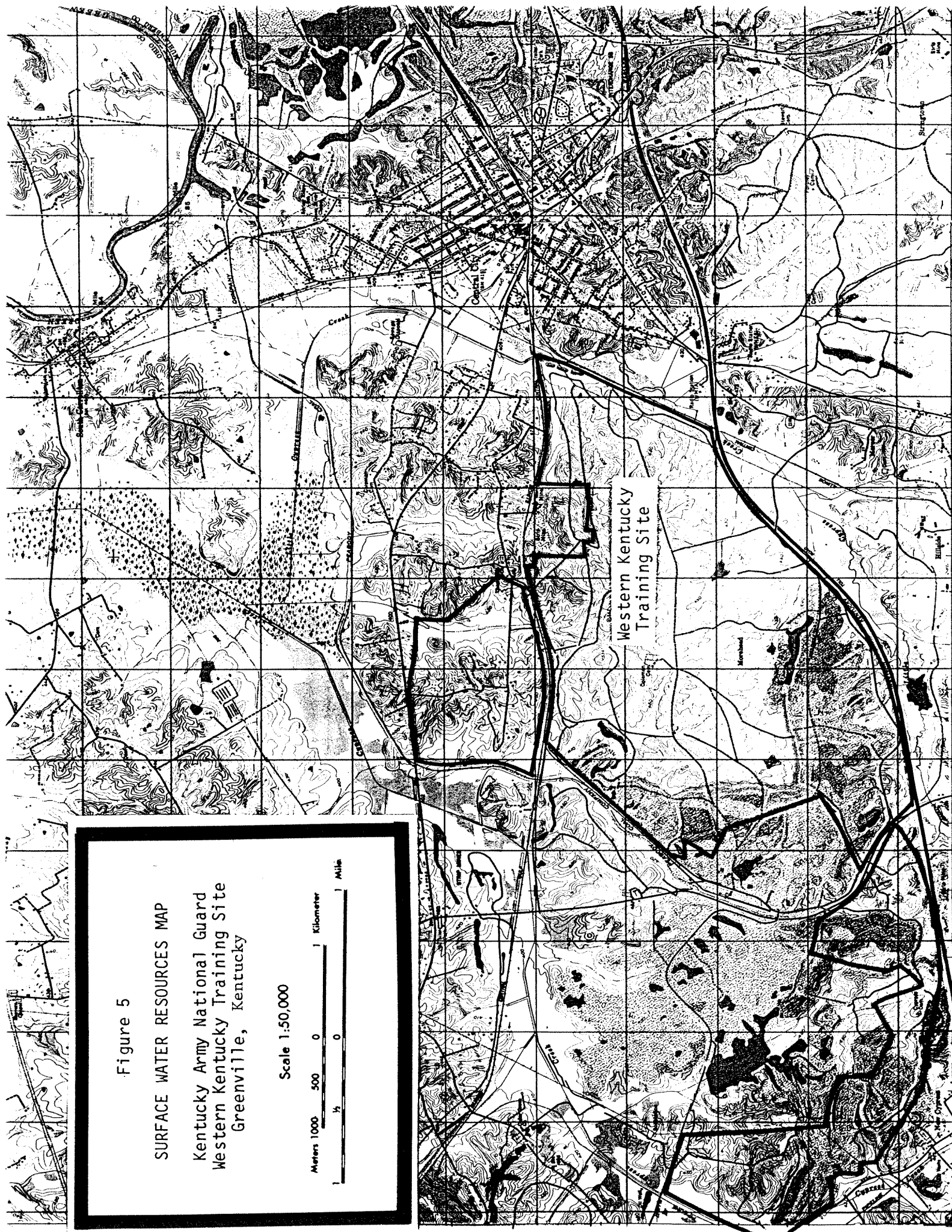
SURFACE WATER RESOURCES MAP

Kentucky Army National Guard
Western Kentucky Training Site
Greenville, Kentucky

Scale 1:50,000



Western Kentucky
Training Site



When construction projects disturb five or more acres of land area, the appropriate stormwater discharge construction permit will be obtained from the EPA. Proposed construction and training activities on the site are not anticipated to have a significant adverse effect on the quality or quantity of surface water.

4.8.2 Groundwater Hydrology

Water bearing geologic formations in the area yielding significant quantities of water may include sandstone layers and channels in the Tradewater and Caseyville formations, however, most become saline with depth. A significant deep freshwater aquifer in the New Cypress Pool (1100 feet depth) lies several miles west of the training site.

The abandoned underground mines in the Kentucky #9 Coal seam, completely underlying the property 50 to 250 feet beneath the surface, are flooded and have been pumped by Peabody Coal Company on occasion. The groundwater table is relatively close to the surface in strip-mined areas. Groundwater quality is monitored by the coal company at a number of monitoring wells on the property and in the area. Their mining permit requires them to monitor potential contamination from mining activities. These are the only wells known on the training site; limited information is available on private water wells in the area. At a later time, a water well survey will be conducted and local water quality data will be consolidated by the Department of Military Affairs as information becomes available.

Past military activities at the training site are not likely to have affected groundwater quality or quantity. No contaminated sites are suspected. All underground storage tanks have been registered with the Kentucky Division of Waste Management as required by state and federal regulations and are monitored and tested on a preventative maintenance program. Future development and operations are not expected to have any significant impact on groundwater.

4.8.3 Drinking Water

Water for drinking, domestic uses, vehicle washing and firefighting at the training site is purchased from the Muhlenberg County Water District which is served by the Central City Municipal Water Treatment Plant. The plant is in compliance with the federal Safe Drinking Water Act and Kentucky Water Quality Regulations. Water is currently delivered to the training site via one mile of four-inch line for a maximum flow of 220,000 gallons per day or 153 gallons per minute (GPM).

Normal population of the training site currently ranges from 30 to 300. The training site population may reach 700 on several days per year. For design purposes, a maximum population of 1,400 at 100 gallons per person per day was chosen for a maximum daily water consumption of 140,000 gallons per day or 97 GPM. The 153 GPM available is greater than the average demand of 97 GPM, so during normal usage periods the water district will be able to supply the demand. During peak usage periods, 243 GPM may be required. To satisfy this occasional demand, an on-site water storage tank is required with a minimum capacity of 220,000 gallons. A 180 GPM pump and an eight-inch diameter water line will have to be installed at the master meter to refill the tank during nonpeak hours.

With these amendments, sufficient drinking water will be available for development of the training site without straining the capacity of the water district. Expansion of the water distribution system will be fully coordinated with the Kentucky Division of Water and local sources.

4.8.4 Waste Water

Current Conditions: Sanitary sewage treatment is currently being provided by means of a septic tank and lateral field which serves the existing Unit Training Equipment Site maintenance building and office trailer. A composting latrine serves the military units when training at the site. There are no municipal sewer systems or sewer districts in the immediate area of the training site.

Impacts and Mitigations: A sewage treatment plant with a design capacity of 140,000 gallons per day will be constructed to handle a maximum population of 1,400 persons. The plant will be built on the southern portion of the cantonment area with discharge to Little Cypress Creek. Consideration is being given to incorporating constructed wetlands at the plant's outfall to enhance the stream's ability to absorb the training facility's treated wastewater. The sewage system will include laterals and collector lines for all new construction with the capability of running laterals to all existing buildings in the future. A preliminary Waste Load Allocation Analysis for the site has been conducted by the Kentucky Division of Water with satisfactory results. The design and planning of the wastewater system will be fully coordinated with the Kentucky Division of Water; proper measures will be undertaken to ensure that the plant operates within the limitations of a Kentucky Pollutant Discharge Elimination System permit. Every effort will be made during the design and operation of the system to protect and preserve the quality of streams in the project area.

4.8.5 Spill Plans

Units using the training site commonly bring fuel required for training activities in fuel pods or fuel trucks. Operations are monitored and any spillage during fuel transfers is reported and cleaned up immediately. When new maintenance facilities are built, fuel storage facilities and other hazardous materials areas will be designed and constructed in accordance with environmental and safety standards. Storage areas will be designed so spills of petroleum products, toxic or hazardous materials or wastes cannot reach any wastewater treatment facility, reach the building drains or storm water lines or seep through to the ground. An Installation Spill Contingency Plan has been completed and implemented for existing facilities at the Western Kentucky Training Site. A spill contingency plan will be developed for each new facility before it begins operations. A Spill Prevention Control and Countermeasure Plan (SPCCP) is being developed, as required by Army Regulation 200-1, for existing petroleum and waste oil storage sites listed in Table 4.

TABLE 4

PETROLEUM AND USED OIL STORAGE FACILITIES

<u>Facility</u>	<u>Type</u>	<u>Capacity</u>	<u>Storage</u>
Fuel Dispensing Area	Diesel Fuel Gasoline	10,000 gallons 8,000 gallons	Underground tank Underground tank
UTES #2	Used Oil	1,000 gallons	Underground tank
Flammable Storage Building	Petroleum Products	500 gallons	Drums and cans
Recycle Storage Building	Used Petroleum Oils	1000 gallons	Drums

4.8.6 Floodplain Management

None of the construction being planned lies within flood hazard areas identified under the National Flood Insurance Program. The maximum extent of flood boundaries near the cantonment area is at elevation 445 along Little Cypress Creek near the southern edge of the property. Facilities, roads and training activities are not expected to extend into the floodplain areas. However, designs that approach these areas will be fully coordinated with the Kentucky Division of Water to determine whether a floodplain construction permit is required.

4.9 CULTURAL RESOURCES

Several cemeteries have been noted during Master Planning of the training site. Coleman Cemetery, located near the center of the maneuver area, was not included in the land acquisition; however, it is fenced, has been protected from mining operations, and public access will continue to be provided. Cypress Cemetery, located near the southern edge of the property, is part of the training site but no construction is proposed near it. It has not been affected by mining operations, and will be protected and maintained during operation of the training area. Public access will be provided.

A review of the National Register of Historic Places (through 28 February 1989) indicated that no sites or structures within the facility boundaries have been determined to be of local, regional, or national significance. It is appropriate to note that, except for about 80 acres occupied by the cantonment area and two cemeteries, and about 100 acres on the western edge, the entirety of this training area has been disturbed by mining activities.

Two sites of scattered historic materials (ceramics, glass, and nails) from farm sites were located. No prehistoric sites were identified. A separate report prepared for the Office of State Archeology by an archeologist for the Corps of Engineers recommended no further cultural resource investigations within the present confines of the cantonment area (refer to report in Appendix B). A survey of the 100-acre area on the west remains to be completed, however, no construction or training activities are proposed in the area.

4.10 SOCIOECONOMIC RESOURCES

Current Conditions. The estimated population of Muhlenberg County in 1988 was 30,700. During 1989, the civilian labor force numbered 10,593, and the unemployment rate was 11.6 percent. Local communities have been economically-depressed as a result of the declining coal industry and the closing of many coal mines in the area and are seeking to reestablish an adequate industrial base.

Impacts. Over \$21 million will be spent for construction during the phased development of the training site over a five-year period. These activities will generate additional regional employment and sales of goods and services. The training site's current operating budget of about \$100,000 will increase substantially. As additional facilities are built, approximately 140 permanent full-time jobs will be realized as a direct result of increased administrative, training and logistical demands on the National Guard. New jobs at the training site will be of a professional, technical or support nature and are desirable for the region due to the increased economic stability the jobs will generate.

There will also be an ongoing positive effect on the local economy due to the numbers of personnel either working at the training site or training there several days per month. Depending on the nature of the training being conducted, military personnel at the site will purchase local commodities and services from local sources, creating increased merchandising opportunities. The proposed actions are desirable for the region due to the increased economic stability they can contribute and are expected to have a positive impact on the socioeconomic condition of local communities.

4.11 ENERGY

Existing Conditions. Present electrical and heating systems are the result of continual modification and improvements for maximum energy efficiency. The majority of on-post energy usage is for heating. Propane, purchased from local suppliers, accounts for a large part of energy consumption. There are currently 15 propane heaters in five buildings with a 1,260,000 BTU total requirement. Total storage capacity is five-500 gallon aboveground tanks. Electrical power is purchased from the Kentucky Utilities Company for lighting, heating, cooling and other miscellaneous energy needs. There are 15 electric space heaters on site to provide occasional heating to areas not used on a full-time basis.

Impacts. The proposed training facilities and continuing operations will place a higher demand on energy suppliers due to increased equipment usage and facility heating, cooling and lighting requirements. However, supplies of electrical energy and propane are readily available from suppliers. The new buildings and facilities proposed in this document will be heated by approximately 40 propane heaters on an as needed basis. Supplementary heat will be provided by used oil heaters in five buildings. If natural gas lines are extended to the training site, heating systems will be converted. Opportunities will be sought to improve existing systems for more efficient energy consumption. There are no foreseeable requirements that would strain the limitations of local energy resources.

5.0 CONCLUSION

The proposal for development of the Kentucky Army National Guard's Western Kentucky Training Site is the most effective method to achieve the training and logistical requirements of the Kentucky National Guard.

The proposed action does not appear to constitute a major Federal action significantly affecting the quality of the natural or human environment. There are no indications that implementing this proposal for the training site would violate any Federal, state or local environmental laws or regulations.

Therefore, an Environmental Impact Statement will not be prepared.

6.0 PERSONS AND AGENCIES CONSULTED

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7.0 REFERENCES

- Harker, D.F., M.L. Warren, Jr., K.E. Camburn and Ron Cicerello, 1981, "Aquatic Biota and Water Quality Survey of the Western Kentucky Coal Field", Technical Report, Kentucky Nature Preserves Commission, December 1981.
- Kentucky Cabinet for Economic Development, Division of Research and Planning, in cooperation with the Muhlenberg County Office of Industrial Development, Resources for Economic Development, Muhlenberg County, Kentucky (1990), 28 pages.
- Kentucky Department of Environmental Protection, "Cypress Creek Drainage Biological and Water Quality Investigation for Stream Use Designation," Division of Water, Biological Branch, Technical Report No. 19, October 1986.
- Kentucky Division of Abandoned Lands, Environmental Assessment, 26 July 1991, "National Guard Airstrip Abandoned Mine Land Reclamation Project, Muhlenberg County, Kentucky."
- Kentucky Natural Resources and Environmental Protection Cabinet, Division of Conservation and Division of Water, NREPC, Best Management Practices for Construction Activities.
- Kentucky Natural Resources and Environmental Protection Cabinet, Division of Conservation and Division of Water, NREPC, Field Handbook--Erosion and Sediment Control on Construction Sites.
- Kentucky Natural Resources and Environmental Protection Cabinet, Division of Water, Best Management Practices for Surface Coal Mining, 1984.
- Master Plan-Final Report for Western Kentucky Local Training Area (LTA), Greenville, Muhlenberg County, Kentucky, December 1988, prepared by Gresham Associates, Inc. and Farris, Hatcher & Tremper & Associates, Paducah, Kentucky.
- Palmer, James E., 1969, "Geologic Map of the Central City West Quadrangle, Muhlenberg and Ohio Counties, Kentucky," U.S. Geological Survey, Geologic Quadrangle Map GQ-831.
- Sole, Jeffrey D., and Phillip M. Mastrangelo, Guide to Developing Wildlife Habitat on Coal Mined Land, Kentucky Department of Fish and Wildlife Resources.
- U.S. Department of Agriculture, Soil Conservation Service, Soil Survey of Muhlenberg County, Kentucky, 1980.

APPENDIX A

TRAINING SITE DESCRIPTION

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TRAINING SITE DESCRIPTION

1.0 BACKGROUND

The Western Kentucky Training Site is located in Muhlenberg County in the 1st Congressional District. The nearest urban areas are Central City, population 4,730, six miles distant and Greenville, population 4,060, eight miles distant from the cantonment area. Its location and convenient access to major highways makes it attractive for training by National Guard units across the state and active military units in the area.

The Western Kentucky Training Site was first established in 1969 as a weekend training center for the Kentucky National Guard. Until 1988, most of the property was leased from Peabody Coal Company. In September 1988, the state purchased about 5,250 acres. The site is currently used by numerous units of the Kentucky National Guard, active component units from the 194th Armor Brigade at Ft. Knox and the 101st Airborne Brigade at Ft. Campbell, U.S. Army Reserve and U.S. Marine Corps Reserve units.

2.0 SUMMARY OF FACILITIES

The Western Kentucky Training Site includes a cantonment area (the developed portion of the training site including the buildings and utilities) and the training area with maneuver areas and firing ranges.

2.1 CANTONMENT AREA

The cantonment area is the developed portion of the training site. It is located near the center of the training site along Highway 181. The cantonment area is approximately 80 acres in size and contains the support facilities for the training mission of the installation. The bivouac area has showers, latrines, nine concrete slabs for medium tents and two concrete slabs for kitchen tents. There is one classroom that will accommodate 75 people. There are no medical facilities on the site, however, Muhlenberg Community Hospital (84 bed) is located in Greenville, eight miles distant. There is a helipad, two supply buildings, a vehicle washrack, one loading ramp, an administrative/warehouse building, and one trailer used as the administrative area on the site.

Colocated at the site is the Unit Training Equipment Site (UTES #2), a three-bay vehicle maintenance facility. Its compound has 4,000 square yards of vehicle hardstand and a diesel fuel dispensing point. The equipment pool contains half of the track vehicles of two tank battalions plus a detachment of engineer equipment.

In all, about 23 personnel are employed full-time at the training site and work out of the cantonment area facilities. The training site and UTES #2 jointly provide personnel, equipment and facilities necessary for logistical, administrative and training support for the units using the area for training purposes. In addition, it provides necessary facilities and personnel for perpetual maintenance and operation of the installation.

2.2 TRAINING AREA

The training area at the site includes approximately 5,250 acres of maneuver areas, firing ranges for small caliber weapons, and impact areas/target areas. The land has been strip-mined and is a combination of reclaimed and nonreclaimed types of topography which are both useful in training. The older nonreclaimed areas that were not regulated for reclamation at the time they were mined are rugged and have developed a healthy stand of trees and other growth in the 15 to 20 years since mining ceased. The reclaimed areas, mined more recently, are gently sloping with shrub and grassland vegetation. There are numerous ponds and lakes on the training site with excellent water quality.

East and west of the cantonment area are the main training/maneuver areas for the installation. Nearly 4,000 acres lie east of Highway 181; all of this area is used for tactical training. West of the highway, adjacent to the cantonment area, is an additional 1,200 acres containing a small arms and moving target range, subcaliber tank range, control tower and other areas suitable for a variety of training exercises. These areas provide the large land area needed for maneuvering, firing, and other field training activities. Training is underway throughout the year.

3.0 UTILIZATION

Records of troop utilization of the training site have only begun to be kept in recent years. Available data is summarized below in mandays per year for Inactive Duty Training (IDT), Annual Training (AT) and Active Component Training (ACT):

Year	IDT/MUTA	AT	ACT	Total
1988	16,953	0	1,500	18,453
1989	9,711	1060	38,670	49,441
1990	15,348	450	2,000	17,798

Most of the typical unit training takes place on weekends during Inactive Duty Training or Multiple Unit Training Assembly (MUTA) activities when 50 to 400 troops are on site. Occasionally, 700 troops or more may train during a single training activity. In the past, the training site has been shown to be capable of handling as many as 3,600 troops from a Combat Service Support Unit for two to three weeks.

Utilization by Active Component Units fluctuates tremendously and is difficult to predict. Projected levels of Kentucky National Guard training utilization are anticipated to be close to current levels or increase slightly during the next five years.

4.0 OPERATIONAL AND TRAINING ACTIVITIES

The Western Kentucky Training Site is used as a training facility for periods of weekend training, annual training, and inactive duty training to conduct weapons qualification, command post exercises (CPX), field training exercises (FTX) and other miscellaneous training activities. Training activities may consist of classroom work, small arms firing qualification, familiarization or qualification with tank armaments, simulated maneuvers, or performance of any of a number of a unit's Army Training and Evaluation Program (ARTEP) tasks.

Training activities at training site occur in either the cantonment area or the training and maneuver area. Armor, armored cavalry and mechanized infantry units require large land areas for firing and maneuver exercises. Concurrent training by all three types of units plus the various necessary support units increases the land area needs tremendously.

Units which have training facilities or support equipment located at the training site include the 307th Maint Co and UTES 2. Equipment packages totaling as much as 50% of equipment assets for some units are located at the UTES 2 complex. These units include the 1st Battalion 123rd Armor, 2nd Battalion 123rd Armor, 201st Engineer Battalion, 206th Engineer Battalion and 307th Maint Co.

This section is intended to describe the existing operational and training activities at the Western Kentucky Training Site (WKyTS).

4.1 MAP EXERCISES (MAPEX)

MAPEX's are low-cost, low-overhead training exercises that portray military situations on maps and overlays that may be supplemented with, or replaced by terrain models and sand tables. MAPEX's allow commanders to train their staffs to perform essential integrating and control functions to support their decisions under simulated wartime conditions. MAPEX's are employed by commanders to train the staffs at any echelon to function as effective teams, to exchange information, to prepare estimates, to give appraisals, to make recommendations and decisions, to prepare plans, to issue orders, and to be proficient in integration of all branch elements of the teams.

4.2 TACTICAL EXERCISES WITHOUT TROOPS (TEWTs)

TEWTs are low-cost, low-overhead exercises conducted in the field on actual terrain suitable for training units for specific missions. Using few support troops, TEWT's are used by commanders to train subordinate leaders and battle staffs at any echelon to analyze terrain, to employ units according to terrain analysis, to emplace weapon systems to best support the unit's mission, to plan conduct of the unit mission and to coach subordinates on the best use of terrain and proper employment of all combat arms assets.

4.3 COMMAND POST EXERCISES (CPX)

Command post exercises are conducted at garrison locations or in the field. Conducted under simulated battlefield conditions, CPX is used to train subordinates, leaders and staffs to function as effective teams in command functions. Specific areas of CPX training are designed to improve exchange of information, prepare estimates, appraisals, plans, issue orders, reconnoiter, select and occupy locations, establish and employ communications, and displace headquarters and command posts.

4.4 SITUATIONAL TRAINING EXERCISES (STX)

Situational training exercises (STX) are used in the development of an exercise. They teach the "best" or preferred way to accomplish a task and are a standard way in which a task should be executed. They are developed by the service schools to teach the doctrinally-preferred way to perform a specific mission. Planning begins immediately after the decision has been made to conduct an exercise. The planning steps listed below are used to prepare an exercise. Specific exercises may omit some. These steps are generally sequential; however, some may be performed simultaneously.

- preparing an exercise directive
- assigning responsibilities for planning
- conducting research
- preparing a supporting plan schedule
- preparing an outline plan
- conducting a reconnaissance
- completing the exercise support plans
- preparing the scenario
- preparing and issuing the operations plan
- publishing the letter of instruction preparing the terrain
- conducting a rehearsal

4.5 COMMAND FIELD EXERCISE (CFX)

The CFX is a field training exercise (FTX) with reduced combat unit and vehicle density, but with full command and control. The CFX allows the full-up employment of certain assets such as the signal battalion, the combat electronic warfare intelligence (CEWI) battalion and the target acquisition battery. CFXs are not simply scaled down FTXs. They are, in fact, excellent vehicles for training commanders and staffs with certain full-up systems to gather information, to provide communication links, and to develop intelligence. CFXs provide real-time operations over actual distances with appropriate logistical support. They are driven by schedules of events or by controlled opposing forces (OPFORs) operating under the exercise director. CFXs are less expensive than FTXs yet they provide equal training value for training of the staff. They may be the single best way to train intersystems linkages for full-up integration of all brigade and above assets. Commanders use CFXs to sharpen unit skills in such areas as fire support, resupply procedures, rear area combat operations, core support command (COSCOM) interface and CEWI collection, interpretation, and dissemination procedures.

4.6 FIELD TRAINING EXERCISES (FTX)

Units training at the Western Kentucky Training Site operate under simulated combat conditions. These field exercises are intended to exercise command and control of all echelons in battle functions against an actual or simulated opposing force. Tactical situations are employed in which one or more units participate, often requiring movement and communications over long distances. FTX training does not use live fire; it is used to move and maneuver units realistically, to employ organic weapons systems effectively, to build teamwork and cohesion, plan and coordinate supporting fire and logistical activities. Many units will establish bivouac sites in the training areas and conduct all training activities from the bivouac site.

4.7 FIRING ACTIVITIES

Army National Guard regulations require that all members qualify with their individual weapons each year. Familiarization and qualification usually takes place at the Small Arms Range during weekend training at the training site.

Crew-served weapons (like tank artillery and missiles) must either qualify or familiarize annually at other major military installations such as Ft. Knox because the Western Kentucky Training Site does not have the correct firing ranges or safety fans. Armored gunnery crews (tank crews) must qualify in alternating years.

Training activities involving live ammunition are closely monitored to insure the highest level of safety for the surrounding public as well as the troops in training. The Training Site Range Standing Operational Procedures states proper precautionary measures which must be carried out. It further states the type of ammunition which may be fired on each firing range. Currently, the majority of live firing at the training site is 5.56 mm/M16 rifle and 45 caliber/pistol at the Small Arms Range; 22 caliber is used at the Scaled Tank Range. Some ammunition is being replaced by plastic bullets. Gunnery training on the maneuver ranges is by the nonfiring laser rangefinder system.

The training site supervisor is in charge of all scheduling of ranges. Scheduling of ranges for inactive duty training is accomplished at an annual scheduling meeting normally conducted in the summer of the year for the following fiscal year. Additions and deletions to the schedule are coordinated directly with the training site supervisor on a first-come first-serve basis.

Weather conditions do not inhibit firing unless the weapons are affected by moisture or electrical storm conditions. When weather conditions reach a point where they pose a threat to troop safety, firing activity ceases until favorable conditions again prevail. Pyrotechnics are restricted from use during dry weather when fire potential is high.

The impact area is a common area centrally located so that ranges are located around its perimeter. This provides impact areas and a common buffer zone for safe separation between ranges. Safety fans for each range cover the potential area a stray round or ricochet might travel from a range firing point. These safety fans, extending into the impact area, are strictly controlled by military and safety regulations. Demolition ranges are policed to ensure no live explosives remain after completion of training.

4.8 ARTEP TRAINING ACTIVITIES

The Army Training Evaluation Program (ARTEP) is a series of specific tasks designed to promote standardization in conducting performance-oriented training. A unit must perform various ARTEP training tasks in order to remain proficient and ready for mobilization. The ARTEP manual defines for each commander the specific tasks his unit must perform in combat. It also indicates the conditions under which his units must accomplish those tasks and the standards which the unit must meet to insure combat readiness.

Mission tasks for each unit vary according to the type of unit and the readiness objective for the unit as specified in specific war plans. The highest level of readiness is expressed as Readiness Condition 1 or REDCON 1. REDCON 2 and 3 describe different levels of readiness, and REDCON 4 means that a unit is not ready for deployment. REDCON 5 level indicates that a unit cannot be deployed due to constraints imposed upon the unit by the Department of the Army.

ARTEP mission tasks are necessary to train U.S. forces to detect, identify and defeat the enemy. Some ARTEP exercises are held for a unit once every 2 or 3 years, others are held on an annual basis. Such exercises are necessary to assess and develop the ability of a unit to survive and win on the battlefield. The ARTEP provides combat training objectives for year-round use by a unit. An entire unit must meet all of its collective ARTEP standards within the specified period to qualify for 'go' status (if unable to perform its ARTEP tasks, the unit receives a 'no-go' status).

ARTEP tasks are classified in two categories: firing tests and tactical tests. Firing tests develop proficiency at weapons use and handling while tactical tests develop maneuver and strategy abilities. ARTEP training tasks are designed specifically to meet the individual needs of a particular type of unit.

The following narrative briefly discusses the ARTEP tasks of some of the units training at the Western Kentucky Training Site. Units are grouped into one of three categories: Combat Arms, Combat Support and Combat Service Support.

4.8.1 Combat Arms Units

The Combat Arms units are those involved directly with actual combat situations.

Armored Cavalry. The armored cavalry squadron is a combined arms combat maneuver force trained to identify the enemy, fight and suppress his weapons. Its mission is to provide security and perform reconnaissance for the unit to which it is attached. It must also engage in offensive, defensive, delaying and economy-of force operations as required. An armored cavalry unit consists of a mixture of tanks, armored personnel carriers, missiles, mortar carriers, cargo carriers, howitzers, jeeps and trucks. The concept behind the highly mobile armored cavalry is a faster turnaround for support. The armored cavalry must be mobile and produce high firepower in order to engage and overcome enemy armored units which may have the advantage of superior numbers. In order to engage the enemy and win, the unit must utilize maneuver tactics and the

element of surprise. A primary capability of an armored cavalry unit is to perform route, zone, area reconnaissance, screening, hasty defense and economy of force. As a result, the unit requires a large area to conduct this type of training.

Armor. The mission of an armor unit is to close with and destroy the enemy using fire, maneuver and shock effect. Generally an armor unit will consist of tanks, mortar carriers, and armored personnel carriers. High fire power and mobility allow the armor unit to successfully exploit supporting fire and attack/counterattack under fire. The ARTEP tasks require proficiency in three areas: move, attack and defend.

Training activities include movement/maneuver tactics and gunnery training. Movement training requires tank crews to maintain tactical formations during maneuvers and be capable of changing into other formations as required by tactical situations, terrain or vegetation. Formations are the wedge, vee, echelon, column and line. Two other formations, the coil and the herringbone, are utilized for nonmoving purposes. Tank crews are also trained to maneuver over various types of terrain such as steep slopes, ditches, and water elements. Due to the maneuver limitations of tanks they are most effective in open or lightly wooded rolling terrain where speed and firepower are most useful. Maneuver activities at the training site are limited to the training areas specifically designated and marked for tracked vehicles.

Gunnery training for the M60A3 main battle tank primarily consists of utilizing the nonfiring laser rangefinder system on the maneuver ranges of the training site. At the firing range, either the 7.62 mm coaxial machine gun or MILES may be used. Heavier artillery is not used at the training site; ARTEP tasks requiring heavy artillery firing is conducted at Ft. Knox or other major military installations. Weapons training consists of firing from fixed points or while the vehicle is moving, depending on the particular requirements of the ARTEP task.

Infantry. The mission of an infantry unit is to close by means of fire and maneuver to destroy, capture and repel enemy assault by firing, close combat and counterattack. Lacking a large number of tracked vehicles, an infantry unit is capable of maneuvering over all types of terrain and under any climatic condition. The infantry is also capable of participating in motorized, airborne or amphibious operations. Infantry units offer the least potential for environmental impacts as training does not require a great number of vehicles, tracked or otherwise.

Mechanized Infantry. The mechanized infantry must be capable of engaging the enemy to destroy, capture or repel. Accomplishment of this mission depends upon the combined use of surprise elements, superior maneuverability and accuracy. Equipment in such a unit consists of tracked personnel carriers, TOW missiles, trucks, trailers, recovery vehicles, command carriers and self propelled mortar carriers.

Training activities vary widely for mechanized infantry battalions. Units should be capable of maneuvering over most types of terrain to seize and hold positions, provide antitank protection and conduct patrol activities. Ability to negotiate different types of terrain is essential, therefore competence must be attained for traversing steep grades, vertical obstacles and ditches. Training for air-mobile assaults, breaching of mine fields and chemical decontamination are also necessary.

Aviation. The mission of an aviation unit is to provide aviation support, navigation aids, air warnings, air transportation, reconnaissance and terminal control facilities to other units requiring such support. Helicopter aircraft types are attack, observation and cargo.

Combat Engineer. The mission of a combat engineer unit is to provide support through fortifying positions, breaching, clearing or constructing obstacles. A Combat Engineer unit is terrain-oriented to enhance the effectiveness of friendly weapons systems and to decrease the effectiveness of enemy weapons. Mission objectives are to increase the mobility of friendly forces, impede the mobility of enemy movement, provide protective shelters and fight as infantry when necessary. The combat engineer unit will conduct training to prepare for the planning, design and construction of support facilities such as bridges, roads, airfields, sanitary facilities, utilities and command posts as well as repair and maintenance of such.

Vehicles used by a combat engineering unit consist of 25-ton semitrailers, trailers and tractor trucks for towing. Other equipment utilized are portable bridge systems, portable batch mix plants for concrete or asphalt, potable water systems, and survey equipment. Construction equipment includes armored vehicle launched bridges, combat engineer vehicles, armored personnel carriers, dump trucks, cranes, road graders, small end loaders, front-end loaders, bulldozers and forklifts. Other specialized earth-moving equipment is utilized as necessary.

The unit is responsible for supporting other units through the planning, design and construction of stream crossings, fortifications, obstacles, bunkers and utilities. Engineering units commonly construct and maintain facilities, roads and training areas at the training site during their scheduled training periods.

Special Forces. Special forces units are trained to infiltrate behind enemy lines with a high degree of concealment. Their mission is to plan and conduct unconventional warfare operations and to infiltrate and ex-infiltrate areas by land, sea, or air. Equipment includes trucks, trailers and other types of transportation vehicles depending on the terrain and method of infiltration (parachuting, swimming, rappelling, etc.)

Special forces units utilize the drop zones and maneuver areas of the training site. Training activities are infantry related and large equipment is generally not required. Vehicle maneuvers are very limited as movement is primarily by foot.

4.8.2 Combat Support Units

Combat support units are indirectly involved with actual combat situations as their mission is to provide support to a combat arms unit. Such missions include providing medical facilities, communications, transportation and engineer/construction functions.

Military Police. The military police (MP) unit's mission is to provide military police combat support support to a division. Vehicles in an MP unit will consist of HMWVs (high mobility multipurpose wheeled vehicle), CUCVs (commercial, utility, cargo vehicle), 1/4-ton trucks, and 1 1/4-ton trucks with trailers. ARTEP activities for an MP battalion include performance of staff functions to support an MP unit, conducting of tactical day/night displacement and movement, planning and supervision of security operations at a critical

facility and the planning and directing of vehicular movements. MP units must be trained to take part in active defense while accomplishing their assigned mission. The MP battalion must be capable of holding, processing and transporting prisoners of war in combat situations. In addition, the MP unit must be prepared to defend against attacks on secured areas by heavily armed terrorist groups.

Combat Support Hospital. The combat support hospital provides hospitalization for all classes of patients within a geographic area. Specific functions include patient treatment, surgery, laundry, medical supply and patient administration. Training activities involve the establishment of a field hospital, field laundry and field shower.

4.8.3 Combat Services Support Units

The Combat Service Support units have the least amount of involvement with actual combat situations. Missions involve supply, service, administration and maintenance. Within this category are the units providing support, materials and service. Such units generally contain semitrailers, cargo trailers, tractor trucks, fuel trucks, forklifts and cranes. Mission tasks, equipment needs and personnel skills are widespread and relate directly to the type of service support provided by the unit. During annual training (AT), these units generally move to a location and remain at that location for the duration of the training period.

Quartermaster Units. These units are responsible for transportation of bulk fuel and the preparation and operation of fuel system supply points for issue and receipt of fuel. The unit is responsible for the preparation of berms around fuel storage facilities to contain fuel spills should one occur. Training activities include the receipt and issue of fuel supplies, night operations, nuclear biological chemical defense operations, convoy operations and practice of preparing berms.

Service and Supply Units. The mission of a service and supply unit is to provide the means and location for troops and units to requisition, receive, store and issue supplies. Services are also provided in the form of laundries, baths, mess, utilities, and various construction operations.

Maintenance Units. The mission of a maintenance unit is to provide direct support maintenance and repair parts supply for mechanical, armament, communications and construction equipment to nondivisional units in a corps area. Maintenance is carried out on tracked and wheeled vehicles, engineer equipment and other related military equipment.

Headquarters Units. Mission requirements for a headquarters unit calls for providing command, tactical, administration, training and technical operations and supervision of attached maintenance units. ARTEP requirements require this type of unit to operate in a field environment during annual training. Perimeter defense is established making use of individual fighting positions and machine gun emplacements.

Signal Units. The mission of a signal unit is to plan, provide, and maintain communications systems between command posts and units and provide nontactical photographic services. Equipment needs are primarily for light to medium-size trucks and trailers.

APPENDIX B

CULTURAL RESOURCES RECONNAISSANCE OF THE
WESTERN KENTUCKY TRAINING SITE

CULTURAL RESOURCES RECONNAISSANCE
OF KENTUCKY ARMY NATIONAL GUARD
WESTERN KENTUCKY LOCAL TRAINING AREA,
GREENVILLE, MUHLENBERG COUNTY, KENTUCKY

The subject reconnaissance areas consisted of approximately 80 acres (32.38 hectares) of heavily-dissected uplands and two relatively large rural cemeteries, situated within the confines of a ca. 20,000+ acre (8,094 + hectare), former Peabody Coal Company strip-mining preserve, now owned by the Commonwealth of Kentucky. Situated immediately north of the Eastern Kentucky Parkway, this large parcel is bisected north-south by State Highway 181. Located entirely within the political boundaries of Muhlenberg County, Kentucky, the examined tracts of land are located in the north-central point of the County about 3.8 miles (6.1 kilometers) west-southwest of Central City, the largest population center in the County. Specifically, the assessment of cultural resources potentially subject to disturbance by the continued operation of this facility entailed an examination of: (1) The National Register of Historic Places; and (2) the project as per se.

A review of the National Register of Historic Places, as published in the Federal Register (through and including 28 February 1989), indicated that no sites or structures within the confines of this military facility have been determined to be of local, regional, or national significance. It is appropriate to note that, with the exception of the 80 acres occupied by the facility's headquarters compound and various maintenance structures, and the two cemeteries, the entirety of this training area has been completely disturbed by mining activities.

The existing cantonment area was examined during the period of 2-3 March 1989 by means of east-west oriented pedestrian transects, spaced ca. 50 feet (15 meters) apart, with limited shovel testing where appropriate to enhance ground visibility. In most portions of this tract, however, extensive evidence of prior surface disturbance was readily observed. This disturbance included a number of office, maintenance, storage and troop support structures; roads; and substantial parking lots suitable for tracked military vehicles. Regardless, the majority of the area displayed surface visibility of about 10-15 percent as a consequence of road building, testing tracked vehicles, and on-going, small-scale construction activities. With limited exceptions, virtually all elevated, relatively-flat segments of the area had been disturbed to varying degrees during the course of ca. 20 years of military utilization. The largest undisturbed portions of the cantonment area were the steeply-sloped (ca. 30 degrees) hillsides, adjacent to ridge-like terrain formations near the southern terminus of the tract.

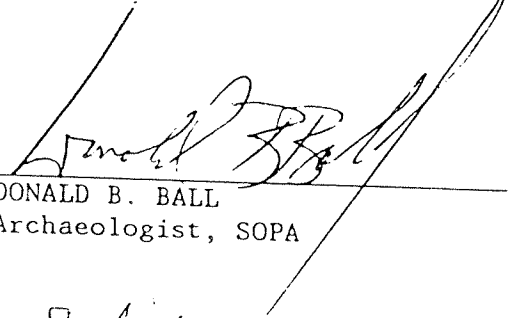
The reconnaissance effort resulted in observing two, heavily-disturbed, diffuse scatters of historic materials within the cantonment area. The first of these, situated on a knoll with an elevation of ca. 540 feet (164.6 meters) MSL approximately, 900 feet (274 meters) southwest of an existing structure shown on the U.S.G.S. 7.5 minute "Central City West, KY" quadrangle (1983; photo revised 1983), displays perhaps 30-40 fragments of undecorated whiteware ceramics, bent and badly-rusted wire nails, and clear and colored glass beverage bottle sherds. The second scatter was

situated at an elevation of ca. 540 feet (164.6 meters) MSL, about 450 feet (137 meters) northwest of the existing structure. According to Warrant Office Joe Wilkins (Facility Commander), these remains may be attributed to a recent homestead occupied until ca. 1980 or 1981, and subsequently (1982) purchased and demolished by the National Guard. Also containing only sporadic nail, whiteware ceramic, and glass bottle fragments, the entire homestead complex (ca. 1.5 acres/0.6 hectare) had been completely leveled and covered with gravel. No evidence of prehistoric occupation was observed.

Brief visits to the two cemeteries within the training area served basically to provide passing observations on their current condition and use status. The smaller of the two burial grounds, the Cypress Cemetery, is located immediately north of an existing gravel-surfaced access road, and consists of an unfenced ca. 0.5 acres (0.2 hectare) parcel, containing about 100+ burials (the presence of several elongated, sunken pits suggests a number of unmarked burials may be present.) The observed gravestones in this cemetery are dated from 1872-1959. This cemetery is not presently used and is poorly maintained. Warrant Officer Wilkins pointed out one recently-desecrated burial of a veteran (a still open hole extended into the grave but was apparently not sufficiently deep to actually disturb the human remains therein.)

The second and larger burial ground, the Coleman Cemetery, is located ca. 2.3 miles (3.7 kilometers) northeast of the facility headquarters. This cemetery consists of ca. 1.0 acre (0.4 hectare) and contains in excess of 200 burials dating from about 1900 to present; enclosed by a privately-built chain link fence, this actively-used cemetery is well-maintained.

Based upon the fieldwork discussed herein, it is concluded that the continued operation of this military training area has no impact on sites or properties listed in, or eligible for inclusion in, the National Register of Historic Places. No further cultural resource investigations are recommended for this facility.


DONALD B. BALL
Archaeologist, SOPA

17 April 1987
Date

UPDATED INTEGRATED NATURAL RESOURCES MANAGEMENT PLAN

FOR THE
WENDELL H. FORD REGIONAL TRAINING CENTER
MUHLENBERG COUNTY, KENTUCKY



KENTUCKY ARMY NATIONAL GUARD

JUNE 2010

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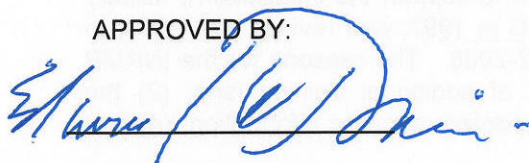
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INTEGRATED NATURAL RESOURCES MANAGEMENT PLAN 2010 UPDATE

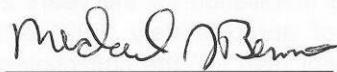
WENDELL H. FORD REGIONAL TRAINING CENTER
MUHLENBERG COUNTY, KENTUCKY

This updated Integrated Natural Resources Management Plan (INRMP) meets the requirements for INRMPs per NGB and Army policy, meets the intent of the Sikes Act, as amended (16 USC §670a et seq.), and contributes to the conservation and rehabilitation of natural resources on military installations. It has set appropriate and adequate guidelines for conserving and protecting the natural resources of the Wendell H. Ford Regional Training Center.

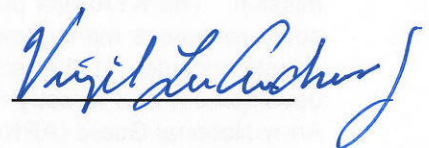
APPROVED BY:



EDWARD W. TONINI
Major General, KYNG
The Adjutant General



MICHAEL J. BENNETT
Colonel, US Army
Chief, Environmental
Programs Division



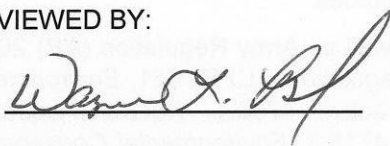
VIRGIL LEE ANDREWS, JR.
Field Supervisor
Kentucky Ecological
Services Field Office

DATE: 28 July 2010

DATE: 20 Aug 10

DATE: 7/30/10

REVIEWED BY:



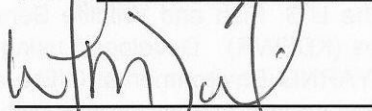
WAYNE L. BURD
COL, J3
Kentucky Army National Guard



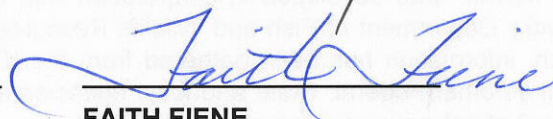
STEVEN T. KING
LTC, Construction and Facilities
Management Officer
Kentucky Army National Guard

DATE: 16 July 2010

DATE: 10 July 2010



WILLIAM L. McDANIEL
LTC, Training Site Commander
Kentucky Army National Guard



FAITH FIENE
Environmental Program Manager
Kentucky Department of Military
Affairs

DATE: 24 JUL 2010

DATE: 22 June 10

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EXECUTIVE SUMMARY

This Integrated Natural Resources Management Plan (INRMP) is an update of the 2003 INRMP for the Wendell H. Ford Regional Training Center (WHFRTC). The INRMP has been updated for use by the National Guard Bureau (NGB) and the Kentucky Army National Guard (KYARNG) as the primary tool for managing natural resources at WHFRTC. The WHFRTC covers approximately 10,804 acres and is located in Muhlenberg County near Greenville, Kentucky (**Figure 1**). The WHFRTC is on state-owned land.

The primary purpose of the WHFRTC is to support the military missions of the KYARNG. To properly train soldiers, the KYARNG must provide a variety of environmental conditions and ecosystems. This training objective must be met in a way that provides for sustainable, healthy ecosystems, complies with all applicable environmental laws and regulations, and provides for no net loss in the capability of military installation lands to support the military mission of the installation.

INRMPs help installation commanders steward or manage natural resources more effectively so as to ensure that installation lands remain available and in good condition to support the installation's military mission. The KYARNG published the first INRMP for the WHFRTC in 1997, and revised it in 2003, to guide resources management on the installation for the years 2002-2006. The reasons for the INRMP update include (1) the acquisition of approximately 3,921 acres of additional training land; (2) the development of a forestry management plan; (3) the collection of updated resource information; (4) and Army National Guard (ARNG) guidance.

The Sikes Act Improvement Act (SAIA) of 1997, 16 U.S. Code (USC) §670a et seq., as amended, requires Federal military installations with adequate wildlife habitat to develop a long-range INRMP and implement cooperative agreements with other agencies. All of WHFRTC land is state owned. For this reason, WHFRTC is not a "military installation" as defined in the SAIA. Therefore, the INRMP is an Army policy INRMP pursuant to the U.S. Army policy dated 21 Mar 97 entitled *Army Goals and Implementing Guidance for Natural Resources Planning Level Survey (PLS) and INRMP ("Army INRMP Policy")*. An INRMP is required by Army INRMP Policy for the WHFRTC because the installation conducts intensive, on-the-ground military missions that require conservation measures to minimize impacts (e.g. soil erosion, prescribed burning, invasive species control) and sustain natural resources.

The updated INRMP is intended to be consistent with the SAIA as well as Army Regulation (AR) 200-1, *Environmental Protection and Enhancement*; 32 Code of Federal Regulations (CFR) 651, *Environmental Analysis of Army Actions*; Department of Defense (DoD) Directive 4700.1, *Natural Resources Management Programs*; Department of Defense Instruction (DoDI) 4715.3, *Environmental Conservation Program*; and NGB policy.

Overall, the WHFRTC has benefited from using the INRMP as a management tool. An evaluation as to operation and effect of the 2003 INRMP, including natural resources management goals, objectives, and projects and their implementation status, can be found in **Appendix A**. A summary of the completion status for the 2003 INRMP projects is provided in **Table ES – 1**.

The review of the 2003 INRMP was developed in cooperation with the U.S. Fish and Wildlife Service (USFWS) and the Kentucky Department of Fish and Wildlife Resources (KDFWR). Developed using an interdisciplinary approach, information has been gathered from the KYARNG Environmental Office and training site staff, as well as other Federal, State and local agencies and special interest groups with an interest in the management of natural resources at the WHFRTC.

Specific goals identified by the updated INRMP in Section 7 are listed in **Table ES-2**. These goals are supported in the updated INRMP by objectives and projects, which provide management strategies and specific actions to achieve these goals. Objectives are listed in Section 7 of the updated INRMP, and projects are listed in **Section 8**.

These goals will ensure the success of the military mission and conservation of natural resources. The general philosophies and methodologies used throughout the WHFRTC natural resources management program are focused on conducting doctrinally required military training while maintaining ecosystem viability.

This updated INRMP provides a description of the installation (e.g. location, history and mission), information regarding the on-site and adjacent physical and biotic environment, and an assessment of the anticipated impacts to natural resources as a result of mission activities. Included within the updated INRMP are recommendations for various management practices designed to enhance the natural resource base and mitigate anticipated negative impacts that may result through the successful execution of the military mission at the WHFRTC.

Additionally, this updated INRMP presents methods that will increase the environmental awareness of KYARNG personnel, guest units using the WHFRTC for training, and the general public. The implementation of this updated INRMP at the WHFRTC will ensure the successful accomplishment of the KYARNG's military missions while providing for multiple uses of natural resources and promoting adaptive stewardship practices that sustain ecosystem and biological integrity. The updated INRMP complies with applicable Army and DoD policies, as well as applicable Federal, State and local mandates.

TABLE ES-1. COMPLETION STATUS OF PROJECTS FROM THE 2003 WHFRTC INRMP

2003 PROJECT	DESCRIPTION	STATUS
4.1	Non-RTLA (formerly LCTA) protocol natural resource management surveys	Ongoing. KYARNG Environmental staff prepares annual INRMP review and update if needed. This project is continued to the following planning period.
4.2	Non-plot erosion surveys	Ongoing; staff conducts periodic windshield survey and reviews orthophotographs. This project is continued to the following planning period.
4.3	GIS data acquisition and management	Partially accomplished. Most of the available layers have been incorporated into central database in Environmental Office in Frankfort. This project is continued to the following planning period.
4.4	Brief ITAM Committee on GIS capabilities	ITAM Committee discontinued. However, KYARNG staff is briefed as needed on GIS capabilities.
4.5	Hire an ITAM Coordinator	Completed
4.6	Cost for ITAM Coordinator TDY and ITAM training (to include conference costs)	Completed
4.7	Lease GSA vehicles for ITAM support	Ongoing
4.8	ITAM Coordinator Vehicle Maintenance	Ongoing
4.9	Costs associated with upgrades to facilities to support ITAM staff and technical functions (All ITAM components).	Not yet completed; continued through next planning period.
4.10	Office supplies. Miscellaneous supplies to support the ITAM function	Ongoing.
4.11	Identify ITAM requirements at WHFRTC in the Integrated Workplan Analysis Module (IWAM)	Ongoing.
4.12	Convene ITAM committee semi-annually	ITAM Committee discontinued. However, KYARNG staff is briefed as needed on GIS capabilities.
4.13	Siebert stake environmentally sensitive areas (e.g., LRAM project sites, waterway management zones, wetland buffer zones, rare species habitats) and other costs to protect wildlife management areas, food plots, restricted areas, non-hunting areas, and nesting and breeding areas from damage from military maneuvers.	Ongoing, annual inspections. Siebert stakes or other methods used.
4.14	- Include Training Site Regulation revisions in annual revisions of the INRMP. - Include policies identified in the INRMP in Training Site Regulation revisions.	Not yet completed; continued through next planning period.
4.15	Correct maneuver damage and control erosion caused by training activities. Replant vegetation to include native grasses and other species recommended by KDFWR and NRCS.	Ongoing.

TABLE ES-1. COMPLETION STATUS OF PROJECTS FROM THE 2003 WHFRTC INRMP

2003 PROJECT	DESCRIPTION	STATUS
4.16	Apply fertilizer, lime, seed and mulch for proactive and continuous maintenance of areas damaged by military maneuvers. Provide continuous maintenance for tactical assault strip.	Ongoing.
4.17	Reduce maneuver/training inhibiting vegetation. - brush plowing and mowing in grasslands (approximately 300 acres per year) - remove tree branches below 8 feet in bivouac areas for troop safety. - tree shredding	Ongoing; performed annually or as needed.
4.18	Purchase LRAM equipment for maintenance of training site lands (such as grass chisel).	Ongoing. Includes replacement of equipment at end of life cycle (typically 20 years).
4.19	Costs of constructing/maintaining hard stands or hardened sites in the maneuver area (bivouac areas)	Ongoing
4.20	Costs of constructing noise buffers for ranges using trees and shrubs	Completed – 2003.
4.21	Provide dust control for gravel trails, as well as other routine maneuver trail maintenance	Ongoing; this covers bivouac sites; general dust control is now conducted using conservation funds.
4.22	Costs of maintaining a sod farm for revegetation of highly erodible LRAM sites.	Not yet completed; continued through next planning period; equipment has been obtained and areas located.
4.23	Provide low water stream crossing structures to prevent erosion and sedimentation by tracked vehicles.	Ongoing; conducted on as-needed basis.
4.24	Projects and expenses associated with land acquisitions (constructing hard stands in heavy use areas, such as bivouac sites, firing points, and staging areas; maneuver area dust control, land rehabilitation following training activities).	Ongoing; official plans have not been decided; conducted on as-needed basis.
4.25	Construction and maintenance of fire breaks or other fuels modifications, directly associated with ranges/training areas fire management resulting from training activities. Does not include conservation or structural fire/fuels breaks.	Ongoing.
4.26	Prepare/purchase posters, booklets, displays, films and training materials for troop environmental awareness training. - training site environmental awareness video	Ongoing. Soldier Card updated in 2007.

TABLE ES-1. COMPLETION STATUS OF PROJECTS FROM THE 2003 WHFRTC INRMP

2003 PROJECT	DESCRIPTION	STATUS
4.27	Assemble Environmental Information Packets to be handed out to Officers-In-Charge (OIC) at Yearly Training Coordination Conferences.	Ongoing. Annual briefing/presentations.
5.1	Update the biological inventory, including endangered species survey; floristic survey; vegetation community survey; small mammal surveys; fish survey; terrestrial invertebrate survey.	Floristic and vegetation community survey updated December 2006. Mammal, fish and invertebrate surveys not updated.
5.2	Conduct planning level soil survey of approximately 2,223 acres that have not yet been mapped.	Completed.
5.3	Conduct surveys of bird species in coordination with KDFWR and Partners in Flight.	Annual surveys ongoing.
5.4	Construct firebreaks for fires not resulting from training activities (e.g., prescribed burn program)	Ongoing; as needed.
5.5	GPS firebreaks and include in future versions of the INRMP.	Completed.
5.6	Train WHFRTC employees in the latest fire management techniques at TNC fire management course.	Ongoing; new training, when needed; will comply with updated Army policies.
5.7	Develop burn prescriptions for individual units to be burned each year.	Completed.
5.8	Plant additional food plots in coordination with Quail and Turkey Unlimited.	Discontinued.
5.9	Develop a food plot database and enter locations into GIS.	Food plots discontinued.
5.10	Control invasive pest plants (e.g., musk thistle, honeysuckle) using mowing, prescribed burning, or the most appropriate means.	Ongoing annual efforts.
5.11	Monitor effects of prescribed fire through post burn evaluations.	Ongoing; system update initiated with Environmental Office.
5.12	Conduct detailed forest inventory and develop forest management prescriptions for forest stands based on the forest inventory.	Forest Inventory not completed; continued for next planning period. Forest Management Plan (FMP) included as part of 2010 Updated INRMP. KYARNG does not intend to manage forests for harvesting.
5.13	Develop a plan for reclamation of pre-law abandoned mine land areas with the Division of Abandoned Lands and implement as funding allows.	Completed for property owned prior to 2006. Newer acquisition areas eligible for funding under Abandoned Mine Lands/Superfund programs. Implementation subject to available funding.
5.14	Introduce fire to pine forests to reduce brush and invasive plants (ex. honeysuckle).	Not implemented due to smoke and safety concerns.

TABLE ES-1. COMPLETION STATUS OF PROJECTS FROM THE 2003 WHFRTC INRMP		
2003 PROJECT	DESCRIPTION	STATUS
5.15	Conduct water quality monitoring of long-term water quality monitoring sites.	Scope modified, project continued.
5.16	Conduct surveys for macroinvertebrates at long term monitoring sites to determine jurisdictional status when projects require.	Additional surveys scheduled as mission needs require. None completed since 2003.
5.17	Update wetlands planning survey in 10 years and schedule surveys to determine jurisdictional status when projects require.	Wetland survey on TA 7 and TA 8 complete 2005. Additional surveys scheduled as mission needs require.
5.18	Conduct pesticide monitoring survey and spray for mosquitoes.	Aerial spraying done by state with funding from Department of Agriculture County Pest and Weeds.
5.19	Update pest management plan as needed.	Completed update 2007; ongoing as needed.
5.20	Determine annual hunting quotas in advance of hunting season with KDFWR.	Ongoing; annual coordination.
5.21	Coordinate annual hunts with KDFWR.	Ongoing; annual coordination.
5.22	Hire security guards to run the hunter check station.	Modified. Installation staff are used for this.
5.23	Continue to enforce the training site regulation.	Ongoing.
5.24	Apply liquid fertilizer 3x/year to selected lakes to help control invasive water plants. Purchase boat, trailer, and motor.	Purchases complete. Ongoing control activities as needed.
5.25	Continue to fund the Wildlife Specialist position for WHFRTC.	Discontinued.
5.26	Travel and training expenses for Wildlife Specialist	Discontinued.
5.27	Hire a statewide GIS Specialist	Completed.
5.28	Travel and training expenses for GIS Specialist	Completed.
5.29	Hire one or more student interns to assist with conservation, wildlife, environmental, and range projects as needed at WHFRTC.	Ongoing, considered on an annual basis.

TABLE ES-2. MANAGEMENT GOALS (2010 UPDATED INRMP)	
GOAL NO.	INRMP MANAGEMENT GOAL
1	Manage natural resources to <u>support the military mission</u> in a manner consistent with the KYARNG Environmental Management System and in compliance with Federal and State laws, Army regulations and policies.
2	Coordinate mission requirements and land maintenance activities to minimize land impacts from training,
3	Manage <u>fish and wildlife resources</u> in a manner compatible with the military mission and within the limits of the natural habitat.
4	Protect, restore, and maintain populations of <u>rare plant and animal species</u> in compliance with Federal and State laws and regulations.
5	Protect, maintain, and improve <u>soil and water quality</u> in accordance with State and Federal laws and regulations to sustain the overall condition of the WHFRTC training lands.
6	<u>Protect and maintain riparian, wetland and aquatic habitats</u> in accordance with state and federal laws and regulations while adhering to ecosystem principles management for water quality enhancement, wildlife food and cover, and aquatic habitat.
7	Maintain the <u>grassland habitats</u> for the purposes of military training, wildlife food and cover, and soil stabilization.
8	Maintain the <u>forest resources</u> for the purposes of military training, wildlife food and cover, noise buffers, and watershed protection.
9	<u>Provide cost-effective and compatible landscaping</u> for the Cantonment Area to reduce maintenance costs and provide wildlife habitat.
10	<u>Use prescribed fire</u> to reduce risk of wildfires, to enhance ecological process and functions, maintain rare species habitat, to control undesired exotic vegetation, and to sustain the military mission.
11	<u>Use Integrated Pest Management (IPM) practices</u> that maximize safety and minimize pesticide use and potential hazards to humans, wildlife and their environments.
12	Continue to <u>develop and maintain a Geographic Information System (GIS) system</u> providing efficient data storage, retrieval, and presentation to facilitate fully informed management decisions.
13	<u>Protect and preserve cultural resources</u> in accordance with state and federal laws and regulations.
14	<u>Form communication links</u> with other agencies, organizations, and the public to share information and aid in decision-making.
15	<u>By implementing the Sustainable Range Awareness (SRA) program</u> , educate site users about environmental concerns and responsibilities to minimize resource damage and to instill a sense of pride and stewardship responsibility by implementing the SRA program.
16	<u>By implementing the RTLA program</u> , identify and evaluate land impacts from training, and identify training activities compatible with WHFRTC topography, soils, land cover, and ecosystems.
17	<u>By implementing the TRI program</u> , minimize training impacts, prevent excessive or irreversible land damage, and minimize training-related land rehabilitation costs.
18	<u>By implementing the LRAM program</u> , apply BMPs to ensure rehabilitation, repair and maintenance results are commensurate with the applied resources and to ensure long-term sustainability of installation lands, training and testing missions.

This INRMP includes, as **Appendix C**, a Record for Environmental Consideration (REC). The Environmental Assessment (EA) for the 2003 WHFRTC INRMP presented the Proposed Action (implementation of the INRMP) and alternatives, summarized the affected environment, and assessed the environmental consequences of implementation. The EA concluded the known and potential impacts of the Proposed Action on the physical, biological, and cultural environment will generally be of a positive nature. Implementation the INRMP will not result in significant adverse environmental effects. This National Environmental Policy Act of 1969 (NEPA) analysis is still valid, and adequately covers the actions in this updated INRMP. The REC describes the Proposed Action and explains why further environmental analysis is not needed.

This updated INRMP is intended to provide a benefit to, and gain a critical habitat exemption for, the federally listed endangered gray bat (*Myotis grisescens*). The National Defense Authorization Act (NDAA) of 2004 made a significant revision to the Endangered Species Act (ESA). NDAA stated that, "The Secretary [of the Interior] shall not designate as critical habitat any lands or other geographical areas owned or controlled by the Department of Defense (DoD), or designated for its use, that are subject to an integrated natural resources management plan prepared under section 101 of the Sikes Act (16 United States Code [USC] 670a), if the Secretary determines in writing that such plan provides a benefit to the species for which critical habitat is proposed for designation." Under the 2004 NDAA, a military installation may have its INRMP obviate the need for critical habitat designation if the INRMP provides a benefit to listed species, and manages for the long-term conservation of the species.

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ACRONYMS AND ABBREVIATIONS

ABC	American Bird Conservancy	GIS	Geographic Information System
AEDB-EQ	Army Environmental Database Environmental Quality module	GPS	Geographic Positioning System
AHPA	Archeological and Historic Preservation Act	GSA	General Services Administration
AIRFA	American Indian Religious Freedom Act	ICRMP	Integrated Cultural Resources Management Plan
AML	Abandoned Mine Land	IDT	Inactive-duty training
AMLR	AML Reclamation	ICRMP	Integrated Cultural Resources Management Plan
AR	Army Regulation	INRMP	Integrated Natural Resources Management Plan
ARNG	Army National Guard	IWFMP	Integrated Wildland Fire Management Plan
ATV	All Terrain Vehicle	IPM	Integrated Pest Management
BBS	Breeding Bird Survey	ISO	International Standards Organization
BS	Bivouac Site	ITAM	Integrated Training Area Management
CES	Center for Earthquake Studies	IWAM	Integrated Workplan Analysis Modeling
CFMO	Construction and Facilities Management Office	K2O	Water-soluble potash
CFR	Code of Federal Regulations	KCWCS	Kentucky Comprehensive Wildlife Strategic Action Plan
CWA	Clean Water Act	KDEP	Kentucky Department for Environmental Protection
DA	Department of Army	KDFWR	Kentucky Department of Fish and Wildlife Resources
DENIX	Defense Environmental Network Information Exchange	KDMA	Kentucky Department of Military Affairs
DoD	Department of Defense	KDNR	Kentucky Department of Natural Resources
DoDI	Department of Defense Instruction	KDOF	Kentucky Division of Forestry
DUSD	Deputy Under Secretary of Defense	KGS	Kentucky Geologic Survey
EA	Environmental Assessment	KSNPC	Kentucky State Nature Preserves Commission
EIS	Environmental Impact Statement	KYANG	Kentucky Air National Guard
EL	Environmental Laboratory	KYARNG	Kentucky Army National Guard
EMS	Environmental Management System	KY-EPPC	Kentucky Exotic Pest Plant Council
EO	Executive Order	KYNG	Kentucky National Guard
EPR	Environmental Program	LCTA	Land Condition Trend Analysis
EQR	Environmental Quality Report	LRAM	Land Rehabilitation and Maintenance
ERDC	Engineering Research and Development Center	MBTA	Migratory Bird Treaty Act
ESA	Endangered Species Act	MCDC	Muhlenberg Career Development Center
EST	Engagement Skills Trainer	METL	Mission Essential Task List
°F	degrees Fahrenheit	M-Day	Mobilization Day
FEMA	Federal Emergency Management Agency		
FMP	Forest Management Plan		
FMO-EN	Facilities Management Office-Environmental		
FTX	Field Training Exercises		
FY	Fiscal Year		

MOA	Memorandum of Agreement	RTLP	Range and Training Land Program
MOU	Memorandum of Understanding	SAIA	Sikes Act Improvement Act
N	Nitrogen	SHPO	State Historic Preservation Office
NAGPRA	Native American Graves Protection and Repatriation Act	SJA	Staff Judge Advocate
NCO	Non Commissioned Officer	SOP	Standard Operation Procedure
NCOIC	NCO In Charge	SPB	Southern Pine Beetle
NEPA	National Environmental Policy Act of 1969	SRA	Sustainable Range Awareness
NDAA	National Defense Authorization Act	SRP	Sustainable Range Programs
NGB	National Guard Bureau	STEP	Status Tool for the Environmental Program
NGB-ARE	NGB Army Environmental Programs Division	T&E	Threatened and Endangered
NGB-ARI	NGB Army Installations Division	TA	Training Area
NHPA	National Historic Preservation Act	TAG	The Adjutant General
NMSZ	New Madrid Seismic Zone	TCP	Traditional Cultural Properties
NPDES	National Pollutant Discharge Elimination System	TDY	Temporary Duty
NRCS	Natural Resources Conservation Service	TRI	Training Requirements Integration
NWI	National Wetland Inventory	TSC	Training Site Commander
OHWM	Ordinary High Water Mark	TSM	Training Site Manager
OIC	Officer in Charge	USACE	U.S. Army Corps of Engineers
P2O5	Available phosphorous	USC	United States Code
PA	Public Address	USCHPPM	U.S. Army Center for Health Promotion and Preventative Medicine
PAO	Public Affairs Office(r)	USD	Under Secretary of Defense
PCA	Plant Conservation Alliance	USDA	U.S. Department of Agriculture
PEM	Palustrine Emergent Marsh	USEPA	U.S. Environmental Protection Agency
PLS	Planning Level Surveys	USFS	U.S. Forest Service
POW	Palustrine Open Water	USFWS	U.S. Fish and Wildlife Service
REC	Record of Environmental Consideration	WES	Waterways Experiment Station
RETS	Remote Engagement Target System	WHFRTC	Wendell H. Ford Regional Training Center
RPDP	Real Property Development Plan	WMA	Wildlife Management Area
RTLA	Range and Training Land Assessment	WQC	Water Quality Certification

SECTION 1: GENERAL INFORMATION

1.1 PURPOSE

This Integrated Natural Resources Management Plan (INRMP) is an update of the 2003 INRMP for the 10,804-acre Wendell H. Ford Regional Training Center (WHFRTC), located in Muhlenberg County, Kentucky (**Figure 1**). The site is owned by the Commonwealth of Kentucky and operated by the Kentucky Department of Military Affairs (KDMA) for the training of National Guard and Reserve Components of the armed services. The reasons for the INRMP update include (1) the acquisition of approximately 3,921 acres of additional training land; (2) the development of a forestry management plan; (3) the collection of updated resource information; (4) and Army National Guard (ARNG) guidance. The natural resources management philosophies and existing programs have not changed. With this update, the INRMP has been reorganized to focus on natural resource management issues and associated mission support.

The INRMP has been updated for use by the National Guard Bureau (NGB) and the KYARNG as the primary tool for managing natural resources at WHFRTC. The WHFRTC must provide a variety of environmental conditions and ecosystems in which to train soldiers. This objective must be met in a way that provides for sustainable, healthy ecosystems, complies with all applicable environmental laws and regulations, and provides for no net loss in the capability of military installation lands to support the military mission of the installation. An INRMP helps installation commanders manage natural resources more effectively so as to ensure that installation lands remain available and in good condition to support the installation's military mission. The KYARNG published the first INRMP for the WHFRTC in 1997, and updated it in 2003. An evaluation as to operation and effect of the 2003 INRMP, including natural resources management goals, objectives, and projects and their implementation status, can be found in **Appendix A**. A summary of the completion status for the 2001 INRMP projects is provided in **Table 1**.

The Sikes Act Improvement Act (SAIA) of 1997, 16 U.S. Code (USC) §670a et seq., as amended, requires Federal military installations with adequate wildlife habitat to develop a long-range INRMP and implement cooperative agreements with other agencies. All of WHFRTC land is state owned. For this reason, WHFRTC is not a "military installation" as defined in the SAIA. Therefore, the INRMP is an Army policy INRMP pursuant to the U.S. Army policy dated 21 Mar 97 entitled *Army Goals and Implementing Guidance for Natural Resources Planning Level Survey (PLS) and INRMP ("Army INRMP Policy")*. An INRMP is required by Army INRMP Policy for the WHFRTC because the installation conducts intensive, on-the-ground military missions that require conservation measures to minimize impacts (e.g. soil erosion, prescribed burning, invasive species control) and sustain natural resources.

The National Defense Authorization Act (NDAA) of 2004 made a significant revision to the Endangered Species Act (ESA). NDAA stated that, "The Secretary [of the Interior] shall not designate as critical habitat any lands or other geographical areas owned or controlled by the Department of Defense (DoD), or designated for its use, that are subject to an integrated natural resources management plan prepared under section 101 of the Sikes Act (16 United States Code [USC] 670a), if the Secretary determines in writing that such plan provides a benefit to the species for which critical habitat is proposed for designation." Under the 2004 NDAA, a military installation may have its INRMP obviate the need for critical habitat designation if the INRMP provides a benefit to listed species, and manages for the long-term conservation of the species.

1

TABLE 1. COMPLETION STATUS OF PROJECTS FROM THE 2003 WHFRTC INRMP		
2003 PROJECT	DESCRIPTION	STATUS
4.1	Non-Range and Training Land Assessment (RTLA) - formerly Land Condition Trend Analysis (LCTA) protocol natural resource management surveys	Ongoing. KYARNG Environmental staff prepares annual INRMP review and update if needed. This project is continued to the following planning period.
4.2	Non-plot erosion surveys	Ongoing; staff conducts periodic windshield survey and reviews orthophotographs. This project is continued to the following planning period.
4.3	GIS data acquisition and management	Partially accomplished. Most of the available layers have been incorporated into central database in Environmental Office in Frankfort. This project is continued to the following planning period.
4.4	Brief Integrated Training Area Management (ITAM) Committee on Geographic Information System (GIS) capabilities	ITAM Committee discontinued. However, KYARNG staff is briefed as needed on GIS capabilities.
4.5	Hire an ITAM Coordinator	Completed
4.6	Cost for ITAM Coordinator Temporary Duty (TDY) and ITAM training (to include conference costs)	Completed
4.7	Lease General Service Administration (GSA) vehicles for ITAM support	Ongoing
4.8	ITAM Coordinator Vehicle Maintenance	Ongoing
4.9	Costs associated with upgrades to facilities to support ITAM staff and technical functions (All ITAM components).	Not yet completed; continued through next planning period.
4.10	Office supplies. Miscellaneous supplies to support the ITAM function	Ongoing.
4.11	Identify ITAM requirements at WHFRTC in the Integrated Workplan Analysis Module (IWAM)	Ongoing.
4.12	Convene ITAM committee semi-annually	ITAM Committee discontinued. However, KYARNG staff is briefed as needed on GIS capabilities.
4.13	Siebert stake environmentally sensitive areas (e.g., Land Rehabilitation and Maintenance [LRAM] project sites, waterway management zones, wetland buffer zones, rare species habitats) and other costs to protect wildlife management areas, food plots, restricted areas, non-hunting areas, and nesting and breeding areas from damage from military maneuvers.	Ongoing, annual inspections. Siebert stakes or other methods used.

TABLE 1. COMPLETION STATUS OF PROJECTS FROM THE 2003 WHFRTC INRMP		
2003 PROJECT	DESCRIPTION	STATUS
4.14	<ul style="list-style-type: none"> - Include Training Site Regulation revisions in annual revisions of the INRMP. - Include policies identified in the INRMP in Training Site Regulation revisions. 	Not yet completed; continued through next planning period.
4.15	Correct maneuver damage and control erosion caused by training activities. Replant vegetation to include native grasses and other species recommended by the Kentucky Department of Fish and Wildlife Resources [KDFWR] and the Natural Resources Conservation Service [NRCS].	Ongoing.
4.16	Apply fertilizer, lime, seed and mulch for proactive and continuous maintenance of areas damaged by military maneuvers. Provide continuous maintenance for tactical assault strip.	Ongoing.
4.17	Reduce maneuver/training inhibiting vegetation. <ul style="list-style-type: none"> - brush plowing and mowing in grasslands (approximately 300 acres per year) - remove tree branches below 8 feet in bivouac areas for troop safety. - tree shredding 	Ongoing; performed annually or as needed.
4.18	Purchase LRAM equipment for maintenance of training site lands (such as grass chisel).	Ongoing. Includes replacement of equipment at end of life cycle (typically 20 years).
4.19	Costs of constructing/maintaining hard stands or hardened sites in the maneuver area (bivouac areas)	Ongoing
4.20	Costs of constructing noise buffers for ranges using trees and shrubs	Completed – 2003.
4.21	Provide dust control for gravel trails, as well as other routine maneuver trail maintenance	Ongoing; this covers bivouac sites; general dust control is now conducted using conservation funds.
4.22	Costs of maintaining a sod farm for revegetation of highly erodible LRAM sites.	Not yet completed; continued through next planning period; equipment has been obtained and areas located.
4.23	Provide low water stream crossing structures to prevent erosion and sedimentation by tracked vehicles.	Ongoing; conducted on as-needed basis.
4.24	Projects and expenses associated with land acquisitions (constructing hard stands in heavy use areas, such as bivouac sites, firing points, and staging areas; maneuver area dust control, land rehabilitation following training activities).	Ongoing; official plans have not been decided; conducted on as-needed basis.

TABLE 1. COMPLETION STATUS OF PROJECTS FROM THE 2003 WHFRTC INRMP		
2003 PROJECT	DESCRIPTION	STATUS
4.25	Construction and maintenance of fire breaks or other fuels modifications, directly associated with ranges/training areas fire management resulting from training activities. Does not include conservation or structural fire/fuels breaks.	Ongoing.
4.26	Prepare/purchase posters, booklets, displays, films and training materials for troop environmental awareness training. - training site environmental awareness video	Ongoing. Soldier Card updated in 2007.
4.27	Assemble Environmental Information Packets to be handed out to Officers-In-Charge (OIC) at Yearly Training Coordination Conferences.	Ongoing. Annual briefing/presentations.
5.1	Update the biological inventory, including endangered species survey; floristic survey; vegetation community survey; small mammal surveys; fish survey; terrestrial invertebrate survey.	Floristic and vegetation community survey updated December 2006. Mammal, fish and invertebrate surveys not updated.
5.2	Conduct planning level soil survey of approximately 2,223 acres that have not yet been mapped.	Completed.
5.3	Conduct surveys of bird species in coordination with KDFWR and Partners in Flight.	Annual surveys ongoing.
5.4	Construct firebreaks for fires not resulting from training activities (e.g., prescribed burn program)	Ongoing; as needed.
5.5	Use Geographic Positioning System (GPS) technology to record location of firebreaks and include in future versions of the INRMP.	Completed.
5.6	Train WHFRTC employees in the latest fire management techniques at TNC fire management course.	Ongoing; new training, when needed; will comply with updated Army policies.
5.7	Develop burn prescriptions for individual units to be burned each year.	Completed.
5.8	Plant additional food plots in coordination with Quail and Turkey Unlimited.	Discontinued.
5.9	Develop a food plot database and enter locations into GIS.	Food plots discontinued.
5.10	Control invasive pest plants (e.g., musk thistle, honeysuckle) using mowing, prescribed burning, or the most appropriate means.	Ongoing annual efforts.

TABLE 1. COMPLETION STATUS OF PROJECTS FROM THE 2003 WHFRTC INRMP		
2003 PROJECT	DESCRIPTION	STATUS
5.11	Monitor effects of prescribed fire through post burn evaluations.	Ongoing; system update initiated with Environmental Office.
5.12	Conduct detailed forest inventory and develop forest management prescriptions for forest stands based on the forest inventory.	Forest Inventory not completed; continued for next planning period. Forest Management Plan (FMP) included as part of 2010 Updated INRMP. KYARNG does not intend to manage forests for harvesting.
5.13	Develop a plan for reclamation of pre-law abandoned mine land areas with the Division of Abandoned Lands and implement as funding allows.	Completed for property owned prior to 2006. Newer acquisition areas eligible for funding under Abandoned Mine Lands/Superfund programs. Implementation subject to available funding.
5.14	Introduce fire to pine forests to reduce brush and invasive plants (ex. honeysuckle).	Not implemented due to smoke and safety concerns.
5.15	Conduct water quality monitoring of long-term water quality monitoring sites.	Scope modified, project continued.
5.16	Conduct surveys for macroinvertebrates at long term monitoring sites to determine jurisdictional status when projects require.	Additional surveys scheduled as mission needs require. None completed since 2003.
5.17	Update wetlands planning survey in 10 years and schedule surveys to determine jurisdictional status when projects require.	Wetland survey on TA 7 and TA 8 complete 2005. Additional surveys scheduled as mission needs require.
5.18	Conduct pesticide monitoring survey and spray for mosquitoes.	Aerial spraying done by state with funding from Department of Agriculture County Pest and Weeds.
5.19	Update pest management plan as needed.	Completed update 2007; ongoing as needed.
5.20	Determine annual hunting quotas in advance of hunting season with KDFWR.	Ongoing; annual coordination.
5.21	Coordinate annual hunts with KDFWR.	Ongoing; annual coordination.
5.22	Hire security guards to run the hunter check station.	Modified. Installation staff are used for this.
5.23	Continue to enforce the training site regulation.	Ongoing.
5.24	Apply liquid fertilizer 3x/year to selected lakes to help control invasive water plants. Purchase boat, trailer, and motor.	Purchases complete. Ongoing control activities as needed.
5.25	Continue to fund the Wildlife Specialist position for WHFRTC.	Discontinued.
5.26	Travel and training expenses for Wildlife Specialist	Discontinued.
5.27	Hire a statewide GIS Specialist	Completed.
5.28	Travel and training expenses for GIS Specialist	Completed.

TABLE 1. COMPLETION STATUS OF PROJECTS FROM THE 2003 WHFRTC INRMP		
2003 PROJECT	DESCRIPTION	STATUS
5.29	Hire one or more student interns to assist with conservation, wildlife, environmental, and range projects as needed at WHFRTC.	Ongoing, considered on an annual basis.

If an Army Guard installation has federally listed threatened or endangered species, proposed federally listed threatened or endangered species, and/or candidate species on the installation, or unoccupied habitat for a listed species where critical habitat may be designated, the INRMP must specifically address the benefits of management of these actions for these species or habitats in the document. The benefit should be clearly identified in the document and included in the table of contents. This updated INRMP is intended to provide a benefit to, and gain a critical habitat exemption for, the federally listed endangered gray bat (*Myotis grisescens*) and Indiana bat (*Myotis sodalis*).

The updated INRMP is intended to be consistent with the SAIA, which indicates that an INRMP “*shall, to the extent appropriate and applicable, provide for:*

- a) *Fish and wildlife management, land management, forest management, and fish- and wildlife-oriented recreation;*
- b) *Fish and wildlife habitat enhancement or modifications;*
- c) *Wetland protection, enhancement, and restoration, where necessary for support of fish, wildlife, or plants;*
- d) *Integration of, and consistency among, the various activities conducted under the plan;*
- e) *Establishment of specific natural resources management goals and objectives and time frames for proposed action;*
- f) *Sustainable use by the public of natural resources to the extent that the use is not inconsistent with the needs of fish and wildlife resources;*
- g) *Public access to the military installation that is necessary or appropriate for the use described in subparagraph (F), subject to requirements necessary to ensure safety and military security;*
- h) *Enforcement of applicable natural resource laws (including regulations);*
- i) *No net loss in the capability of military installation lands to support the military mission of the installation;*
- j) *Such other activities as the Secretary of the military department determines appropriate”.*

The KYARNG has embraced the concept of integrating ecosystem management with its mission activities. The KYARNG recognizes that its on-going and proposed training activities can potentially use or consume the natural resources on mission land, and that successful execution of their mission is dependent upon the optimum maintenance of their environment in a mode of sustainable use. The KYARNG recognizes its responsibility to guarantee continued access to its land, air and water resources for realistic military training while ensuring that the natural and cultural resources entrusted to their care are sustained in a healthy condition for scientific research, education and other compatible uses by future generations.

The KYARNG is justifiably proud of its excellence in training, its natural resources heritage, and its tradition of stewardship. As such, the KYARNG is committed to the planned, deliberate management of natural resources, supporting the installation operational mission, meeting or exceeding stewardship requirements, and enhancing the quality of life for its personnel and guests.

1.2 AUTHORITY

This updated INRMP has been prepared pursuant to the laws, regulations, guidances, and directives listed in **Table 2**.

TABLE 2. LAWS, REGULATIONS, DIRECTIVES, GUIDANCE, AND POLICIES APPLICABLE TO INRMP DEVELOPMENT AT WHFRTC	
REQUIREMENT	TITLE
Law	The WHFRTC is a state-owned facility and is not directly subject to the Sikes Act “ <i>Conservation Programs on Military Reservations</i> ” (16 U.S. Code (USC) §670a et seq.), as amended. However, Army policy is to follow DoD and ARNG guidance on state-owned facilities. The Sikes Act requires Federal military installations with adequate wildlife habitat to develop long-range INRMPs and implement cooperative agreements with other agencies. Natural resources are to be managed for multipurpose uses and provide public access consistent with the military mission. The act also sets guidelines for the collection of fees for the use of natural resources such as hunting and fishing.
U.S. Army policy	<i>Army Goals and Implementing Guidance for Natural Resources Planning Level Surveys and INRMP</i> (“Army INRMP Policy”); 21 March 1997. <i>Army National Guard INRMP Template</i> , created 16 March 2005, (“Draft NGB Policy”)
Department of Defense Instruction (DoDI)	DoDI 4715.3, Environmental Conservation Program DoDI 4700.1, Natural Resources Management Programs DoDI 4715.3, Environmental Conservation Program
Army Regulation (AR)	AR 200-1, <i>Environmental Protection and Enhancement</i> AR 350-19, <i>Army Sustainable Range Program</i> , 30 August 2005
Code of Federal Regulations (CFR)	32 CFR 651, <i>Environmental Analysis of Army Actions</i>
	32 CFR 190, <i>Appendix – Integrated Natural Resources Management</i>
Kentucky Laws and Regulations	Kentucky Revised Statute (KRS) 146 Natural Resources KRS 217b, Fertilizer And Pesticide Use And Application KRS 249, Trees, Plants, Weeds, And Pests KRS 250, Agricultural Seeds, Feeding Stuffs, And Fertilizers KRS 224 Environmental Protection Kentucky Administrative Regulation (KAR) Title 401, Natural Resources And Environmental Protection Cabinet Department For Environmental Protection KAR Title 402, Natural Resources And Environmental Protection Cabinet Department For Natural Resources
Guidance	Office of the Under Secretary of Defense (USD), <i>Implementation of Sikes Act Improvement Act: Updated Guidance</i> , 10 October 2002 Office of the Deputy Under Secretary of Defense (DUSD), <i>Updated Guidance for Implementation of The Sikes Act Improvement Act</i> , 5 November 2004 DoD Directive 4700.1, <i>Natural Resources Management Programs</i>
Note: Not all applicable Federal and State laws, regulations, and Executive Orders are listed in this table, but are incorporated by reference through the listed documents.	

1.3 RESPONSIBILITIES

1.3.1 NATIONAL GUARD BUREAU RESPONSIBILITIES

Within the NGB headquarters, the Chief of Environmental Programs (NGB-ARE) is responsible for reviewing and approving the INRMP and advising the KYARNG Environmental Office before the KYARNG formally submits the plan to the U.S. Fish and Wildlife Service (USFWS), the Kentucky Department of Fish and Wildlife Resources (KDFWR), the public, and others as appropriate. The

Environmental Directorate ensures operational readiness by sustaining environmental quality and promoting the environmental ethic, and is responsible for tracking projects, providing technical assistance to states, quality assurance, and validation and execution of funds.

1.3.2 KENTUCKY ARMY NATIONAL GUARD RESPONSIBILITIES

The KYARNG is one entity of the KDMA. KYARNG responsibilities for implementation of the natural resources management plan are identified below.

1.3.2.1 THE ADJUTANT GENERAL

The Office of the Adjutant General is directly responsible for the operation and maintenance of WHFRTC, which includes implementation of this INRMP. The Adjutant General (TAG) determines what the state's force structure (types and number of units, types of equipment, training events, etc.) will be at WHFRTC. TAG establishes a formal natural resources program for KYARNG/KDMA by implementing this INRMP. TAG also serves as the agency official to ensure that natural resources projects and activities follow the intent of the SAIA and DoDI 4715.3 and ensures that all installation land users are aware of and comply with procedures, requirements, or applicable laws and regulations that accomplish the objectives of this INRMP.

Two key positions within the TAG Office are the State Executive Director and the Chief of Staff. These positions ensure that natural resources issues are considered in state and federal budget and policies and also ensure coordination of projects and construction among environmental, training, and engineering staffs. The Chief of Staff also serves as chairman of the Environmental Quality Control Committee, which provides overall guidance and policy direction to the environmental program, including management of WHFRTC natural resources.

Within the State Executive Director's Office, the Director of Facilities Division is responsible for property management, construction, operation, and maintenance of buildings and land statewide for the KDMA. This Director ensures that natural resources management is considered during land acquisition, utilities excavation, construction, and maintenance and repair activities on all property managed by the KDMA.

Two key offices on the federal side within TAG's Office that participate in natural resources decision-making in Kentucky are Joint Forces-Operations (J3) and the Construction and Facilities Management Officer (CFMO).

1.3.2.2 JOINT FORCES – OPERATIONS (J3)

The J3 has the primary responsibility for scheduling of military training and safety of all personnel while training exercises are being conducted. The J3 and the Training Site Commander (TSC) determine the training load of WHFRTC based upon the force structure determined by TAG. The J3 coordinates with the CFMO on matters of construction and maintenance priorities. The J3 determines Integrated Training Area Management (ITAM) projects and submits an annual ITAM workplan.

1.3.2.3 CONSTRUCTION AND FACILITIES MANAGEMENT OFFICE

The statewide CFMO manages federal construction, maintenance, and engineering for all KYARNG facilities under the jurisdiction of the KDMA, including WHFRTC. The CFMO is responsible for master planning and for ensuring that natural resources consultation requirements are included in timelines for project design and delivery schedules for all military construction projects.

1.3.2.4 ENVIRONMENTAL OFFICE

The statewide Environmental Program Manager is responsible for establishing funding priorities and programming funds for natural resources compliance and management activities into the federal Status Tool for the Environmental Program (STEP) and works with the J3 to manage the ITAM program budget; advising KYARNG on best ways to comply with federal and state environmental laws and regulations;

ensuring that natural resources efforts are accomplished either in-house or through contract by individuals with appropriate training; and oversight of Natural Resources Manager activities. The Environmental Program Manager provides technical assistance to KYARNG/KDMA personnel including: developing INRMPs; National Environmental Policy Act (NEPA) documents as appropriate; securing permits; conducting field studies; providing Sustainable Range Awareness (SRA) materials; locating, mapping, and inventorying natural resources; and revising and/or updating the INRMP based on internal/external reviews. The Environmental Program Manager oversees the NEPA process for the KYARNG.

1.3.2.5 PUBLIC AFFAIRS OFFICE

The Public Affairs Officer (PAO) serves as a liaison with the public for public review, in public meetings, and in community educational events. The PAO gives assistance to the Environmental Office in NEPA public review efforts.

1.3.2.6 STAFF JUDGE ADVOCATE

The Staff Judge Advocate (SJA) reviews legally binding natural resources documents for legal sufficiency and advises on laws and regulations that affect natural resources management.

1.3.3 TRAINING SITE RESPONSIBILITIES

The Training Site Non-Commissioned Officer in Charge (NCOIC) and the statewide TSC will ultimately implement this plan and ensure its success. The Training Site NCOIC is familiar with all aspects of the training site, including training scheduling (and conflicts), locations of training facilities, impairments or problems with human-made structures or natural functions, and needs for improvement or maintenance of the training land.

The Training Site NCOIC at WHFRTC reports to the TSC and J3. The Training Site NCOIC's natural resource-related responsibilities include the following: (1) control of all training areas; (2) operation and maintenance of training site facilities; (3) conducting briefings concerning safety and orientation; (4) conduct investigations of and require reports of fires; and (5) integration of the INRMP with the training mission. The Training Site NCOIC ensures that maintenance projects are identified and executed, vegetation cover is maintained on erodible soils, wetlands and rare species habitats are compatible with construction and training activities, and SRA materials are distributed to the troops.

1.4 MANAGEMENT PHILOSOPHY

The KYARNG has developed this updated INRMP using an interdisciplinary approach, with information gathered from the KYARNG Environmental Office and military trainers as well as other Federal, State and local agencies and special interest groups with an interest in natural resources management at WHFRTC. Agency coordination conducted as part of the INRMP development is included in **Appendix B**. This updated INRMP describes baseline conditions of natural resources at the WHFRTC and provides management programs and guidance for successful military training that conserves renewable natural resources, preserves rare and unique resources, and provides long-term resource sustainability. Specific plan expectations are listed in **Table 3**.

TABLE 3. PLAN EXPECTATIONS FOR INTEGRATED NATURAL RESOURCE MANAGEMENT	
PLAN EXPECTATION	
1	Provide a comprehensive plan for the KYARNG to carry out its mission while promoting ecosystem health and biodiversity at the WHFRTC and in the surrounding region.
2	Document goals, objectives, guidelines, and future direction for natural resources management.
3	Establish a framework for implementing natural resources programs and ecosystem

TABLE 3. PLAN EXPECTATIONS FOR INTEGRATED NATURAL RESOURCE MANAGEMENT	
PLAN EXPECTATION	
	management.
4	Provide centralized information on the natural resources program status.
5	Identify environmental constraints to land use so that military training can be matched to ecosystem carrying capacity.
6	Identify mission-related impacts and options for conflict resolution.
7	Serve as a baseline of existing environmental conditions for defensible future Environmental Assessments (EAs) and Environmental Impact Statements (EIS).
8	Ensure that installations comply with environmental regulations.
9	Identify, prioritize, and schedule long-term budget requirements.

The KYARNG's overall policies and philosophy of land management are derived from AR 200-1 and 32 CFR 651. These policies and regulations are based on the concept that natural resources management is an integral component of the primary mission of military use. The KYARNG must train; therefore, the KYARNG will manage WHFRTC to preserve valuable training resources, including the natural environment. Management of natural resources on an ecosystem basis ensures the sustainable use of training lands while considering the effects on the surrounding environment and public concern.

1.4.1 MILITARY MISSION

This updated INRMP integrates aspects of natural resources management into the military mission. As such, it becomes the primary tool for ecosystem management at WHFRTC while ensuring the successful, efficient accomplishment of the military mission. A multiple-use approach will continue to be implemented through this INRMP to accommodate mission-oriented activities and provide for good stewardship.

Specific military missions and training requirements are fluid and change from time to time with realignments, transformations, and changes in equipment and tactics. This requires the establishment of basic underlying natural resource management principles and practices that have broad application and can be adapted in multiple situations. Implementation of this updated INRMP will continue to successfully promote adaptive management that protects and enhances natural resources for multiple use, sustainable yield and biological integrity, while supporting the military mission.

THE PURPOSE OF NATURAL RESOURCES MANAGEMENT AT WHFRTC IS to *maintain sustainable natural resources as a critical training asset* upon which to accomplish the KYARNG mission. To accomplish this goal, natural resource managers need to:

Ensure *no net loss* in capability to support existing and projected military training.

Maintain *quality training lands* through monitoring, minimizing damage, mitigation, and rehabilitation.

1.4.2 ENVIRONMENTAL MANAGEMENT SYSTEM

The NGB and KYARNG consider the subject installation to be the combined KYARNG operations in Kentucky. The Environmental Management System (EMS) is part of the overall KYARNG management system and includes organizational structure, planning, responsibilities, practices, procedures, processes, and resource allocation for developing, implementing, achieving, reviewing, and maintaining environmental commitments.

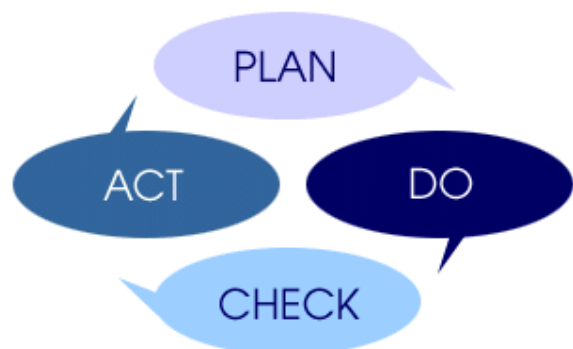
This updated INRMP directly supports the KYARNG's and the NGB's EMS. Annual review of the INRMP with the USFWS and

DEVELOPING AND IMPLEMENTING AN EMS IS REQUIRED AT ALL ARNG INSTALLATIONS.

In 2000, Executive Order (EO) 13148, *Greening the Government through Leadership in Environmental Management* established a five-year EMS implementation goal for federal facilities.

KDFWR will be conducted to support the concept of EMS. Annual reviews are discussed in **Section 8.3**.

The International Standards Organization (ISO)-14001 EMS model used by the KYARNG leads to continual improvement based upon a cycle of “plan, do, check, act”:



- *PLAN* – Planning, including identifying environmental aspects and establishing goals
- *DO* – Implementing, including training and operational controls
- *CHECK* – Checking, including monitoring and corrective action
- *ACT* – Reviewing, progress reviews and acting to make needed changes to the EMS

The EMS is continually updated through this cycle, fine-tuning management of operations that may harm the environment. This continual improvement cycle is a fundamental attribute of the EMS that allows the EMS system to adapt to the KYARNG’s operations as they change.

1.4.3 ECOSYSTEM MANAGEMENT

An ecosystem is the “sum of the plant community, animal community, and environment in a particular region or habitat” (Barbour et al, 1987). Ecosystem management may be defined as management “to restore and maintain the health, sustainability, and biological diversity of ecosystems while supporting sustainable economies and communities” (U.S. Environmental Protection Agency [USEPA], 1994).

Natural resources at the WHFRTC will continue to be managed with an ecosystem management approach. The DoD’s goal for ecosystem management is “to ensure that military lands support present and future training and testing requirements while preserving, improving, and enhancing ecosystem integrity” (DoDI 4715.3). Principles of ecosystem management, per DoDI 4715.3 are listed in **Table 4**.

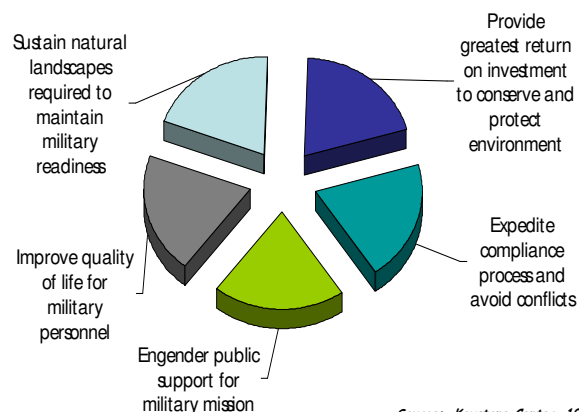
TABLE 4. DoD PRINCIPLES OF ECOSYSTEM MANAGEMENT	
PRINCIPLE	
1	Guarantee continued access to land, air and water for realistic military training.
2	Maintain and improve the sustainability of native biodiversity of ecosystems.
3	Administer with consideration of ecological units and timeframes.
4	Support sustainable human activities.
5	Develop vision of ecosystem health.
6	Develop priorities and reconcile conflicts.
7	Develop coordinated approaches to work toward ecosystem health.
8	Rely on the best science and data available.
9	Use benchmarks to monitor and evaluate outcomes.
10	Use adaptive management.
11	Implement through installation plans and programs.
Source: DoDI 4715.3	

Biological diversity or biodiversity may be defined as “the variety of living organisms considered at all levels of organization, from genetics through species, to higher taxonomic levels, and including the variety of habitats and ecosystems, as well as the processes occurring therein” (Meffe and Carrol, 1994).

The DoD’s challenge is “**to manage for biodiversity in a way that supports the military mission**”. The INRMP is identified by DoD as the primary vehicle for conserving biodiversity on military installations (Keystone Center, 1996).

Specific management practices identified in this updated INRMP have been developed to enhance and maintain biological diversity within the ecosystems at the WHFRTC. DoD principles of conserving biodiversity on military lands are listed in **Table 5**.

Why Conserve Biodiversity on Military Lands?



Source: Keystone Center, 1996

TABLE 5. DoD PRINCIPLES FOR CONSERVING BIODIVERSITY ON MILITARY LANDS	
PRINCIPLE	
1	Support the military mission;
2	Use joint planning between natural resources managers and military operations personnel.
3	Integrate biodiversity conservation into the INRMP and other planning protocols.
4	Involve internal and external stakeholders up front.
5	Emphasize the regional (ecosystem) context.
6	Concentrate on results.
Source: Keystone Center, 1996	

1.5 SUSTAINABLE RANGE PROGRAM

The Sustainable Range Program (SRP) is the Army’s overall approach for improving the way in which it designs, manages, and uses its ranges to ensure long-term sustainability. Requirements for the SRP are set forth in AR 350-19, *Army Sustainable Range Program*, effective August 2005. The two core SRP components are the Range and Training Land Program (RTLTP) and the ITAM Program. To ensure the accessibility and availability of Army ranges and training land, the SRP core programs are integrated with the facilities management, environmental management, munitions management, and safety program functions supporting the doctrinal capability.

Information acquired under the SRP/ITAM umbrella is incorporated into this updated INRMP to guide overall military training within the constraints of NEPA and other applicable requirements, threatened and endangered (T&E) species management, rehabilitation activities, and projected sustainability guidelines.

1.5.1 RANGE AND TRAINING LAND PROGRAM

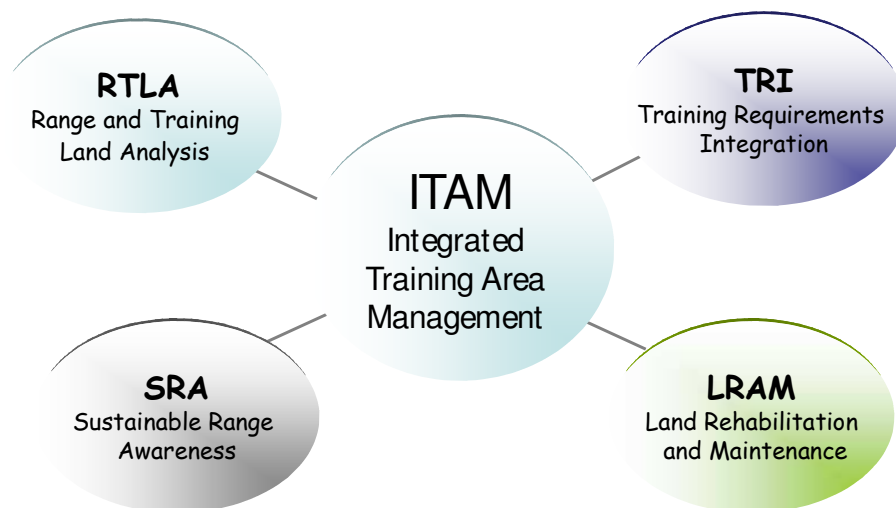
The RTLP provides a range operations and modernization capability for the central management and prioritization and the planning and programming of live-fire training ranges and maneuver training lands, including the design and construction activities associated with them. The RTLP planning process integrates mission support, environmental stewardship, and economic feasibility and defines procedures for determining range projects and training land requirements to support live-fire and maneuver training. The RTLP defines the quality assurance and inspection milestones for range development projects and the Standard Operating Procedures (SOP) to safely operate military training, recreational, or approved civilian ranges under Army control and support Commanders' Mission Essential Task List (METL) and Army training strategies. RTLP also establishes the procedures and means by which the Army range infrastructure is managed and maintained on a daily basis in support of the training mission.

1.5.1.1 INTEGRATED TRAINING AREA MANAGEMENT

The ITAM program is the U.S. Army standard for sustaining the capability of installation land units to support military training missions, to ensure compliance with existing statutory regulations, and to promote sound stewardship of natural resources contained therein. The ITAM Coordinator is stationed at the WHFRTC.

In addition to maintaining key personnel and natural resources data collection efforts, the ITAM work plan budget funds a number of projects of major importance to maintaining, preserving and protecting the natural resources.

The ITAM subcomponent consists of four proactive subprograms designed to facilitate these processes. The four components of the ITAM program are discussed in the following sections.



1.5.1.2 RANGE AND TRAINING LAND ANALYSIS

The RTLA, formerly known as the Land Condition Trend Analysis (LCTA) provides for the collecting, inventorying, monitoring, managing, and analyzing of tabular and spatial data concerning land conditions on an installation. The intent of RTLA is to collect essential natural resources baseline information that is needed to effectively manage training lands. The Army initiated RTLA in the mid-1980s and emphasized uniform data collection methodologies to provide regional, Major Command, or national-level land assessments.

RANGE AND TRAINING LAND ANALYSIS (RTLA)

The ecological monitoring component of ITAM is used to characterize and monitor installation natural resources

With the adoption of SRP/ITAM by the Training and Operations community, RTLA has evolved into a decentralized, installation-level program. This allows installation-level land managers and range operations staff to determine how they can best collect and use resource data to support short- and long-term land management decisions such as training area allocation, training area use, and land rehabilitation.

The RTLA program at WHFRTC was informally initiated in 1992, when baseline data on natural resources (vegetation mapping, plant and animal surveys, aquatic benthos) were first collected and the NRCS developed a resource inventory and conservation plan for the site. The KYARNG has since customized their data collection to focus on areas of known heavy use rather than random formal RTLA plots. This is intended to provide the most effective data package, when combined with site-wide recurring PLS. Geographic Information System (GIS) technology is used to integrate natural and cultural resources data and graphically display the relationships between individual resource components.

1.5.1.3 TRAINING REQUIREMENTS INTEGRATION

TRI is the land degradation prevention component of the ITAM program. The main goal of TRI is scheduling training exercises and other land uses in areas most capable of supporting these activities. TRI relies heavily on RTLA-generated data to evaluate land capability to sustain particular training activities with minimal resource impact.

TRAINING REQUIREMENTS INTEGRATION (TRI)

Uses RTLA data to prevent or minimize harmful practices or activities within given training areas through military exercise scheduling and logistics.

Disturbances produced by training may be minimal and not appear to require restoration efforts. However, even small areas of disturbance can start a gully on sloping lands. Gullying can damage vehicles and structures, cut off access to training areas, degrade wildlife habitat, and deposit soil into streams.

TRI matches a training activity with the most suitable site, and includes a rotation schedule for training lands. TRI also incorporates restrictions required to maintain site quality, protect significant natural resources and minimize land damage while providing a safe training environment. Implementing TRI requires coordination between installation/operations training staff and natural resources management/environmental staff.

TRI allows appropriate allocation of specific training requirements to specific land parcels. The decision-making and allocation process is based on the land's "carrying capacity" with respect to training activities. Possible land use options exercised through TRI are listed in **Table 6**.

TABLE 6. LAND USE OPTIONS EXERCISED THROUGH TRI	
PRINCIPLE	
1	Re-designate the parcel's use to an alternative training, mission, or non-mission activity to permit natural recovery; prolong sustainable use; or allow for rehabilitation, repair and maintenance.
2	Re-design or reinforce a given parcel to support higher impact training.
3	Alter likely training use of a given parcel by redesigning and reconfiguring the parcel.

TABLE 6. LAND USE OPTIONS EXERCISED THROUGH TRI	
PRINCIPLE	
4	Accept training-related degradation of a given parcel.
5	Cease training temporarily on a given land parcel to permit rehabilitation, repair and maintenance.
6	Cease training permanently on a given parcel of land due to severe impacts and initiate restoration of that parcel.
Source: (Department of the Army [DA], 1999)	

1.5.1.4 LAND REHABILITATION AND MAINTENANCE

LRAM is the component of the ITAM Program that provides preventive and corrective land rehabilitation and maintenance to reduce long-term impacts of training on an installation. It includes training area redesign and/or reconfiguration to meet training requirements. Training-damaged lands can be repaired and land construction technology can be used to avoid future damage.

Land Rehabilitation and Maintenance (LRAM)

Provides training-related mitigation and land rehabilitation.

Projects are specifically designed to maintain quality military training lands, minimize long-term costs associated with land rehabilitation or additional land purchase, ensure compliance with environmental laws and regulations, and reduce erosion. The LRAM process begins with identification of potential LRAM projects, which may be planned and conducted in-house or through contract. RTLA data and GIS technology are typically used to help identify projects. Two common types of LRAM projects are training area

rehabilitation and hardened sites.

Training area rehabilitation uses a wide array of techniques to correct erosion features, minimize disturbance, and revegetate denuded areas. Rehabilitation areas may also be temporarily “off-limits” or protected through other restrictions. Techniques are specific to each project. Revegetation techniques use native plant species proven effective for erosion control.

Hardened sites are areas that have been resurfaced with a base material, often overlaid with gravel. Sensitive areas within hardened sites may also be protected using barriers. Hardened sites are created in areas that receive repetitive training within a small area to the point where vegetation is damaged and “realism” is already drastically compromised. Potential locations include bivouac sites, firing points and troop assembly areas.

1.5.1.5 SUSTAINABLE RANGE AWARENESS

Awareness is crucial to the protection of diverse resources, such as sensitive species and wetlands. SRA is an educational program that promotes environmental stewardship and responsible use of natural resources on military lands. The KYARNG SRA program focuses on all land users including soldiers, leaders, civilians, and the local community. SRA serves to educate the public on the military mission's natural resources needs and impacts.

Military Personnel Awareness – The SRA program particularly focuses on developing and distributing awareness materials, such as soldier's handbooks, leader's handbooks, field cards, training videos, and posters. Site-specific information can be provided to training site users to prevent unnecessary damage to the environment and in particular, training lands. Through the dissemination of information, site users can improve their understanding of the effects of their mission and training activities on natural resources.

SUSTAINABLE RANGE AWARENESS (SRA)

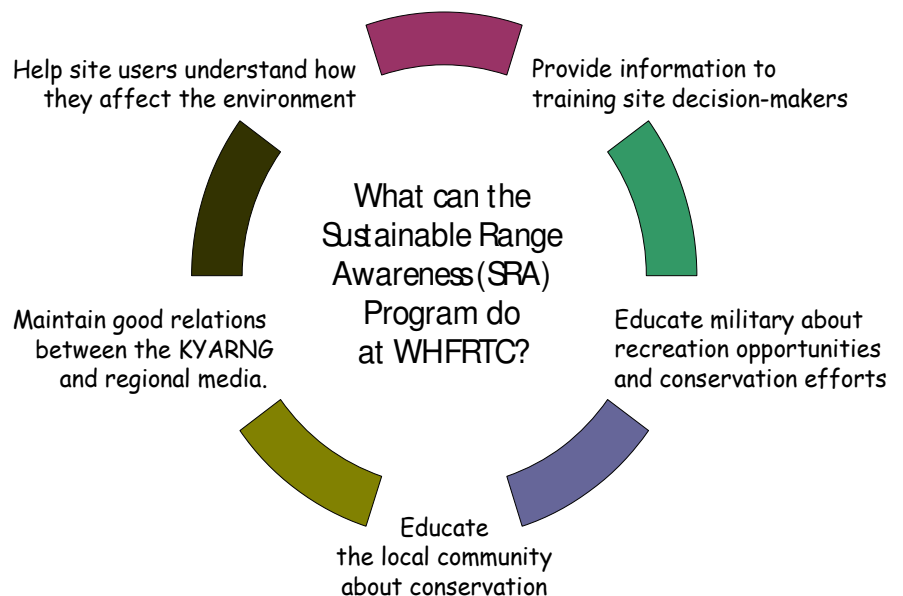
Promotes awareness of environmentally sensitive issues and fosters stewardship ethic among unit commanders, ground troops, neighboring communities, and other concerned or involved parties.

The KYARNG issues SOPs to troops using any training site. These SOPs address fire protection, hazardous materials spills, restricted areas, pyrotechnics use, and environmental considerations. Restricted areas can include impact areas and sensitive ecological and cultural resource areas with use restrictions.

Briefings are usually informal, conducted as needed. For instance, a military unit preparing to bivouac near a sensitive area or a contractor preparing to work near a wetland will be briefed on environmental requirements by Environmental Office personnel or the trainer. The unit commander will ensure compliance of the troops. Resource awareness training includes: a briefing on wetland locations; rare, threatened, and endangered species locations; cultural resources; restricted areas; pest management; information on dangerous or toxic plants and animals on the site such as poison ivy, poisonous snakes, and ticks; and any other pertinent information that helps reduce the risk of negative impacts to resources on the site and dangers to personnel at the site.

Public Awareness – The KYARNG is committed to cultivating a conservation ethic in the community, especially local youth. Natural resources personnel work with community and youth groups on conservation programs whenever possible. Scouts, in particular, often need support with projects, merit badges, and conservation talks. The KYARNG will continue to work with community and youth groups whenever possible.

Articles published in local newspapers and public service announcements on television and radio are excellent means of promoting new or existing programs involving training sites. Educating and informing the public of management



practices generally increases support rather than opposition of the public. Such media reaches a diverse audience, and can be specifically designed to promote the KYARNG mission within the context of stewardship. Awards presented to training site personnel are a good topic for such articles/announcements, and can highlight a “good neighbor” ethic. All media reports should be coordinated through the PAO in Frankfort, Kentucky.

1.6 CONDITIONS FOR IMPLEMENTATION AND REVISION

1.6.1 IMPLEMENTATION

The Environmental Office is responsible for directing natural resource management and developing and implementing the updated INRMP. Successful INRMP implementation requires:

- Administrative and technical support;
- Agency cooperation and technical assistance;
- Funding;
- Priorities and scheduling;
- Production of project scopes and budgets;
- The ability to amend and revise this document as necessary.

These resources are discussed in **Section 6.1**.

Where projects identified in the plan are not implemented because of lack of funding, or other compelling circumstances, the KYARNG will review the goals and objectives of this updated INRMP to determine whether adjustments are necessary.

1.6.2 EFFECTIVENESS

The primary measure of INRMP effectiveness is whether it helps prevent “net loss in the capability of military lands to support the military mission”. The KYARNG is preserving the WHFRTC’s capability to support training through its natural resource management practices outlined in the 2003 INRMP and in this revision. Long-term management effectiveness is also evaluated through periodic inventories of species populations, habitat quantity and quality, and habitat values through the recurring PLS. Trends can be used to indicate the degree of success. The KYARNG will evaluate these recurring data as they become available. The KYARNG continues to work with USFWS, KDFWR, Natural Resources Conservation Service (NRCS), and Kentucky Division of Forestry (KDOF) etc., to manage the forest, preserve sensitive areas, and practice effective soil conservation. These activities are coordinated through ongoing INRMP implementation.

A practical evaluation of INRMP implementation includes reviewing whether planned projects have been accomplished. Overall, the WHFRTC has benefited from using the INRMP as a management tool. The goals articulated in the 2003 INRMP are being addressed through implementation of management actions recommended in the updated INRMP. Most of the specific management actions have been implemented through projects. A large number of the projects are recurring actions that are continued in this updated INRMP. **Appendix A** contains an evaluation of goals, objectives, and status of projects from the 2003 INRMP. A summary of the completion status of 2003 INRMP projects is provided in **Table 1**.

1.6.3 AGENCY AND PUBLIC PARTICIPATION

This updated INRMP has been developed in cooperation with the USFWS and the KDFWR. Developed using an interdisciplinary approach, information has been gathered from the KYARNG Environmental Office and military trainers, as well as other Federal, State and local agencies and special interest groups

with an interest in the management of natural resources at the WHFRTC. Agency coordination and response letters have been included in **Appendix B**.

1.6.4 REVISIONS

Per DoD policy, the KYARNG reviews the INRMP annually in cooperation with the USFWS and KDFWR. The KYARNG will converse with the agencies annually to determine if changes or issues indicate the need for a meeting. If warranted, a meeting will be held with the USFWS and the KDFWR and documented by meeting minutes. If a meeting is not necessary, the conversation will be documented via email correspondence or record of conversation.

If not already determined in previous annual meetings, a determination will be jointly made to continue implementation of the existing INRMP with minor updates or to proceed with a revision by the forth year annual review. If the parties feel that the annual reviews have not been sufficient to evaluate operation and effect and they cannot determine if the INRMP implementation should continue or it should be revised, a formal review for operation and effect will be initiated. The determination on how to proceed with INRMP implementation or revision will be made after the parties have had time to complete this review.

Section 1.4.2 describes how the EMS of Plan, Do, Check, and Act is tied into INRMP reviews and updates / revisions. **Section 8.3** provides specific guidance on the INRMP review process including review for operation and effect and annual reviews.

1.6.5 RECORD OF ENVIRONMENTAL CONSIDERATION

This INRMP includes, as **Appendix C**, a REC. The EA for the 2003 INRMP presented the Proposed Action (implementation of the INRMP) and alternatives, summarized the affected environment, and assessed the environmental consequences of implementation. The assessment concluded the known and potential impacts of the Proposed Action on the physical, biological, and cultural environment will generally be of a positive nature. Implementing this INRMP will not result in significant adverse environmental effects. This NEPA analysis is still valid, and adequately covers the actions in this updated INRMP. The REC describes the Proposed Action and explains why further environmental analysis is not needed.

SECTION 2: INSTALLATION OVERVIEW

2.1 LOCATION AND AREA

The approximately 10,804-acre WHFRTC is located in western central Muhlenberg County, Kentucky, approximately 2,000 feet west of the corporate boundary of Central City, Kentucky and four miles north of Greenville, Kentucky (**Figure 1**). The site can be accessed via Exit 53 of the Wendell H. Ford Western Kentucky Parkway at Kentucky Highway 181. The Wendell H. Ford Western Kentucky Parkway forms the southern boundary of the site with the exception of the recently acquired Training Area (TA) 8, located south of the Parkway. The site is bordered on the north by Kentucky Highway 70 and is bisected by Little Cypress Creek in TA 8, Cypress Creek in TA 7, and from the north to south by Kentucky Highway 181.

The WHFRTC is located east of the Peabody Wildlife Management Area (also previously mined land) which is managed by the KDFWR. A wildlife management area in the northern part of the WHFRTC property was established by Peabody Coal Company in 1986 and has been maintained by the KY Department of Military Affairs (KYARNG, 2006).

Lands surrounding the WHFRTC are utilized for coal mining, oil and gas production, agriculture, and forest production. There are also numerous residences and farms along KY Highway 70 to the north of the training center as well as a few residences along KY Highway 601 in the New Cypress area to the southwest of the training center. Gas pipeline pumping facilities and a major regional gas storage field lie to the northwest of the training center.

2.2 HISTORY OF KYARNG AND WHFRTC

2.2.1 HISTORY OF THE KYARNG

Throughout its history, Kentucky has cherished the tradition of rendering military duty with zeal when called upon. Kentucky's history teems with incidents of self-sacrifice unsurpassed in daring and achievement. Kentuckians have answered the call to arms in all wars of our country. The present-day KYARNG began as part of the Virginia militia in 1775 during the American Revolution. When Kentucky became a state in 1792, provisions were made at that time to maintain a militia force. The Kentucky militia played a major part in the War of 1812 and also supported the War for Texas Independence (1836) and the Mexican War (1846-1848). When the Civil War began in 1861, the Kentucky militia, then known as the State Guard, was split between loyalty to the South and the North. Many men left the State Guard to join either the Union or Confederate armies, with those remaining known as the Home Guard. The Kentucky State Guard served during the Spanish-American War of 1898. In 1903, the State Guard was federalized, meaning that standards of uniformity were enforced, and federal monies would be used to train and arm the men.

During World War I (1917-1918), men from the Kentucky National Guard were assigned to replace fallen soldiers from the regular Army. Most of these men were sent overseas to serve in the LeMans area of France. The Kentucky National Guard was called up again for World War II. Once again, every organized National Guard unit was involved in active service during the war. The majority of National Guardsmen fought in the Pacific Theater. The men who fought in the Pacific Theater were stationed in the ZigZag Pass region of Luzon Island. During their time in the region, they earned the nickname, "Avengers of Bataan." During the Korean War, men from the 1/623rd Field Artillery were in support of other regular Army units. Kentucky Guard troops were there from 1951-1952, and spent roughly a one-year tour of duty in support of the Tenth Corps, and 1st and 7th South Korean Infantry Division. Only the 2nd Battalion, 138th Field Artillery (2/138th) of the KYARNG was sent to Vietnam. This regiment, along with a Battalion from West Virginia, was the only National Guard Battalion in the country to serve in Vietnam.

In 1990-91, KYARNG units were mobilized for active duty to Saudi Arabia in support of Operations Desert Shield and Desert Storm. The 217th Quartermaster Detachment (Water Purification unit), 1/623rd Field Artillery, 438th and 223rd Military Police and 2123rd Transportation companies were sent to active duty. Following September 11, 2001, and in conjunction with the war effort in Iraq and Afghanistan, the training

mission of KYARNG units has shifted from one of heavy armor/maneuver training to Military Police, infantry, and dismounted/wheel training.

2.2.2 HISTORY OF WHFRTC

The KDMA has operated the WHFRTC, formerly known as the Western Kentucky Training Center, for the KYARNG since 1969. Between the years of 1969 and 1988, Peabody Coal Company leased 3,000 acres of mining company land to the KDMA. Training was rotated annually around active mining sites in coordination with Peabody's mining plans. Then, in two separate acquisitions in 1988 and 1994, the Commonwealth of Kentucky acquired 6,760 acres of abandoned and reclaimed strip-mined land from Peabody Coal Company. In 1997, use of approximately 750 acres was obtained through a lease from Peabody Coal Company. At the same time, approximately 50 acres on the northeastern corner of the training center was transferred back to the original land owner, bringing the official acreage of WHFRTC to 6,787.35 acres. On 17 October 1997 the training center was officially dedicated as the WHFRTC in honor of retired United States Kentucky Senator Wendell H. Ford. In 2006, the KDMA acquired approximately 3,921 acres of additional land from the Peabody Coal Company and the Peabody Development Company, LLC (subsidiaries of Peabody Energy). The new acquisition is known as Training Area (TA) 7 and 8. The KDMA currently is comprised of approximately 10,804 acres.

2.3 MILITARY MISSION

Per DoD Supplemental Guidance, the 2003 INRMP was reviewed "as to operation and effect," to determine whether it is developed per NGB and Army policy, meets the intent of the Sikes Act, and contributes to the conservation and rehabilitation of natural resources on military installations. Revisions required as a result of this review have been included within this INRMP.

The primary federal mission of the KYARNG is to maintain properly trained and equipped units available for prompt mobilization for war, national emergency, or as otherwise needed. At the federal level, the National Guard provides decisive land power for major war and essential combat support and service support units for contingency operations. The KYARNG federal mission is to provide National Command Authority with units capable of performing their wartime mission. In their federal role, members of the KYARNG are also part of the US Army Reserve Component and can be called to active duty by the President.

The state mission is to provide trained and disciplined forces for domestic emergencies or as otherwise required by state law. At the state level, the Guard provides a return on the federal investment through domestic support capabilities embedded in its units. The KYARNG is a resource to assist local law enforcement and emergency management agencies at the direction of the Governor.

2.4 LAND USE

The land within WHFRTC is divided into eight numbered TAs, a 429-acre Obstacle Course TA, a 450-acre Flight Landing Strip (FLS) TA, and a 149-acre Cantonment Area. The majority of permanent building structures are found within the Cantonment Area or in its vicinity. Some structures also exist within the Obstacle Course TA (see **Figure 2**).

Land cover at the WHFRTC includes open grassland and shrubs (ideal for maneuver training exercises), pine and hardwood forest (ideal for dismounted training, bivouacking, and concealment), open water bodies, wetlands, and riparian areas along Little Cypress Creek and Cypress Creek, and the developed Cantonment Area. Numerous active or abandoned oil wells and oil/water separation tanks can be found in the western portion of the WHFRTC.

2.4.1 TRAINING AREAS

WHFRTC numbered TAs include firing ranges, bivouac sites, Military Operations on Urban Terrain (MOUT) sites, maneuver areas for wheeled vehicle, tracked, and dismounted training as well as other

support facilities that contain a variety of support facilities. The TAs and their corresponding support facilities are summarized in **Table 7**.

TABLE 7. TRAINING AREAS			
TA	ACRES	TYPES OF TRAINING	SUPPORT FACILITIES
1	1,467	Dismounted Heavy armor	Five bivouac sites (include mess area) Two MOUT sites Drop Zone Secondary Reverse Osmosis Water Purification Unit (ROWPU)
2	1,115	Dismounted Heavy armor Live Fire	Drop Zone One MOUT site Range Tower
3	713	Dismounted Amphibious	One bivouac site
4	991	Light armor Dismounted	One MOUT site
5	1,135	Light armor Dismounted	Live fire ranges One bivouac site Primary ROWPU Engagement Skills Trainer (EST) Ammunition Supply Point Nuclear, Biological and Chemical (NBC) chamber
6	954	Dismounted	None
7	2,300	Dismounted	Two MOUT sites/Surface Danger Zone (SDZ)
8	668	Dismounted	None

Live fire ranges are located within TA 5. They include a tower with public address (PA) system, ammunition breakdown point, bleachers, mess area, and latrines. The ranges are as follows:

- M-16 Zero Range - 25-meter range with 20 firing points
- M-16 Qualification Range – 300-meter Remote Engaged Target Systems (RETS) range with 16 firing points.
- Combat Pistol Range (M-9/M11) includes a Combat Pistol Qualification Course with 15 firing points.

An Engagement Skills Trainer (EST) is also located within TA 5 along Cypress Creek Road near the range complex area. The EST is an indoor, 12-lane simulated weapons training facility capable of providing both marksmanship and squad-level weapons training in a variety of weapons (e.g., M-9, M-16A2, M-203, M-60, M-249, AT-4, and Mark-19).

2.4.2 OBSTACLE COURSE AND FLIGHT LANDING STRIP TAs

The Obstacle Course Training Area (TA) includes 12 obstacles (logs, weaver, balancing logs, hurdles, fence, slide for life, low belly over, high step over, swing stop and jump, inclining wall, confidence climb, and tough one). A Unit Training Equipment Site (UTES) and Range Control are located in the River Queen Complex located east of KY Highway 181. A wheeled vehicle refueling point also occurs within this area of the WHFRTC.

The FLS TA contains the Peabody Army Airfield. The airfield is a 3,500 feet long dirt air strip with a 300-foot turn around on each end. The CCT are ground combat forces assigned to the Special Tactics Squadrons within the USAF Special Operations Command. The airstrip is currently out of certification for touch-and-go maneuvers. A washrack and rappel tower are located along the northwestern boundary of the FLS TA. The rappel tower is comprised of a 43 feet tall treated wood frame, a pole-reinforced structure consisting of vertical and inclined walls, and a simulated helicopter skid descent point.

2.4.3 CANTONMENT AREA

The 149-acre Cantonment Area, the developed portion of the training center, is located along the southern boundary of the training center along Highway 181 and adjacent to the Wendell H. Ford Western Kentucky Parkway. Current facilities on the Cantonment Area include:

- Training Center headquarters
- Troop Medical Center
- Battalion/brigade headquarters building
- Barracks and officer quarters
- Dining facility/Mess Hall
- Regional Training Institute (RTI)
- Physical Fitness Center
- Running Track
- Storage facilities
- Helipad

2.5 WHFRTC TRAINING ACTIVITY AND SITE USAGE

2.5.1 MILITARY TRAINING

The WHFRTC is used for 2-week AT, and weekend inactive-duty training (IDT) to conduct weapons qualification, command post exercises (CPX), and field training exercises (FTX). The small arms ranges are used to fire the 5.56 mm/M16 rifle and 38 caliber or 9mm/pistol. The WHFRTC does not fire artillery or missiles because of space constraints and resulting safety and environmental reasons. Tanks, instead, use computer simulation systems. The simulation system used is the non-firing Multiple Integrated Laser Engagement System (MILES) which uses infrared light and computerized targets. Current aircraft used at the training site include helicopter, small fixed-wing aircraft, and an occasional C-130.

Weapons currently used at WHFRTC include: M-16, M-4, 9mm pistol, shotgun, squad automatic, Mark 19, and M-203. The following types of military training operations are available at the WHFRTC:

- Weapons qualification on ranges for 5.56 mm / M-16 rifle and .38 caliber/9 mm pistol.
- CPX, which often rely on a computer simulation, guide decision-makers through a hypothetical scenario. A CPX normally takes place in one central location, such as a military headquarters.
- FTX simulate actual operations "in the field" and focus more on improvement of skills than on the making of command decisions.
- Gunnery training with MILES (non live fire tank electronic simulation system), which uses infrared light and computerized targets.
- Nuclear, Biological, and Chemical (NBC) train soldiers to don protective clothing, test gas masks and perform precise decontamination procedures to protect equipment and personnel against warfare agents (no live agents are used).
- Aircraft Operations to include the use of C-130 cargo airplanes, UH-60 Black Hawk utility helicopters, AH-64 Apache helicopters, CH-47 Chinook cargo helicopters, OH-58 Kiowa observation helicopters, AH-1 Cobra helicopters, and UH-1 Iroquois utility helicopters.
- Additional types of military training at WHFRTC include Soldier Qualification Training and Common Task Training testing, recovery operations, land navigation, patrolling, bivouac and mess operations.

Since the onset of the war effort in 2003, the main training thrust at WHFRTC has been weapons qualification and pre-deployment expertise in both urban and mounted weapons systems. Other types of training include combat lane training, defensive convoy training, and anti-terrorism training. In the past few years, five MOUT sites were constructed to train soldiers in urban warfare. The MOUT sites do not contain permanent structures. They are comprised of steel convexes with wood deck structures and are developed on gravel pads. The larger MOUT site includes a tunnel from one side of the road to another. The large brigade training at WHFRTC in conjunction with Fort Campbell has not occurred since 2003, nor has engineer construction or infantry/armor training.

2.5.2 SITE USAGE

The WHFRTC serves as the primary training area for the KYARNG. Training center utilization data shows that approximately 60 percent of all training occurs from June through October, 13 percent occurs from November through February, and approximately 27 percent occurs from March through May.

Historically, approximately 94 percent of all authorized WHFRTC utilization is by military users. Military users include units of the KYARNG and Kentucky Air National Guard (KYANG), the Army and Marine Reserves, Active Army units from Fort Knox and Fort Campbell, and Army schools. The WHFRTC is also used for other training activities for Reserve Components from Kentucky and surrounding states. Youth Challenge and civilian users account for the remaining portion of the total training center utilization. Groups that utilize the WHFRTC year-round include 4-H and Boy Scouts, Junior and Senior Reserve Officer's Training Corps (ROTC), deer and turkey hunters (during scheduled hunts), Kentucky State Police, Department of Corrections, and local law enforcement agencies.

Historic usage levels are listed in **Table 8**. Since 2001, usage has been lower due to deployment.

TABLE 8. HISTORIC USAGE LEVELS, WENDELL H. FORD REGIONAL TRAINING CENTER	
TRAINING YEAR	TOTAL USERS IN SOLDIER DAYS* PER YEAR
1985	34,743
1986	6,167
1987	29,122
1988	16,828
1989	47,867
1990	15,754
1991	12,892
1992	21,967
1993	7,346
1994	10,187
1995	6,273
1996	8,673
1997	135,197
1998	32,387
1999	90,189
2000	112,275
2001	134,187
2002	56,789
2003	88,101
2004	71,400
2005	95,762

TABLE 8. HISTORIC USAGE LEVELS, WENDELL H. FORD REGIONAL TRAINING CENTER	
TRAINING YEAR	TOTAL USERS IN SOLDIER DAYS* PER YEAR
2006	78,382
2007	73,633
*Each day a soldier is at the training site = 1 soldier day. Usage levels shown include military and civilian use.	

The Training Site Yearly Training Coordination Conference is held during the third (3rd) quarter of the preceding fiscal year. At that time, each unit presents a tentative training schedule, estimate of personnel in attendance, and requests for facilities, training areas, and ranges. The training site schedules the final Yearly Training Coordination Conference for the fourth (4th) quarter of the fiscal year. At that time, units present confirmed plans, updated estimates of personnel in attendance, and approved requests.

2.6 FORCE STRUCTURE AND UNIT CHANGES

The KYARNG units include Armor, Infantry, Engineering, Transportation, Medical, Aviation, and Maintenance specialties. The KYARNG has projected statewide mobilization day (M-day) strength of approximately 8,400 soldiers. Current troop strength is 8,469. Major elements of the KYARNG force structure include:

- 63d Aviation Group, Frankfort;
- 149th Maneuver Enhanced Brigade), Louisville.
- 138th Field Artillery Brigade, Lexington;
- 75th Troop Command, Bluegrass Station;
- 238th Regiment (CA) Greenville

Under the current Army Division Redesign Study, the following KYARNG units would either be deactivated or replaced with chemical or military police units:

- 1st Battalion, 123rd Armor
- 206th Engineer Battalion
- 103d Forward Support Battalion

2.7 SURROUNDING COMMUNITIES AND LAND USE

The surrounding area is sparsely settled. Adjacent land uses include the Western Kentucky Parkway along the southern boundary, reclaimed and abandoned strip mine lands to the south, west and north, small farms and residential areas along state and county highways, a gas storage field (Texas Gas Co) and a state wildlife management area to the west. The nearest residences are located ½ mile southeast of the cantonment area along Highway 11 or one mile west adjacent to the Parkway (U.S. Army Center for Health Promotion and Preventative Medicine [USACHPPM], 2007). The Muhlenberg Career Development Center (MCDC) is located immediately south of the Parkway on 2000 acres of state land operated by the U.S. Department of Labor. Enrollment in 2007 includes 404 trainees between 16 and 25 years old (MCDC 2007).

The corporate boundary of Central City lies 2,000 feet east of the training center's easternmost boundary. There are also numerous residences and farms along KY Highway 70 to the north of the training center as well as a few residences along KY Highway 601 in the New Cypress area to the southwest of the training center.

Non-residential or urban lands surrounding the WHFRTC are used for coal mining, oil and gas production, agriculture, and forest production. Gas pipeline pumping facilities and a major regional gas storage field lie to the northwest of the training center.

Mining remains the industrial mainstay of the Muhlenberg County economy although approximately 39 percent of the land is farmed and used for grazing. Adjacent lands surrounding WHFRTC are used for underground and surface coal mining, oil and gas production, agriculture, and forest production. Portions of the surrounding lands are economically non-productive but provide other benefits to the environment, for example, the extensive Cypress Creek wetland system to the north of the training site. This system is important to the surrounding region as it filters and stores groundwater and provides habitat diversity for fish and wildlife.

2.8 NATURAL AREAS

Peabody Wildlife Management Area (WMA), managed by the KDFWR, encompasses approximately 60,000 acres in Ohio and Muhlenberg Counties, Kentucky. The majority of the property is reclaimed strip mine land although some tracts of undisturbed forest land are present. Most of the mined land has been reclaimed to grassland. Approximately 3,000 acres of the site is comprised impoundments ranging from one to 150 acres as well as numerous wetlands and marsh areas. The Peabody WMA provides an excellent opportunity to observe grassland bird species, a variety of waterfowl, wading and shore birds, and many raptor species. A portion of the Peabody WMA adjoins the western boundary of the installation and the northern boundary of TA 3.

The Cypress Creek State Nature Preserve (SNP) consists of a 97-acre portion of bottomlands lying adjacent to Cypress Creek in Muhlenberg County. A SNP is a legally dedicated area that has been recognized for its natural significance and protected by law to protect and preserve rare species and the natural environment for scientific and educational purposes. The preserve and adjacent areas contain a mosaic of natural communities including bald cypress (*Taxodium distichum*) swamp and bottomland hardwood forest complex that supports numerous rare species typically associated with wetlands. Public visitation is encouraged; however access is by written permission only.

Lake Malone State Park, approximately 15 miles from the WHFRTC, includes 788 lake acres enclosed by 50 foot sandstone bluffs and hardwood forests. The park has campgrounds, a marina, beach, and hiking trails.

SECTION 3: THE PHYSICAL ENVIRONMENT

3.1 CLIMATE

Kentucky lies within the hot continental division of the humid temperate domain (Bailey, 1996) and is characterized by hot summers and cool winters. Average monthly temperature and precipitation data between 1948 and 2005 was obtained from Station 155067 in Madisonville, Kentucky (SERCC 2007) and is summarized in **Chart 3**.

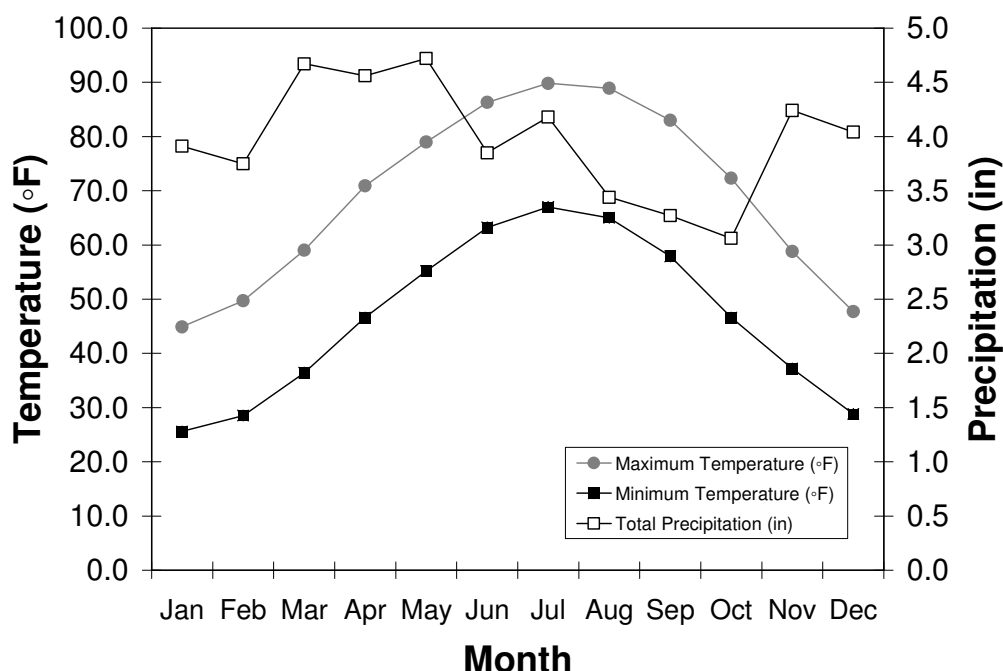


CHART 1. AVERAGE MONTHLY TEMPERATURE AND PRECIPITATION

The mean annual temperature maximum and minimum temperature are 69.2 and 46.5 degrees Fahrenheit (°F), respectively. On average July is the warmest month and January is the coldest. The lowest temperature on record is -23°F on 22 February 1951. The highest recorded temperature in Madisonville is 105°F, which occurred on three separate dates, 30 June 1952, 27 July 1952, and 05 September 1954.

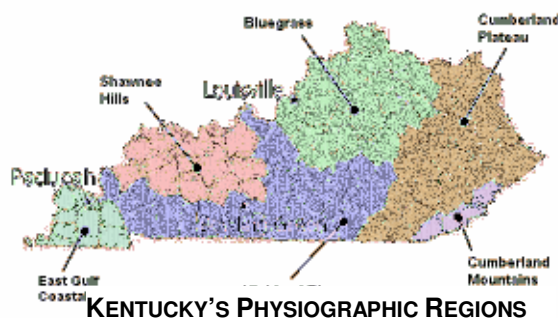
The total mean annual precipitation is 47.69 inches. Of the total annual precipitation, approximately 30 percent falls between March and May. The months between August and October are the driest on average. The average annual snowfall (usually between the months of November and March) is 7.1 inches, with the greatest snow depth at any one time during the period of record being 24.5 inches in January 1978 (Kentucky Climate Center 1996). The growing season or frost-free period continues for five to six months between mid-April and mid-October.

The prevailing wind is from the south-southwest. Wind speed is greatest in March with average wind speeds at 10 miles per hour (USDA-SCS 1994). The sun shines approximately 75 percent of the time in summer and 45 percent in winter. The average relative humidity in mid-afternoon is approximately 60 percent and approximately 80 at dawn.

3.2 PHYSICAL SETTING AND TOPOGRAPHY

WHFRTC lies within the Shawnee Hills section of the Interior Low Plateaus Physiographic Province (Fenneman 1938, Quarterman and Powell 1978). This physiographic region has also been called the Western Kentucky Coalfield Region. Within the Shawnee Hills, the site is situated near the middle of the Ohio River Hills and Lowlands subsection (Quarterman and Powell 1978).

The area surrounding the WHFRTC is characterized by hilly uplands of low to moderate relief, dissected by streams, which occupy wide poorly drained valleys. However, the topography of most of the site has been drastically changed by both surface and deep coal mining operations. Elevation varies from approximately 395 feet along Cypress Creek and Little Cypress Creek to just over 645 feet at the crests of strip mine spoil banks near the southern boundary of the training site (**Figure 3**).



The abandoned strip mined areas have very rugged topography with 50 feet or more of relief; whereas, the reclaimed strip mine areas have gently rolling topography with less severe relief.

3.3 GEOLOGY AND SOILS

Geologic resources of an area typically consist of surface and subsurface materials and their inherent properties. Geologic factors influencing the ability to support structural development are seismic properties (for example, potential for subsurface shifting, faulting or crustal disturbance), soil stability, and topography. Soils are unconsolidated materials overlying bedrock or other parent material. Soils play a critical role in both the natural and human environment. Soil structure, elasticity, strength, shrink-swell potential and erodibility determine the ground's ability to support man-made conservation practices, structures and facilities. Soils are typically described in terms of complex type, slope, physical characteristics and relative compatibility or constraining properties with regard to types of land use and/or construction activities.

3.3.1 GEOLOGY

3.3.1.1 GEOLOGIC FORMATIONS

The training site is in the west-central region of the state where primarily coal-bearing strata dominate. The surface bedrock is of Pennsylvanian-aged materials where part of the bedrock is of the Lisman Formation of Upper Pennsylvanian age and part is of the Carbondale Formation of Middle Pennsylvanian age (Palmer 1969). These formations are made up mostly of sandstone, siltstone, and shale. Thin beds of limestone, coal, and clay also occur. Limestone layers include the Madisonville and Providence Members of the Lisman Formation (USDA-SCS 1994). The geology of the WHFRTC is summarized in **Table 9**.

TABLE 9. GEOLOGIC FORMATIONS OF THE CENTRAL CITY-WEST GEOLOGIC QUADRANGLE MAP		
MAP SYMBOL	GEOLOGIC FORMATION	CHARACTERISTICS
Qal	Quaternary alluvium	Silt, clay, sand, and gravel. Generally light brown to reddish brown, poorly sorted.
Pl	Lisman Formation--Upper Pennsylvanian	
15a	Upper Lisman	Sandstone, siltstone, shale, limestone, coal, and underclay. Contained the No. 15a and 15 coal beds.
15		Sandstone and shale.
m	Madisonville limestone member	Limestone, shale, coal, and underclay. Contained the No. 14a coal bed.
14	Lower Lisman	Sandstone, shale, coal, and underclay. Contained the No. 14 coal bed.
13		Sandstone, shale, coal, and underclay. Contained the No. 13 coal bed. Shale and limestone.
12		Limestone, coal, shale, and underclay. Contained the No. 12 coal bed and the Providence Limestone Member (the base of the Lisman Formation).
Pc	Carbondale Formation	
11		Sandstone, shale, and underclay. Contained the No. 11 and 10 coal beds.
10		Shale, coal, and underclay. Contained the No. 9 coal bed.
9		Shale, coal, and underclay. Contained the No. 9 coal bed.
Palmer 1969		

3.3.1.2 SEISMICITY

The WHFRTC is located approximately 145 miles northeast of the New Madrid Seismic Zone (NMSZ), the most seismically active zone east of the Rocky Mountains. The western side of the training center is bisected by the two inactive faults, the North Graham Fault and the South Graham Fault.

The NMSZ has produced damaging earthquakes in historical time including at least three earthquakes estimated to have had magnitudes of 8.0 or greater during the years from 1811 to 1812. An earthquake of magnitude 6.0 or larger is expected somewhere in the zone about every 70 years. Considering that a magnitude 6.0 or larger earthquake has not occurred in the NMSZ since 1895, Johnston and Nava (1984) estimated a 40-63 percent chance of a magnitude 6.0 or larger earthquake in the NMSZ by the year 2000, and an 86-97 percent chance of this size earthquake by the year 2035.

Western Kentucky could experience earthquakes of magnitudes greater than 5.5 to 6.0 on the Richter scale (Modified Mercalli intensity of VIII) if an earthquake of Richter magnitude 7.0 to 7.9 occurs again in the New Madrid, Missouri epicenter (Center for Earthquake Studies 1994).

3.3.1.3 ECONOMIC GEOLOGICAL RESOURCES

Coal, natural gas, and oil are the principal economic mineral resources within the Central City-West Quadrangle. Gas and oil reservoirs were discovered in the area by 1960 with the New Cypress Oil Pool lying to the southwest and the Graham Lake Gas Storage Field underlying part of the western side of the training site. The mineral rights to coal, oil, and gas, and the existing wells and mining operations on the property are owned by Peabody Coal Company and operated by private companies; the KDMA has no control over their operations.

Commercial coal mining has occurred throughout the Central City-West Quadrangle. Prior to 1950 all mining took place underground. Since 1950 most coal has been mined by strip or auger methods. Numerous coal seams occur in the sedimentary rocks of the Pennsylvanian System. The Western Kentucky Number 9, 11, and 12 coal beds have been removed from most areas of the training center property by strip mining operations during the last 60 years (Palmer 1969; USDA-SCS 1994). Mining progressed from southwest to northeast on the various tracts within the WHFRTC. For this reason, areas located in the southwestern and southern half of the site contain older vegetation and have been disturbed less recently than areas to the north and northeast.

Land that was surface mined prior to 1968 is considered “abandoned mine land (AML)” or “pre-law”. Mining companies were not required to reclaim land post-mining. Land surface mined between 1968 and 1977 is subject to reclamation requirements including providing a less than 12 percent sloped and either planting grasses or trees. Post 1977, reclamation includes recontouring to original contour, topsoil, and are revegetated with at least 90 percent cover (Surface and Mining Control and Reclamation Act of 1977).

3.3.2 SOILS

3.3.2.1 SOIL DESCRIPTIONS

A soil survey for the training site was completed in 1994 and supplemented in 2007 for new acquisition parcels. Twelve soil series that occur either singly or in combination with other series in 28 distinct map units were identified (**Table 10**).

Approximately 23 percent of the soils have recently developed in parent materials disturbed during the surface mining for coal. These soils are loamy and contain a mixture of fine earth and rock fragments that once were bedrock layers above the coal seams. They generally comprise the central portion of the training site and are found on the uplands. Representative soils include Bethesda, Fairpoint, and Sewell. These are very deep, well drained soils. Working the soil will result in exposed and “worked up” rock fragments large enough to damage vehicles. These soils are low in natural fertility and are highly erodible when exposed. For this reason, they require good vegetative cover.

Approximately 28 percent of soils occur naturally on the landscape, including silty alluvium on floodplains or in small upland depressions (Belknap, Collins, and Waverly soils), and soils formed in loess and silty or clayey materials weathered from sandstone, siltstone, or shale bedrock (Sadler, Frondorf-Lenberg complex, Wellston, and Zanesville soils).

Approximately 46 percent of soils are strip-mined areas that have been returned to original contour and covered with topsoil collected from original soils stockpiled prior to mining. Topsoiled areas are represented by the Fairpoint-Bethesda silt loams and Farmerstown silt loam.

TABLE 10. SOIL TYPES ON THE WHFRTC			
SYMBOL	SOIL MAP UNIT NAME	ACREAGE	%
Be	Belknap silt loam, occasionally flooded	747	7.3%
BsF	Bethesda-Fairpoint-Sewell, 20 to 70 percent slopes	1,837	18.0%
Co	Collins silt loam, occasionally flooded	65	0.6%
Du	Dumps	43	0.4%
FbB	Fairpoint-Bethesda silt loams, 0 to 6 percent slopes	999	9.8%
FbC	Fairpoint-Bethesda silt loams, 6 to 12 percent slopes	868	8.5%
FbD	Fairpoint-Bethesda silt loams, 12 to 20 percent slopes	546	5.3%
FcB	Fairpoint-Bethesda soils, 0 to 6 percent slopes	460	4.5%
FcC	Fairpoint-Bethesda soils, 6 to 12 percent slopes	1,080	10.6%
FcD	Fairpoint-Bethesda soils, 12 to 25 percent slopes	692	6.8%
FcD3	Fairpoint-Bethesda soils, 12 to 25 percent slopes, severely eroded	18	0.2%
FeB	Farmerstown silt loam, 0 to 6 percent slopes	50	0.5%
FID	Frondorf-Lenberg complex, 12 to 20 percent slopes	278	2.7%
FIE	Frondorf-Lenberg complex, 20 to 30 percent slopes	92	0.9%
FIF	Frondorf-Lenberg complex, 30 to 50 percent slopes	69	0.7%
RC	Active Reclamation	184	1.8%
RE	Road And Embankment	34	0.3%
SaB	Sadler silt loam, 2 to 6 percent slopes	177	1.7%
SbB	Sewell-Bethesda-Fairpoint soils, 0 to 6 percent slopes	46	0.4%
SbC	Sewell-Bethesda-Fairpoint soils, 6 to 12 percent slopes	160	1.6%
SbC3	Sewell-Bethesda-Fairpoint soils, 6 to 12 percent slopes, severely eroded	33	0.3%
SbD	Sewell-Bethesda-Fairpoint soils, 12 to 20 percent slopes	213	2.1%
SbD3	Sewell-Bethesda-Fairpoint soils, 12 to 20 percent slopes, severely eroded	37	0.4%
Ts	Topsoil stockpiles	34	0.3%
Wa	Waverly silt loam, occasionally flooded	659	6.4%
WIC	Wellston silt loam, 6 to 12 percent slopes	161	1.6%
WIC3	Wellston silt loam, 6 to 12 percent slopes, severely eroded	33	0.3%
WID	Wellston silt loam, 12 to 20 percent slopes	79	0.8%
WID3	Wellston silt loam, 12 to 20 percent slopes, severely eroded	17	0.2%
ZaB	Zanesville silt loam, 2 to 6 percent slopes	241	2.4%
ZaC	Zanesville silt loam, 6 to 12 percent slopes	255	2.5%
ZaC3	Zanesville silt loam, 6 to 12 percent slopes, severely eroded	21	0.2%
TOTAL		10,227	
Note: Acreages reflect soil only – built areas and water not included.			

3.3.2.2 SOIL EROSION POTENTIAL

Physical and chemical factors contributing to the susceptibility of a soil to sustain damage from military training include texture, organic matter content, permeability, clay mineralogy, structure, and depth. Indices incorporating these physical and chemical factors into numeric scales or broad categories more easily related to potential training impacts include the K-factor, T-factor Hydrologic Soil Groups, and Land Use Capability Class (see Glossary for definitions of each index). An in depth review of these factors can be found in the Soil Survey for the Western Kentucky Training Site (USDA-NRCS 1994) and the soil survey for McLean and Muhlenberg Counties (USDA-SCS 1980).

Soil erosion is a major management concern at the training site, based on WHFRTC soil data. More than 40 percent of WHFRTC has slopes greater than 12 percent, which become highly erodible when vegetative cover is damaged. More than 20 percent of WHFRTC soils have a high K-factor or “erodibility factor” values (>0.34) and low T-factor or “soil loss tolerance” values (< 4.0) which indicate that the soils are highly erodible.

Capability class/subclasses from the soil survey reveal that 21 percent of all soils require very careful management due to risk of erosion; 58 percent of all soils require careful management due to being shallow, droughty, or stony; and 3 percent require special conservation practices due to wetness. Up to approximately 80 percent of WHFRTC soils are susceptible to training damage.

Hydrologic soil group classifications refer to soils grouped according to their runoff-producing characteristics. Because infiltration rate generally is inversely related to runoff and erosion, the hydrologic soil group is an indirect index to site erodibility. Group A soils have high infiltration rates when thoroughly wet and have a low runoff potential (i.e., they are the least erodible of all soils). Group B soils have moderate infiltration rates when thoroughly wetted. Group A and group B soils are generally most desirable for maneuver training activities (USA-CERL no date). Group C soils have slow infiltration rates when thoroughly wetted and are borderline for military training activities. Group D soils have a very slow infiltration rate when thoroughly wetted and are undesirable for military training activities. Of all soils, 5 percent are in Group “B”; 89 percent are in Group “C”; less than 1 percent are in Group “D”, and 5 percent of soils were not assigned an hydrologic soil group (USDA-SCS 1994).

3.3.2.3 PRIME FARMLAND AND UNIQUE SOILS

A prime farmland designation is given to an area prior to mining if soils are present that have the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops (USDA-SCS 1994). Land that is designated as prime farmland on WHFRTC was reclaimed to the original A, B, and C horizons to a minimum depth of 36 inches. The land must be at least as productive as unmined prime farmland of the same type, in the same area, and under the same farm management. Peabody Coal Company was able to obtain adequate crop yields to satisfy the bond requirements and the land was released from the bond; however, there is no legal requirement to maintain this acreage as farmland.

Approximately 50 acres of WHFRTC soils are recognized as potential prime farmland soils. Four separate areas, including the 19 acre field north of the railroad tracks, have been designated as prime farmland under the Surface and Mining Control and Reclamation Act of 1977 and range from 4 to 22 acres (soil type FeB) (see **Figure 4**). These soils are from the Farmerstown series and received 20-55 inches of subsoil and top soil as a final treatment during reclamation. Farmerstown soils are more susceptible to compaction damage from heavy armor traffic than the Bethesda, Fairpoint, and Sewell soils. Prime farmland soils are 36 inches or more in depth, have moderate natural fertility and moderate permeability. No areas within the 2007 survey boundaries are considered to be prime farmlands.

3.4 HYDROLOGY

3.4.1 SURFACE WATER RESOURCES

The WHFRTC is situated in the Cypress Creek sub-basin of the Pond River Watershed Basin (Hydrologic Unit Code [HUC]# 05110006) (USEPA 2007). The only major tributary to Cypress Creek is Little Cypress Creek. Cypress Creek originates in west-central Muhlenberg County and flows 35.5 miles north and then west through McLean County before discharging into the Pond River 1.1 miles upstream from its confluence with the Green River (Hannan et al. 1982). The third-order creek has a drainage area of 153 square miles (Bower and Jackson 1981).

The Pond River Basin drains into the Lower Green River Basin (HUC# 05110005), which drains approximately 920 square miles into the Highland – Pigeon River Basin (HUC# 05140202) (USEPA 2007). The Pond River flows a distance of 43.6 miles draining a total of 797 square miles (Bower and

Jackson 1981) in Kentucky before its confluence with the Green River near Calhoun, which flows into the Ohio River near Henderson, Kentucky.

The immediate watershed receiving discharge from the site is Cypress Creek. Cypress Creek is a low-gradient stream with 97 percent of its channel having been altered by channelization (Harker et al. 1980). The only other major tributary in the watershed is Little Cypress Creek (a second-order creek), which originates 4.16 miles north of Greenville and flows 9.32 miles in a northerly direction before joining Cypress Creek northwest of Central City. Approximately 35 percent of Cypress Creek and 44 percent of Little Cypress Creek were channelized during the 1920s (Burroughs 1924). Materials from dredging were placed into two spoil banks on either side of the creek, impeding the natural flow of water to adjacent wetlands.

Snyder and Sendlein (1997) divided the training site into 11 unique hydrologic planning units based on topography, direction of water flow, and receiving perennial stream. Cypress Creek Watershed (on the training site) was divided into four subwatersheds: Upper Cypress, Middle Cypress #1, Middle Cypress #2, and Lower Cypress. Little Cypress Creek Watershed (on the training site) was divided into three subwatersheds: Upper Little Cypress, Middle Little Cypress, and Lower Little Cypress. One additional hydrological planning unit was identified and determined to have no external drainage from the site; it was given the name "Internal Hydrologic Planning Unit."

Several small unnamed tributaries and intermittent streams cross the property and drain into Cypress Creek on the west and north and into Little Cypress Creek on the south and east (see **Figure 5**). In addition to surface streams, there are numerous sediment retention basins and ponds and lakes on the property related to mine reclamation activities.

3.4.2 FLOODPLAINS

Floodplains generally are areas of low, level ground present on one or both sides of a stream channel that are subject to either periodic or infrequent inundation by flood waters. Floodplains are typically the result of lateral erosion and deposition that occurs as a river valley is widened. High water tables and flooding are associated with floodplains. Inundation dangers associated with floodplains have prompted federal, state, and local legislation limiting the development in these areas to recreation, agriculture, and preservation activities. Floodplains are regulated by the Federal Emergency Management Agency (FEMA) with standards outlined in 44 CFR Part 60.3.

Based on the Flood Insurance Rate Maps, the 100-year floodplain occurs within the vicinity of both Cypress Creek and Little Cypress Creek and comprises approximately 673 acres (FEMA 1991).

Flood-prone areas are identified by FEMA on Flood Insurance Rate Maps (FIRM) based on historic, meteorological, hydrologic, and hydraulic data. Open space conditions, flood control works, and development are also taken into account in creating the maps. Base flood areas, or 100-year floodplain, are delineated on the maps. An area within the 100-year floodplain has a 1 percent chance of flooding each year or a 26 percent chance of flooding over a 30-year period.

3.4.3 WETLANDS

The U.S. Army Corps of Engineers (USACE) and the USEPA define wetlands as those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.

Both Federal and State laws and regulations protect waters of the state, which includes wetlands. The Clean Water Act (CWA) is the primary law protecting U.S. waters. Section 404 of the CWA (33 USC 1344) prevents the discharge of dredged or fill material into waters of the U.S. without a permit from the USACE. Generally, whenever a Section 404 permit is required, a Section 401 Water Quality Certification (WQC) issued by the Commonwealth of Kentucky is also required.

EO 11990 (*Protection of Wetlands*) requires Federal agencies to take action to minimize the destruction, loss or degradation of wetlands, and to conserve and enhance the beneficial values of wetlands.

In 1999, the U.S. Army Engineer Research and Development Center, Waterways Experiment Station (WES) conducted a planning level survey of WHFRTC to locate and map "Waters of the U.S." that would potentially be regulated (i.e., jurisdictional) by the USACE under Section 404 of the CWA (Gravatt et al. 1999). An addendum to the 1999 study was conducted in 2005 for the newly acquired WHFRTC land parcels (TA 7 and 8) (Lee and Noble 2005). Delineated waters include streams, ponds, lakes and wetlands. All features are delineated either to the limits of the Ordinary High Water Mark (OHWM) or by wetland protocols identified in the *Corps of Engineers Wetland Delineation Manual* (Environmental Laboratory 1987).

Areas potentially subject to Section 404 CWA jurisdiction on the WHFRTC are summarized in **Table 11** and illustrated in **Figure 5**.

Table 11. POTENTIAL WETLANDS AND OTHER WATERS OF THE US (BY COWARDIN CLASSIFICATION)				
WETLANDS	DESCRIPTION	FREQUENCY	ACRES	PERCENT
PEM	Palustrine Emergent Wetlands	371	497	71%
PSS	Palustrine Scrub-Shrub Wetlands	24	47	7%
PFO	Palustrine Forested Wetlands	57	160	23%
	Total	452	704	
LAKES AND PONDS	DESCRIPTION	FREQUENCY	ACRES	PERCENT
L2OW	Lacustrine, Littoral, Open Water/Unknown Bottom	59	332	51%
POW	Palustrine, Open Water/Unknown Bottom	969	315	49%
	Total	1028	647	
STREAMS	DESCRIPTION	FREQUENCY	MILES	PERCENT
R2UB	Riverine – Lower Perennial, Unconsolidated Bottom	2	1	4%
R4SB	Riverine – Intermittent, Streambed	70	23	96%
	Total	72	24	

Perennial streams on the site include Cypress Creek and Little Cypress Creek which have non-vegetated, defined beds and banks with bedrock or recently deposited sediments in the streambed. Many of the intermittent streams are the result of earth movements associated with previous mining activities. The open water bodies are the result of impoundments of the streams or are isolated surface depressions that fill with water. Areas that were mapped as wetlands are primarily palustrine emergent (PEM), palustrine scrub-shrub (PSS) and palustrine forested (PFO) systems. Most of the wetland areas are associated with surface depressions that have shallow inundation and/or sub-surface saturation or low-lying vegetated fringes bordering open water bodies or streams.

Prior to impacting wetlands or other Waters of the U.S. at the WHFRTC, the KYARNG will conduct a wetland delineation and obtain a jurisdictional determination from the USACE. KYARNG will coordinate with the USACE Louisville District office regarding wetland impacts and permitting.

3.4.4 GROUNDWATER RESOURCES

Water-bearing units in the region are the Tradewater and the Caseyville Formations. These formations yield significant quantities of water but become saline with depth. Median depths to water level in the Tradewater and Caseyville Formations are 18.2 feet and 34.4 feet below the ground surface (bgs), respectively. Regional ground-water flow is toward the broad alluvial area along the Green River, northeast of the WHFRTC. No sole source aquifers have been designated in Kentucky. A freshwater

aquifer – approximately 1,100 feet deep – lies several miles west of the WHFRTC. The aquifer is within the New Cypress Pool (USACHPPM 2006).

The natural water table and drainage patterns beneath WHFRTC have been altered by mining activities. The water table is relatively close to the surface throughout most of WHFRTC as a result of surface mining activities. Abandoned underground mines found in the Kentucky No. 9 coal seam beneath WHFRTC are known to be flooded. Water levels in ten monitoring wells installed on WHFRTC ranged from 5 feet to 64 feet bgs and averaged 29.74 feet bgs in a ground-water sampling event conducted in June 2004. Ground-water flow in the unconfined aquifer is generally perpendicular to topographic contours and toward downgradient surface streams (USACHPPM, 2006).

Because of the proximity of the Green River, most water supplies are obtained from surface-water. Public water supplies obtained from the Green River are available to residents near the proposed training areas. Wells are not used to obtain drinking water (USACHPPM, 2006).

Peabody Coal Company maintained and monitored several ground water monitoring points on the property, as required by previously held mining permits; however, this monitoring is no longer required. The Kentucky Geological Survey (KGS) installed 10 ground water wells on WHFRTC in the spring of 2001 to monitor the ground water quality and water level fluctuation in the spoil through wet and dry seasons (spring and fall).

3.4.5 WATER QUALITY

Cypress Creek has been severely degraded by acid mine waters (Harker et al. 1980; Kentucky Division of Water [KDOW] 1998). As recently as 1998, the KDOW listed Cypress Creek among its most impaired rivers and streams in the state and cited low pH (activity of hydrogen ions in water) values as the reason for this designation. Non-point source effects of greatest concern to Cypress Creek in 1998 were pH (KDOW 1998).

SECTION 4: ECOSYSTEMS AND THE BIOTIC ENVIRONMENT

Several studies have been conducted to describe the biotic environment of the WHFRTC. **Table 12** lists natural resources-related studies conducted at WHFRTC. Many species of flora and fauna are now known from the site as a result of these studies. This section of the INRMP will describe natural vegetation communities and the flora and fauna that inhabit them using an ecosystem classification.

TABLE 12. NATURAL RESOURCES STUDIES AT WHFRTC		
YEAR COMPLETED	STUDY	STUDY COMPLETED BY:
1993	Aquatic Investigation	Laudermilk et al.; Kentucky State Nature Preserves Commission
1993	Terrestrial Vertebrate Survey	Palmer-Ball; Kentucky State Nature Preserves Commission
1993	Soil Survey of Muhlenberg County	Natural Resources Conservation Service
1994	Resource Inventory and Conservation Plan	Natural Resources Conservation Service
1995	Biological Inventory	White et al., Kentucky State Nature Preserves Commission
1999	Delineation of Wetlands and Other Regulated Waters	U.S. Army Engineer Research and Development Center, Waterways Experiment Station, CEERD-ER-W
2001	Water Quality Investigation	Galceran and Dinger; Kentucky Geological Survey
2002	Update of Biological Inventory	Kentucky State Nature Preserves Commission
2004	Water Quality Investigation	Cumbie et al., Kentucky Geological Survey
2005	Wetland Survey, Training Areas 7 and 8	USACHPPM
2006	Update of Biological Inventory	Kentucky State Nature Preserves Commission
2008	Addendum to Soil Survey	AMEC Earth & Environmental, Inc.

4.1 ECOSYSTEM CLASSIFICATION

The U.S. Forest Service (USFS) identifies ecoregions that are used to classify geographical locations based on four general levels of order. In some instances, more specific sub-divisions of these levels can be made. From the broadest to the most specific, these orders are:

- Domain – consisting of groups of related climates
- Division – consisting of climates within domains
- Province – based on vegetation or natural land covers (includes influences of elevation)
- Section – based on local terrain features

WHFRTC is located within the Eastern Broadleaf Forest (Continental) Province of the Hot Continental Division of the Humid Temperate Domain as described by Bailey (1995). This region has also been called the Ozark/Interior Plateaus (Harker et al.1993). The training site lies within the Shawnee Hills

section of the Interior Low Plateaus Physiographic Province (Fenneman 1938; Quarterman and Powell 1978). Within the Shawnee Hills, it is situated near the middle of the Ohio River Hills and Lowlands subsection (Quarterman and Powell 1978).

4.2 VEGETATION

The KDMA/KYARNG requested that the Kentucky State Nature Preserves Commission (KSNPC) provide additional and updated information to revise the INRMP for the WHFRTC (Littlefield and Yahn 2006). A biological survey was completed in 1993-94 including vegetation mapping, a wetland delineation, a floristic survey and inventories for rare plants and animals (White et al. 1995). A second update of the endangered species present and other aspects was completed in 2002 (KSNPC 2002). This section provides results of the biological field surveys conducted in 2005 and 2006 as well as updated maps and descriptions of the plant communities (Littlefield and Yahn 2006). Species lists are included as **Appendix D**.

4.2.1 HISTORIC VEGETATION COVER

At the time of European settlement, Muhlenberg County was primarily covered by Oak-Hickory Forest (Harker et al. 1993). Other ecological upland ecosystems that were found in the region are Oak Barrens, Bluestem Prairie, and Glades (Harker et al. 1993). Wetland ecosystems include; Floodplain Forest, Swamp Forest, Marsh, and Wet Prairie. Since that time, extensive clearing for agriculture, grazing, logging, and more recently coal strip-mining have fragmented or destroyed the pre-settlement ecosystems (Bryant et al. 1993).

4.2.2 CURRENT VEGETATION COVER

The extent of plant communities found on WHFRTC is much reduced (since pre-European settlement) and where present, mostly of poor quality due to intense alterations including: agriculture, grazing, logging and coal mining. Vegetation communities at the WHFRTC were surveyed and classified during the biological inventory in 1995 (White et al. 1995) and subsequent updates conducted in 2002 and 2006 (KSNPC 2002; Littlefield and Yahn 2006). Vegetation communities at the WHFRTC are listed in **Table 13** and summarized in the following sections. **Figure 6** shows the vegetation communities.

Communities described as “(successional)” in the title of a natural community are recovering from more recent disturbance and are developing with more stable conditions. Even though many of these forests are young and invaded by non-native species, they are low-quality representations of natural communities. Hence, Bottomland Hardwood Forest (successional) is a low-quality representation of Bottomland Hardwood Forest and distinctive from the anthropogenic highly-disturbed Deciduous Forest.

Communities grouped in the anthropogenic category represent a vegetation pattern that has resulted from the removal or degradation of the natural vegetation, modification by planting and/or subsequent successional changes. In general, anthropogenic communities reflect characteristics of human manipulation rather than that of natural succession. Natural succession, exotic species invasion, and recent anthropogenic plantings, create more variability in species composition within each anthropogenic community, but are similar across the landscape in structure, function and land use history.

Table 1310. WHFRTC VEGETATION COMMUNITIES		
COMMUNITY ¹	ACRES	TYPICAL WILDLIFE
NATURAL WETLAND COMMUNITIES		
Bottomland Marsh (successional)	196	Wild turkey, quail, dove, teal, rail, gallinule, river otter, snipe, woodcock, owls.
Shrub Swamp	13	
Wet Flatwoods	5	
Bottomland Hardwood Forest (BHF)	52	
Bottomland Hardwood Forest (Successional)	146	
Bottomland Hardwood Swamp successional)	57	
Cypress-Tupelo Swamp (successional)	20	
ANTHROPOGENIC WETLAND COMMUNITIES		
Wet Meadow	7	Wild turkey, quail, dove, teal, rail, gallinule, river otter, snipe, woodcock, owls
Disturbed Herbaceous Wetland (Phragmites)	279	
Disturbed Lowland Forest/Shrubland	543	
NATURAL UPLAND COMMUNITIES		
Acidic Mesophytic Forest	142	White-tailed deer, squirrels, mice, rabbits, foxes, raccoons, grackles, wild turkey, grouse, quail, blue jays, woodpeckers, and waterfowl
Acidic Mesophytic Forest (Successional)	59	
Acidic Sub-xeric Forest	8	
Acidic Sub-xeric Forest (Successional)	85	
ANTHROPOGENIC UPLAND COMMUNITIES		
Native-Grassland (planted)	38	White-tailed deer, raccoon, quail, mice, cottontail rabbit.
Non-native Grassland	3,958	
Native Shrubland	1,668	
Non-Native Shrubland	441	
Highly-disturbed Deciduous Forest (Successional)	2, 282	Waxwings, bobwhite, quail, ruffed grouse, pheasant, wild turkeys, rabbits, foxes, raccoons, skunks, opossums, and coyotes.
Pine Forest	1,038	Wild turkey, quail, owls.
¹ As defined by the Biological Inventory (White and Yahn, 2006)		

4.3 NATURAL VEGETATION COMMUNITIES: WETLAND

4.3.1 BOTTOMLAND MARSH (SUCCESSIONAL)

Bottomland Marsh (successional) community is found scattered throughout the northern tract and is an extensive community along Little Cypress Creek in the southern tract. Pre-settlement conditions along Little Cypress Creek probably supported more forested bottomland communities. Hydrological changes and logging have allowed herbaceous wetland species to stabilize the system and may mimic natural marsh communities especially those flooded by beaver activity. This community is inundated most of the year and is characterized by native wetland species. Common species include common rush (*Juncus*

effuses), broadleaf arrowhead (*Sagittaria latifolia*), broadleaf cattail (*Typha latifolia*), rice cutgrass (*Leersia oryzoides*), and smartweeds (*Polygonum spp.*). Common reed (*Phragmites australis*) and barnyardgrass (*Echinochloa crus-galli*), invasive non-native species, can also be locally abundant in this community and represent areas of disturbance and low quality.

4.3.2 SHRUB SWAMP

Shrub Swamp community is associated with and usually grades into bottomland marsh communities. This community is dominated by buttonbush (*Cephalanthus occidentalis*) on WHFRTC and has similar species to that of the marsh community.

4.3.3 WET FLATWOODS

Wet flatwoods is a naturally occurring community that is distinguished by having an impermeable to slowly permeable hardpan or fragipan. This community occurs in a lowland depression on TA 8 and is the smallest community at the WHFRTC. The community retains a good quality despite past hydrological changes and logging. Cherrybark oak (*Quercus pagoda*), sweetgum (*Liquidambar styraciflua*), and red maple (*Acer rubrum*) characterize the canopy. The ground cover is low in diversity and dominated by smallspike false nettle (*Boehmeria cylindrica*) and Virginia creeper (*Parthenocissus quinquefolia*). High-quality examples of the Wet Flatwoods community are rare in Kentucky and thus this community warrants protection. Minimal disturbance of this area is recommended for long-term sustainability.

4.3.4 BOTTOMLAND HARDWOODS

The remnant Bottomland Hardwood Forest is a naturally occurring community generally associated with the Cypress Creek drainage basin as a riparian buffer, although drainage patterns have been substantially altered by the mining process. The canopy is dominated by sweetgum, tuliptree (*Liriodendron tulipifera*), red maple, cherrybark oak, green ash (*Fraxinus pennsylvanica*), and river birch (*Betula nigra*) with pockets of black willow (*Salix nigra*). Canopy trees are mature and average diameter at breast height (dbh) is approximately 50 centimeters (cm). Dominant mid-story species include sweetgum and red maple saplings. Understory species include poison ivy (*Toxicodendron radicans*), cypress panicgrass (*Dichanthelium dichotomum*), Indian woodoats (*Chasmanthium latifolium*), Christmas fern (*Polystichum acrostichoides*), and Nepalese browntop (*Microstegium vimineum*). High-quality examples of the bottomland hardwood forest community are uncommon in Kentucky and thus this community warrants conservation protection. Because of natural flooding disturbance, this community is being invaded by non-native species such as Nepalese browntop and multiflora rose (*Rosa multiflora*). Herbicide treatment for non-native species is recommended to keep this community healthy. The successional community differs from the naturally occurring community in being a young forest (~20-40 years old), typically invaded by weedy non-native and native species in the understory. Red maple and sweetgum are typically more prolific in the successional community, responding to more recent disturbance.

The 23-acre Bottomland Hardwood Forest along the western boundary of the training center and Cypress Creek is a KSNPC “notable” natural community, which corresponds to the Waverly soil unit (see **Figure 6**). The remnant bottomland hardwood forest is generally associated with the Cypress Creek drainage basin as a riparian buffer, although the drainage patterns have nearly completely been altered by the mining process. Dominant trees vary throughout this system and include green ash (*Fraxinus pennsylvanica*), river birch (*Betula nigra*), red maple (*Acer rubrum*), and some pockets of black willow (*Salix nigra*). The southern portion of this forest has been cleared and is regenerating. Mature parts of this forest will provide a seed source for younger portions.

4.3.5 BOTTOMLAND HARDWOOD SWAMP (SUCCESSIONAL)

The Bottomland Hardwood Swamp (successional) community is found in the lowland areas of TA 8. It is distinctive in having flooded soil most of the year and is dominated by hardwoods. Silver maple (*Acer saccharinum*), pin oak (*Quercus palustris*), eastern cottonwood (*Populus deltoides*), and black willow are

characteristic canopy species. Buttonbush and possumhaw (*Ilex decidua*) are typical understory shrubs. Groundcover is sparse with scattered wetland species, such as smallspike false nettle and lizard's tail (*Saururus cernuus*).

4.3.6 CYPRESS-TUPELO SWAMP (SUCCESSIONAL)

Cypress-Tupelo Swamp (successional) community occurs on TA 7 and has a high concentration of bald cypress (*Taxodium distichum*) with silver maple and red maple as co-dominates in the canopy and sub-canopy. The soils in this community are deep and organic, poorly drained and flooded throughout all or most of the year. Smallspike false nettle, lizard's tail, greater marsh St. Johnswort (*Triadenum walteri*) and caric sedges (*Carex* spp.) are characteristic species in the understory.

4.4 ANTHROPOGENIC VEGETATION COMMUNITIES: WETLAND

4.4.1 WET MEADOW

Wet Meadow is a unique community in a lowland field of the northern tract acquisition of WHFRTC. This community is dominated by wetland and upland forbs with a mixture of graminoid species and represents only 7 acres. Common forbs include common boneset (*Eupatorium perfoliatum*), hairy white oldfield aster (*Symphyotrichum pilosum*), rough cocklebur (*Xanthium strumarium*), American water horehound (*Lycopus americanus*), and seedbox (*Ludwigia alternifolia*). Maintained through mowing, these species would quickly disappear if allowed to succeed back to forest.

4.4.2 DISTURBED LOWLAND FOREST/SHRUBLAND

Disturbed Lowland Forest/Shrubland community is found in lowland areas where widespread soil disturbance from mining activities has occurred¹. Common canopy species include silver maple, red maple, sweetgum, river birch, and black willow. Understory species can include giant cane (*Arundinaria gigantea*), smallspike false nettle, lizard's tail, and carex sedges. Nepalese browntop and multiflora rose is aggressively spreading throughout this community in areas where flooding does not routinely occur.

4.4.3 DISTURBED HERBACEOUS WETLAND (PHRAGMITES)

Disturbed Herbaceous Wetland (Phragmites) community is characterized by areas heavily infested by common reed (*Phragmites australis*) and large enough to map (> 0.5 acre). This community is synonymous with Unstable Deposition- Phragmites of 2002.

4.5 NATURAL VEGETATION COMMUNITIES: UPLAND

4.5.1 ACIDIC MESOPHYTIC FOREST

Acidic Mesophytic Forest is a naturally occurring community, typically with soils that are rich and mesic and slightly to moderately acidic. On TA 8, characteristic canopy species include northern red oak, red hickory (*Carya ovalis*), sugar maple, and tuliptree. Pawpaw (*Asimina triloba*) and flowering dogwood (*Cornus florida*) are dominant in the mid-story. Common groundcover species include mayapple (*Podophyllum peltatum*), jack-in-the-pulpit (*Arisaema triphyllum*), great yellow woodsorrel (*Oxalis grandis*), and American hogpeanut (*Amphicarpaea bracteata*). This community is mainly influenced by acidic sandstone bedrock, but small, less acidic pockets within this community can influence the vegetation, allowing for species, such as chinkapin oak (*Quercus muehlenbergii*) and common hackberry (*Celtis occidentalis*), to be present in the canopy. The acidic mesophytic forest west of the large unconsolidated deposition north of the Cantonment Area is within the largest tract of land on the site that was not mined.

¹ The 2006 and 2002 surveys had varying descriptions and names for the disturbed lowland forest/shrubland community. The 2002 vegetation communities were matched to the 2006 disturbed lowland forest/shrubland community based on the descriptions of each community and the species that occurred within the corresponding vegetation communities. This community is synonymous with the disturbed forested wetland classification in the 2002 survey except that wet shrubland areas succeeding to lowland forests have been included.

Dominant tree species are American beech (*Fagus grandifolia*) and sugar maple. The oak species that are typical of this community type have mostly been removed. Understory, shrub, and ground cover are sparse under the full tree canopy. Dogwood is the most common understory tree. Acidic Mesophytic Forest (successional) is found within TA 7 and TA 8. Acidic Mesophytic Forest (successional) differs from the naturally occurring community in being a young forest (~20-50 years old) and typically invaded by weedy non-native and native species in the understory.

4.5.2 ACIDIC SUB-XERIC FOREST

Acidic Sub-Xeric Forest is a naturally occurring community with mostly sandstone bedrock and dry soils. The canopy is dominated by southern red oak (*Quercus falcata*), blackgum (*Nyssa sylvatica*), white oak (*Quercus alba*), and mockernut hickory (*Carya tomentosa*). Winged elm (*Ulmus alata*), devil's walkingstick (*Aralia spinosa*) and hickory saplings (*Carya* spp.) characterize the mid-story. The understory vegetation can be sparse to moderately developed with saw greenbrier (*Smilax bona-nox*), twoflower dwarf dandelion (*Krigia biflora*), wild comfrey (*Cynoglossum virginianum*), and licorice bedstraw (*Galium circaeazans*) as typical components. Acidic Sub-Xeric Forest (successional) is found within TA 7 and TA 8. Acidic Sub-Xeric Forest (successional) differs from the naturally occurring community in being a young forest (~20-50 years old) and typically invaded by weedy non-native and native species in the understory.

4.6 ANTHROPOGENIC VEGETATION COMMUNITIES: UPLAND

4.6.1 NATIVE GRASSLAND (PLANTED)

This community consists mostly of grasses that have been introduced to convert Non-native Grassland to native warm-season grasses. Although not structurally or functionally similar to the original vegetation of the area, this vegetation supports flora and fauna that are part of the prairie ecosystem that existed in western Kentucky prior to settlement. The KYARNG has successfully planted switchgrass (*Panicum virgatum*) and big bluestem (*Andropogon gerardii*). Common weeds include purpletop tridens (*Tridens flavus*), Canada goldenrod (*Solidago canadensis*) and Chinese lespedeza (*Lespedeza cuneata*).

4.6.2 NON-NATIVE GRASSLAND

This community consists of grasses planted by coal companies as part of post-mine stabilization on newly contoured fields. Common grasses in these fields include tall fescue (*Lolium arundinaceum*), brome grasses (*Bromus inermis*, *B. japonicus*, and *B. racemosus*), broomsedge (*Andropogon virginicus*), purpletop tridens and red fescue (*Lolium pratense*). Common weedy forb species are now also present, creating a mosaic within the community (typically dominated by grasses and less frequently by forbs). Common forb and semi-woody species include ragweeds (*Ambrosia artemisiifolia* and *A. trifida*), Canada goldenrod, Chinese lespedeza, Japanese honeysuckle (*Lonicera japonica*), yellow sweetclover (*Melilotus officinalis*), daisy fleabane (*Erigeron annuus*), hairy white oldfield aster (*Symphyotrichum pilosum* var. *pilosum*), and violet lespedeza (*Lespedeza violacea*).

4.6.3 NATIVE SHRUBLAND

Native Shrubland (successional) community is dominated by eastern redcedar (*Juniperus virginiana*), staghorn sumac (*Rhus typhina*), flameleaf sumac (*Rhus copallinum*), multiflora rose, Pennsylvania blackberry (*Rubus pensilvanicus*), coralberry (*Symphoricarpos orbiculatus*), and winged elm. All but the multiflora rose are native species. Most of these shrublands are Non-native Grassland communities that have not been mowed and are succeeding back to forest, and thus have some woody component. Therefore, some areas are dominated more by grasses and forbs, others are dominated more by shrub and small tree species, and some are succeeding into a young forest community.

4.6.4 NON-NATIVE SHRUBLAND

Non-native shrubland describes an early successional cover type dominated by non-native invasive shrubs that may eventually be overtaken by native trees². The key distinction between this community from the Native Shrubland is simply the presence of more non-native shrubs than native shrubs. The most dominant species in the Non-native Shrubland are Russian and autumn olives (*Elaeagnus angustifolia* and *E. umbellata*). Multiflora rose and Chinese lespedeza can also be a distinctive component of this community. These non-native species have been planted and are aggressively spreading and suppressing native grasslands, shrublands, and woodlands. Because of their invasive nature, these shrubs are a threat to native communities. However, Bell's Vireo (*Vireo bellii*) frequent open patches of autumn and Russian olives and build their nests in shrubs that are over 4 to 5 feet tall (Hands, Drobney, and Ryan 1989).

4.6.5 HIGHLY-DISTURBED DECIDUOUS FOREST

The highly-disturbed deciduous forest cover type is a very broad description forest cover type that overlaps with some other plant communities³. In the 2006 plant survey, forested areas were classified as highly-disturbed deciduous that would have been classed as mixed mesophytic using 2002 nomenclature. This forest is most abundant throughout the property due to widespread soil disturbance from mining activities. Dominant canopy species include sweetgum, red maple, winged elm, and American sycamore (*Platanus occidentalis*). Dominant mid-story species can include multiflora rose, thickets of sweetgum and red maple, and greenbrier (*Smilax* spp.). In many areas, the groundcover can be dominated by Japanese honeysuckle or Nepalese browntop. Violets (*Viola* spp.), poison ivy, and Christmas fern can also be commonly found in the groundcover layer.

4.6.6 PINE COMMUNITY

Pine community occurs in all sections of WHFRTC⁴. The pines occurring at the WHFRTC are yellow pine (*Pinus echinata*), Virginia pine (*Pinus virginiana*), and loblolly pine (*Pinus taeda*). Although not a natural part of the landscape in the region, these pines serve as important habitat for a variety of birds, including some that are very rare in the state, for example the Long-eared Owl (*Asio otus*). Because of the density of the pine canopy and the thick pine litter, few other plant species grow in these pine-dominated areas. Some of the pines were planted and others have invaded disturbed sites. Although not a natural part of the landscape in the region, these pines serve as important habitat for a variety of birds, including some that are very rare in the state, for example the Long-eared Owl. Because of the density of the pine canopy and the thick pine litter, few other plant species grow in these pine-dominated areas.

Pine management is planned for an area in the FLS Training Area surrounding the airstrip. This area needs to be cleared of woody vegetation for mission reasons, i.e., to return the airstrip to Federal Aviation Administration (FAA) compliance. Thinning of the pine stand in TA 4 may be programmed in the future, depending on the price of pine. If the price rises sufficiently to make the project economically attractive, the KYARNG will request a bid from contractors for harvesting.

4.7 FISH AND WILDLIFE

Fauna at WHFRTC are recorded as they are sighted by WHFRTC staff, in addition to surveys at WHFRTC conducted between 1993 and 2002 by KSNPC and KDFWR. A variety of techniques have

² This cover type was called Exotic Mixed Shrubland in the 2002 survey.

³ This forest type has properties similar to the disturbed lowland forest/shrubland cover type in section 4.4.2. For the purposes of this plan, the various mixed mesophytic woodland cover types from the 2002 survey were assigned to either the 2006 highly-disturbed deciduous forest category or the 2006 disturbed lowland forest/shrubland category based on predominant species.

⁴ The Pine community was present within both the 2006 and 2002 surveys. Species compositions were similar for each so they were easily combined into a single cover type for the WHFRTC.

been used, including overturning rocks, logs, and other debris; listening for calls; pitfall traps; mist-netting; seine or hand-picked; point-counts; and walking surveys (White et al. 1995; KDFWR 2001; Snyder and Sendlein 1997a; Houpp 1997; Houpp 1999). **Appendix D** lists species observed at WHFRTC and in Muhlenberg County.

4.7.1 MAMMALS

Twenty nine species of mammals have been recorded at WHFRTC (White et al.1995; KSNPC 2002, KYARNG, 2008). Many of the common mammal species found throughout Muhlenberg County were also found at WHFRTC, such as coyote (*Canis latrans*), white-tailed deer (*Odocoileus virginianus*), eastern cottontail rabbit (*Sylvilagus floridanus*), deer mouse (*Peromyscus maniculatus*), raccoon (*Procyon lotor*) and striped skunk (*Mephitis mephitis*) (KDFWR 2007). Four bat species were mist-netted at the training site, two of them are rare species.

4.7.2 BIRDS

Since 1993, a wide variety of birds have been identified by direct observation, point counts, or song identification during surveys of the WHFRTC (White et al.1995; KDFWR 2001). Many of these species hold priority conservation status. The WHFRTC falls within the Interior Low Plateaus Physiographic Region (Ford et al. 2000), where approximately 150 species of birds are known to nest. **Appendix D** contains a bird species list for WHFRTC.

The Partners in Flight Conservation Plan for the Interior Low Plateaus (Ford et al. 2000) has identified the Whip-poor-will (*Caprimulgus vociferous*) as a high priority hardwood forest-dependent bird. The Prairie Warbler (*Dendroica discolor*), Henslow's Sparrow (*Ammodramus henslowii*), and Dickcissel (*Spiza americana*) have been identified as high-priority grassland-dependent birds. All four species and their priority habitats have been documented at WHFRTC (White et al.1995; KDFWR 2001; Littlefield and Yahn 2006).

The following grassland-dependent species of regional concern or that are threatened throughout their range have also been identified at the training center: Northern harrier (*Circus cyaneus*), Northern bobwhite (*Colinus virginianus*), Short-eared Owl (*Asio flammeus*), Long-eared Owl (*Asio otus*), Savannah Sparrow (*Passerculus sandwichensis*), Song Sparrow (*Melospiza melodia*), Bell's Vireo (*Vireo bellii*), Bobolink (*Dolichonyx oryzivorus*), Lark Sparrow (*Chondestes grammacus*), and Grasshopper Sparrow (*Ammodramus savannarum*) (White and Yahn, 2006).

4.7.3 REPTILES AND AMPHIBIANS

Eighteen (18) reptiles and 13 amphibians have been recorded at WHFRTC (White et al. 1995; KDFWR 2001, KYARNG 2008). The Southern leopard frog (*Rana sphenoccephala*) has been identified as a Kentucky amphibian species of greatest conservation need within the Kentucky Comprehensive Wildlife Strategic Action Plan (KCWCS 2005). WHFRTC has several of the habitat types (emergent and shrub-dominated wetlands, forested wetland, standing water and upland forest) required by this frog species (Littlefield and Yahn 2006).

4.7.4 FISH AND AQUATIC INVERTEBRATES

As part of the biological inventory, Lauder milk, Winters, McMurray, and Cicerello (1993) sampled six sites for aquatic fauna (mollusks, crayfishes, insects, and fish): 1) Cypress Creek at KY 601; 2) Cypress Creek at Cedar Grove Road; 3) Cypress Creek at KY 181; and 4) Cypress Creek at the wetland approximately 0.4 km north of KY 81; 5) Little Cypress Creek at the Western Kentucky Parkway crossing; and 6) Little Cypress Creek at KY 70. The aquatic survey identified 12 species of fish and 59 species of insects (**Appendix D**).

Adult and larval macroinvertebrates were collected from 10 sites in waters draining the WHFRTC in 1997 and 1999 (Snyder and Sendlein 1997a; Houpp 1997; Houpp 1999). Samples were collected from locations where the greatest number and diversity of invertebrates in the stream were most likely to occur; as

inferred by the substrate, depth, flow, and canopy cover. The sites were not suitable for quantitative analysis due to habitat restrictions; therefore, qualitative methods were used (select pickings and triangular kick-net), which insured that all available habitat/microhabitats for invertebrates were sampled.

Nine of the 10 sites sampled contained macroinvertebrates; with a total number of species at any one site ranging from 3 to 24 species (in 1997) and 2 to 14 species (in 1999). A total of 44 species were collected from all sites in 1997; and 26 species were collected in 1999. The difference in scarcity of aquatic macroinvertebrates in the 1999 may be accounted for by higher water levels during the sampling time (early April).

Odonates (damselfly and dragonflies), Diptera (true flies), and Trichoptera (caddisflies) were the most diverse orders of macroinvertebrates found in sampled sites in 1997; whereas, in 1999, Odonates, Diptera, and Coleoptera (beetles) were the most speciose orders found in the same sample sites. The difference in occurrence and distribution of species may be accounted for by the earlier collection period (early April in 1999) versus the 1997 study, which was conducted in late May. Collections from all sites represented some of the most tolerant organisms to environmental disturbances, *sensu* Hart and Fuller (1974). This is not unexpected considering the highly disturbed conditions at the site, which resulted from the mining process. For comparison, a natural area in Cypress Creek had abundances of Coleoptera (beetles), Diptera (true flies), and Hemiptera (true bugs) (Harker et al. 1980).

4.8 RARE, THREATENED AND ENDANGERED PLANT AND ANIMAL SPECIES

Eleven (11) state-listed animal species were identified at WHFRTC during the monitoring surveys (White et al. 1995; KDFWR 2001; KDFWR 2007), including one bat species (*Myotis grisescens*) with dual status as a federally listed endangered species. In addition, the purple fringed orchid (*Platanthera peramoena*) has been observed at WHFRTC; this rare plant species does not currently have a special status designation in Kentucky. Forty-two other rare plant and animal species are found within Muhlenberg County (see **Appendix D**).

The training site includes a wide variety of representative habitat types found throughout the county; including grasslands, forests, and riparian, wetland, and aquatic ecosystems. Management of these areas will help to benefit listed species should they utilize habitats on the training site for foraging, roosting, breeding or wildlife corridors. Future plant and animal surveys are needed to determine if any of these species already exist at WHFRTC. Rare species documented at WHFRTC are listed in **Table 14**.

4.8.1 PLANTS

A survey for federally and state threatened, endangered, and rare plant species was performed during the biological inventory of the WHFRTC in 1993 (White et al. 1995) and updated in by the KSNPC in 2002 and 2006 (KSNPC 2002; Littlefield and Yahn 2006). Many common plant species were identified during the biological inventory and are catalogued in **Appendix D**. No federally listed plants were identified during these inventories. One rare plant species, the purple fringeless orchid (*Platanthera peramoena*) has been identified at the training site. The orchid does not currently have special status in Kentucky, but does have state-listed designation in several nearby states: Arkansas, Pennsylvania, Maryland and New Jersey (USDA-NRCS 2007). Buffalo clover (*Trifolium reflexum*) was recognized as a state-listed endangered species that could potentially occur on the site, but was not located during the survey. Ten other state-listed plants could potentially occur at WHFRTC, but have not been located during surveys.

4.8.2 ANIMALS

During a biological inventory of WHFRTC between the years of 1993 and 1995 and again in 2002, KSNPC searched for federal and state listed animal species (White et al. 1995; KSNPC 2002). Researchers documented 11 species with federal and/or state designations at the training site. Specimens of amphibians, reptiles, and small mammals collected in traps were deposited at the United States National Museum at the Smithsonian Institution in Washington, D.C. (White et al. 1995). Muhlenberg County lists an additional 32 species with federal and/or state designations (KDFWR 2007).

4.8.2.1 MAMMALS

Only two mammals with priority conservation status were found at WHFRTC, the federally listed endangered gray bat (*Myotis grisescens*) and the state-listed “species of special concern” evening bat (*Nycticeius humeralis*). Both bats were mist-netted at the same site over Cypress Creek, near Highway 601. The gray bat was netted in 1993 and the evening bat in 2002. Three additional mammal species with federal and/ or state-listed designations are documented within Muhlenberg County. While the USFWS does not have occurrence records for the federally endangered Indiana bat (*Myotis sodalis*) within Muhlenberg County, suitable habitat for the species is found at WHFRTC and surrounding areas.

4.8.2.2 BIRDS

Surveys in 1995 and 2002 at WHFRTC documented nine state-listed threatened, endangered or “species of special concern” birds (White et al. 1995; KDFWR 2001). Twenty-two additional birds with priority conservation status have been observed in Muhlenberg County (KDFWR 2007). Habitat for these birds is potentially available at WHFRTC and future avian surveys may also indicate their presence at the site.

4.8.2.3 FISH

Surveys at WHFRTC did not document any rare species. The training site does have potential aquatic areas that could provide habitat for state-listed threatened, endangered or “species of special concern” fish species.

4.8.2.4 REPTILES AND AMPHIBIANS

Although no rare species were documented at WHFRTC, there are five state-listed threatened, endangered or “species of special concern” reptile and amphibian species that are known to occur in Muhlenberg County (KDFWR 2007). One snake species, Copperbelly water snake (*Nerodia erythrogaster neglecta*), also carries dual status as a federally threatened species. WHFRTC fulfills the habitat requirements (forested wetlands, well-drained forested (oak/pine) upland habitats, wet meadows and slow moving waters) needed for many of these rare species. Further surveys will need to be conducted in order to confirm their presence at WHFRTC. Species are listed in **Table 13**.

TABLE 14. THREATENED, ENDANGERED AND STATE-LISTED SPECIES DOCUMENTED AT WHFRTC

SPECIES		ECOSYSTEM				STATUS/RANKING		
SCIENTIFIC NAME	COMMON NAME	G	F/C	R	W/A	FEDERAL	STATE	GLOBAL
Plant Species Documented at WHFRTC								
<i>Platanthera peramoena</i>	Purple fringeless orchid				X	--	--	G5/ S3S4
Animal Species Documented at WHFRTC								
BIRDS								
<i>Ammodramus henslowii</i>	Henslow's Sparrow	X	-	-	--	--	S	G4/S3B
<i>Ardea herodias</i>	Great Blue Heron	-	-	X	X	--	S	G4/S3B, S4N
<i>Asio flammeus</i>	Short-eared Owl	X	-	-	-	--	E	G5/S1B, S2N
<i>Asio otus</i>	Long-eared Owl	X	-	X	-	--	E	G5/S1B, S1S2N
<i>Chondestes grammacus</i>	Lark Sparrow	X	-	-	-	--	T	G5/S2S3B
<i>Circus cyaneus</i>	Northern Harrier	X	-	-	-	--	T	G5/S1S2BS4N
<i>Dolichonyx oryzivorus</i>	Bobolink	X	-	-	X	--	S	G5/S2S3B
<i>Passerculus sandwichensis</i>	Savannah sparrow	X	-	-	X	--	S	G5/S2S3BS2S3
<i>Vireo bellii</i>	Bell's Vireo	X	-	-	X	--	S	N G5/S2S3B
MAMMALS								
<i>Myotis grisescens</i>	Gray Bat	-	-	-	X	E	T	G3/S2
<i>Nycticeius humeralis</i>	Evening Bat	-	X	-	X	--	S	G5/S2S3
<p>FEDERAL STATUS E = Endangered = Endangered throughout range T = Threatened = Threatened throughout range PS = Partial status - indicating that the status applies only to a portion of the species' range.</p> <p>GLOBAL RANK DEFINITIONS Basic Rank: G1 = Critically imperiled G2 = Imperiled G3 = Vulnerable G4 = Apparently secure G5 = Secure ? = Rank Uncertain T# = Intraspecific Taxon rank</p> <p>NATIONAL (N) AND SUBNATIONAL (S) CONSERVATION STATUS RANKS For full description visit: http://www.natureserve.org/explorer/ranking.htm#interpret</p>								
<p>KENTUCKY STATE NATURE PRESERVES COMMISSION STATUS E = endangered S1 = Critically Imperiled T = threatened S2 = Imperiled S = special concern S3 = Vulnerable H = historic S4 = Apparently Secure X = extirpated S5 = Secure N = none</p> <p>ECOSYSTEM G = Grasslands F/C = Forests/Cliﬄines R = Riparian W/A = Wetland/Aquatic</p>								
Source: Calibre Systems 2002, KSNPC 2006, KDFWR 2007, NatureServe 2006								

4.9 INVASIVE/EXOTIC PEST SPECIES

4.9.1 PLANT SPECIES

One hundred and four (104) non-native plant species have been recorded on WHFRTC, representing approximately 17 percent of the total flora (Littlefield and Yahn 2006). The proportion of weeds and exotic plant species in the flora indicate a fairly high degree of disturbance. While this is below the average for percent of non-native plants in Kentucky, the abundance of these non-native species is generally very high (Littlefield and Yahn 2006). Many of these species were planted when the site was reclaimed after strip-mining and are important for soil formation and soil retention on the site.

The Kentucky Exotic Pest Plant Council (KY-EPPC), as part of the Southeast EPPC, considers numerous plant species in Kentucky to be invasive (KY-EPPC 2006). The KY-EPPC was established in 2000 to raise awareness and promote public understanding regarding the threat posed by invasive exotic pest plants to native plant communities in Kentucky. KY-EPPC maintains a list of invasive exotic pest plants for the state of Kentucky. Biological inventories (White et al., 1995, White and Yahn, 2006) identified 51 plant species at WHFRTC that are considered invasive exotic pest plants by the KY-EPPC (EPPC, 2006). These species are listed in **Table 15**. The most problematic species documented at the training site are: musk thistle (*Carduus nutans*), Chinese lespedeza (*Lespedeza cuneata*), Common reed (*Phragmites spp.*), and Johnson grass (*Sorghum halepense*). These species are controlled to some extent at WHFRTC. Since 1996, the exotic musk thistle has been actively controlled with herbicide applications of Roundup, introduction of a native weevil, prescribed fire, and replanting of areas infested with the weed. Populations of musk thistle in TA 3 have been reduced due to the spread and proliferation of native grasses within areas that opened up after a wildfire in 1999.

TABLE 15. INVASIVE/ EXOTIC PEST PLANT SPECIES AT WHFRTC			
KY-EPPC MANAGEMENT PRIORITY	COMMON NAME	SCIENTIFIC NAME	KY-EPPC RATING
Severe Threat	Asian bittersweet Common chickweed Common reed [C*] Chinese lespedeza [C*] Chinese silvergrass Johnson grass [C*] Multiflora rose Musk thistle [C*] Purple crownvetch [P*] Russian olive Tree of heaven	<i>Celastrus Orbiculata</i> <i>Stellaria media</i> <i>Phragmites australis</i> <i>Lespedeza cuneata</i> <i>Miscanthus sinensis</i> <i>Sorghum halepense</i> <i>Rosa multiflora</i> <i>Cardus nutans</i> <i>Coronilla varia</i> <i>Elaeagnus angustifolia</i> <i>Ailanthus altissima</i>	High- monitor, control, do not plant
	Amur (bush) honeysuckle Common chickweed Japanese honeysuckle Nepal grass/Japanese stilt grass Autumn olive White sweet clover Yellow sweet clover	<i>Lonicera maackii</i> <i>Stellaria media</i> <i>Lonicera japonica</i> <i>Microstegium vimineum</i> <i>Elaeagnus umbellata</i> <i>Melilotus alba</i> <i>Melilotus officinalis</i>	Medium- monitor, control if needed, do not plant

TABLE 15. INVASIVE/ EXOTIC PEST PLANT SPECIES AT WHFRTC			
KY-EPPC MANAGEMENT PRIORITY	COMMON NAME	SCIENTIFIC NAME	KY-EPPC RATING
Significant Threat	Common periwinkle Ground ivy Ivy-leaved morning-glory Japanese bristlegrass Kentucky bluegrass Korean lespedeza [P*] Oriental ladythumb Queen Anne's lace Shrubby lespedeza Silktree Smooth brome Spotted ladythumb	<i>Vinca minor</i> <i>Glechoma hederacea</i> <i>Ipomoea hederacea</i> <i>Setaria faberi</i> <i>Poa pratensis</i> <i>Lespedeza stipulacea</i> <i>Polygonum caespitosum</i> <i>Daucus carota</i> <i>Lespedeza bicolor</i> <i>Albizia julibrissin</i> <i>Bromus inermis</i> <i>Polygonum persicaria</i>	Medium- monitor, control if needed, do not plant
Lesser Threat	Alsike clover [P*] Asiatic dayflower Barnyard grass Black medic Chicory [P*] Common self-heal Common yellow oxalis Deadnettle; henbit Deptford pink Garden yellow rocket Lamb's quarters Orange daylily	<i>Trifolium hybridum</i> <i>Commelina communis</i> <i>Echinochloa crus-galli</i> <i>Medicago lupulina</i> <i>Cichorium intybus</i> <i>Prunella vulgaris</i> <i>Oxalis stricta</i> <i>Lamium amplexicaule</i> <i>Dianthus armeria</i> <i>Barbarea vulgaris</i> <i>Chenopodium album</i> <i>Hemerocallis fulva</i>	Low- monitor, do not plant
Kentucky Exotic Pest Plant Council (KY-EPPC, 2000)			
RANK 1. "SEVERE THREAT". Exotic plant species that possess characteristics of invasive species and spread easily into native plant communities and displace native vegetation; includes species that are or could become widespread in Kentucky.			
RANK 2. "SIGNIFICANT THREAT". Exotic plant species that possess characteristics of invasive species but are not presently considered to spread as easily into native plant communities as those species listed as Rank 1.			
RANK 3. "LESSER THREAT". Exotic plant species that spread in or near disturbed areas; and are not presently considered a threat to native plant communities.			
C* = actively controlled at WHFRTC			
P* = planted when necessary at WHFRTC for soil stabilization on previously mined lands			

4.9.2 ANIMAL SPECIES

Two exotic bird species were also documented at the site; the Brown-headed cowbird (*Molothrus ater*) and the European starling (*Sturnus vulgaris*) (White et al. 1995). Cowbird parasitism apparently is contributing to the decline of some songbird populations by reducing the reproductive success of the host species (Natureserve 2006). In the eastern U.S., birds have only recently been exposed to brood parasitism (Mayfield 1977, Brittingham and Temple 1983), and many species lack appropriate responses to minimize the impact of cowbird parasitism. Starlings commonly usurp the nest sites of native cavity-nesting birds (e.g., bluebirds and woodpeckers) (Natureserve 2006). However, an examination of Christmas Bird Count and Breeding Bird Survey (BBS) data found that few, if any, native species have showed significant declines that could be attributed to starling competition (Natureserve 2006). Only sapsuckers exhibited declines potentially attributable to starlings that were not countered by other data (Koenig 2003).

SECTION 5: MISSION IMPACTS ON NATURAL RESOURCES

5.1 CURRENT POTENTIAL IMPACTS

5.1.1 MINIMUM IMPACT TRAINING

Types of training activities that generally have a minimal impact on natural resources at the WHFRTC include: small unit infantry tactics; reconnaissance; terrain and map analysis; escape and evasion tactics; infiltration tactics; land navigation; patrolling; and engineer maintenance, repair, and minor construction project training. Some of these types of training require undisturbed cover to conceal movements. Others utilize existing roads, hardened trails, and infrastructure. As such, the disturbance is no greater than walking through the woods or open areas or driving down a road, and would normally require no extraordinary precautions, limitations or restrictions. Aviation training (rotary wing only) is also considered minimum impact training. Aviation operations tend to be of short duration and relatively quick moving.

Aviation training (nap of the earth, hot and cold refueling, sling load, aerial drop, and simulated aerial spray training) is also considered minimum impact training. Aviation operations tend to be of short duration and relatively quick moving. Based on bird and other biological survey data, no negative impacts on wildlife populations are known. The dense vegetative cover throughout the WHFRTC generally prevents dust and soil erosion problems associated with rotor wind.

5.1.2 MAXIMUM IMPACT TRAINING

Training that disturbs the site's soil and/or vegetation has more potential to impact natural resources at the WHFRTC. Impacts to soil and water resources may have secondary impacts to water quality, fish populations and wildlife. Such disturbances may require corrective actions such as leveling ruts, adding soil, seeding, mulching, and/or installation of erosion control devices, sedimentation structures, or other management practices. Training activities at the WHFRTC that have potential to cause soil or vegetation disturbance include: tactical concealment/ bivouac; off-road cold or wet weather operations; certain cover and concealment training; field fortifications; obstacle training; breaching and clearing operations; mobility and counter mobility operations; and construction activities (military and contracted civilian).

5.2 FUTURE POTENTIAL IMPACTS

As the maneuver areas and TAs at the WHFRTC expand, this document and the expertise of the KYARNG Environmental Office may be used to identify the areas that are best suited for certain types of training. Future mission planning requirements can be determined through a multidisciplinary team approach that identifies resource management goals, establishes management objectives to meet those goals, and then determines specific practices that can be implemented to achieve the objectives and goals. Since the INRMP is a living document, specific natural resources in specific areas may be addressed, modifying or adding to existing goals and objectives of the INRMP, and the document updated as needed.

The ultimate goal of this INRMP, as well as its subsequent additions or revisions, is to ensure continuous military training capability for the KYARNG, while managing for the mutual sustainability of the natural resources at the WHFRTC. The development and implementation of an active ecosystem management program will accommodate the KYARNG's training mission, while emphasizing a holistic, adaptive management style that focuses on maintaining biological diversity. Future development of the WHFRTC to meet the training needs of the KYARNG is summarized in **Section 2.0**. The primary environmental impacts associated with training site development will be to soil arising from construction of buildings, tank trails and ranges. Associated with these is the potential for impacts to surface water and wetland resources. Specific impacts from training site development are reviewed in separate NEPA documents.

Natural resource management techniques, policies, and procedures identified in this plan will be used to facilitate development for military training while minimizing environmental impacts. With the exception of areas specifically marked as off-limits (area north of Training Area 4), the entire WHFRTC are available to support training of one type or another within the capability of the land. Jurisdictional wetland delineations and archeological surveys will be completed prior to any land disturbing development. These surveys, along with general natural resource management practices identified in this plan, will enable the KYARNG to successfully develop the training site to meet mission requirements. Adequate advance planning and design in support of training site development will minimize impacts from the military mission on natural resources and provide for long term sustainability of the land to support training.

Once the training site is fully developed, the ongoing training may result in some vegetation and soil disturbance. The training site will be managed in accordance with the land and ecosystem ability to support such disturbance. In TAs receiving high amounts of disturbance, erosion control measures, such as silt basins and vegetative filter strips, will be implemented. Soil disturbance will be monitored and land rehabilitation projects initiated to restore damaged areas. Disturbed areas will be leveled and vegetated and the areas rested until capable of supporting training again. Training also has the potential to impact wetlands and cultural sites. These areas will be delineated and designated as restricted access areas, or other training-related obstacles, as a way to keep them from being disturbed. Off road vehicle traffic is permitted in accordance with soil conditions. Tracked vehicle trails and roads are regularly used and off road traffic is permitted on a site-specific basis when the soil conditions are conducive to support such traffic. Disturbance to vegetation is expected to be minor. Hardened bivouac sites are used when possible, and troops are not permitted to cut standing trees for cover. Other techniques, such as covering tree root areas with mulch can be used to minimize soil compaction and root damage in heavily trafficked areas. Once the training site is fully developed and managed, the actual military training is anticipated to have minimal, if any, negative impacts on natural resources.

Non-training activities that disturb natural resources include facility maintenance and new construction. Maintenance consists of vegetation control (mostly mowing) around active fence lines, power lines, railroad tracks, roadside ditches, buildings, road surfaces, parking lots, ranges, ponds, and wildlife management areas. Herbicides are used to augment and support vegetation control efforts and in areas where mowing is not possible or appropriate. Controlled burning is used on ranges to maintain grassland habitat conducive to range operations and occasionally in other areas exclusively for grassland habitat management. Controlled burns are done in conjunction with KYARNG Fire and Rescue. New construction has a permanent impact on natural resources by totally modifying the landscape within the construction zone and where the structure or facility is constructed. Construction has the potential for temporary impacts to soil and surface water quality from erosion. Impacts are expected to be negligible because the KYARNG has such vast habitat; projects are sited in areas with the least potential for negative impact to the environment; and erosion control measures are implemented during construction. Occasionally, small amounts of timber must be salvaged as part of a demolition or construction project. All operations are done in accordance with the requirements of this plan and soil erosion control and stabilization practices are used. All bare earth areas are seeded with native grass seed mixes.

5.3 NATURAL RESOURCES NEEDED TO SUPPORT THE MILITARY MISSION

The KYARNG requires a mixture of open and forested land areas to support military training requirements. Realistic training is dependent upon an intact natural setting. Degraded training lands, soil erosion, degraded forests, and silted streams may limit or prevent sustainable long-term training. Degradation of natural resources results in inadequate training, impaired readiness, and wasted training dollars. Maintaining healthy ecosystems keeps the training land continuously available for use by soldiers. Healthy ecosystems are resilient and can support long term training needs. The KYARNG needs the land and its natural resources to function together in a healthy ecosystem, to support training.

5.4 NATURAL RESOURCES CONSIDERATIONS FOR MISSION PLANNING AND INITIATION

The primary goal of this INRMP is to manage natural resources to support the military mission in a manner consistent with sound conservation principles and in compliance with federal and state laws, army regulations and policies. Training success is only possible through a supportive, proactive natural resource management program. The KYARNG natural resource management program aims to minimize the impacts of normal training use on natural resources, and complements the doctrinally required military training conducted. Proper execution of the INRMP provides sustainable training lands, and provides adaptive means of dealing with normal training impacts, thereby protecting natural resources. Many features of this plan contribute to its ability to provide sustainable training lands. Some of these features are techniques, practices and procedures, which include immediate repair and restoration of terrain damage, "resting" repaired terrain while vegetation is re-established, minimizing off-road vehicle activity when soil is saturated, posting wetlands as no-go areas, and establishing rotational use of field bivouac sites. Other features provide for "hardening" of areas frequently used for training, to minimize impacts on natural resources within the surrounding areas. Permanent stream crossing sites are another example of these Best Management Practices (BMPs), which minimize damage to vegetation, soil loss, erosion, and sedimentation. Natural resources management will facilitate the accomplishment of the military mission.

Ideal times to schedule training from a climate perspective would be from May to October, when rainfall is at its lowest for the year. Maneuver damage (ruts, disturbed vegetation, and bare soils) caused during this training period would be exposed to minimal erosion factors (wind and rain) during these months. Areas needing rehabilitation can then be revegetated in the late fall, when rainfall increases and soils are trafficked less.

Training at the WHFRTC is conducted in accordance with KYARNG Regulation 350-7, "Training Site Regulation, Wendell H. Ford Regional Training Center" (KYARNG 1997). Chapter 10 of the Regulation includes environmental management protection and conservation policies and procedures (**Appendix E**). Refer to **Section 6.0** for additional information on how to properly manage natural resources limitations during mission planning. Laws and regulations that pertain to these natural resources are also incorporated into **Section 6.0**.

Unit Commanders who desire to train at WHFRTC are required to complete an Environmental Pre-Activity Survey for training activities. KYARNG is planning to update the survey in the near future. A sample survey form is provided in **Appendix F**. The survey must be sent through the Training Site Commander to the Environmental Program Manager before the planned training may be conducted. The Environmental Program Manager will evaluate the survey, determine ways to minimize the impacts of the training, and determine if permits are needed to conduct the described training. The survey is signed and sent to the unit with a list of requirements to conduct the training while minimizing impacts to the environment. If significant changes or additions are made to the training plans, an additional survey must be submitted describing the new training. This system emphasizes preventing rather than repairing damage to the training site.

SECTION 6: NATURAL RESOURCES PROGRAM MANAGEMENT

6.1 NATURAL RESOURCES PROGRAM MANAGEMENT

Per DoD Supplemental Guidance, the 2003 INRMP was reviewed “as to operation and effect,” to determine whether it is developed per NGB and Army policy, meets the intent of the Sikes Act, and contributes to the conservation and rehabilitation of natural resources on military installations. Intra- and inter-agency cooperation, coordination, and communication at the Federal, State and local levels (for example, USFWS and KDFWR) are requisite to the success of the updated INRMP. The USFWS and KDFWR review the plan and concur with its contents. Concurrence from the USFWS on this updated INRMP is provided in a letter dated 10 June 2010. Concurrence from the KDFWR on this updated INRMP is provided in a letter dated 5 May 2010 (**Appendix B**).

6.1.1 ADMINISTRATIVE AND TECHNICAL SUPPORT

The Natural Resources Program at the WHFRTC is administered by the KYARNG Environmental Program Manager, located in Frankfort, Kentucky, whose responsibilities are listed in **Table 16**. The Environmental Program Manager also receives support from the Environmental Office staff, each of whom has significant duties in addition to natural resources support.

TABLE 1611. RESPONSIBILITIES OF THE KYARNG ENVIRONMENTAL PROGRAM MANAGER	
RESPONSIBILITY	
1	Implement this updated INRMP.
2	Provide oversight and coordination with other agencies.
3	Coordinate with the SRP Coordinator to ensure sustainable management of training lands.
4	Develop and implement programs to ensure the inventory, delineation, classification, and management of wetlands, scenic areas, endangered and threatened species, sensitive and critical habitats, and other natural resource areas of special interest.
5	Provide for the training of natural resources personnel.
6	Maintain natural resources management records.
7	Review NEPA documents, remedial action plans, construction designs and proposals to ensure adequate natural resource protection and consideration of technical guidance presented in this updated INRMP.
8	Evaluate training mission impacts and provide guidance to trainers.
9	Coordinate the Cultural Resources program and Section 106 compliance.
10	Coordinate with local, State, and Federal governmental and civilian conservation organizations with respect to the WHFRTC natural resources management program.
11	Coordinate hunting and fishing programs.
12	Implement and execute AR 200-1.
13	Assist the Adjutant General in prioritizing natural resources and compliance funding.
Source: KYARNG	

6.1.2 COOPERATIVE AGREEMENTS AND TECHNICAL ASSISTANCE

Specialized expertise is often required to adequately manage KYARNG natural resources. Technical assistance will be sought from Federal and State agencies, universities, and special interest groups. Intra- and inter-agency cooperation, coordination, and communication at the Federal, State and local levels are requisite to the success of the INRMP. The Environmental Program Management Office has a strong relationship with such groups. Additional labor resources may include Federal and State agencies, State agencies; Local and regional Universities; Scouting groups; and Special interest groups (for example, Audubon Society, Boy Scouts, and sportsmens' clubs).

6.1.2.1 FEDERAL AGREEMENTS

The DoD and subcommand entities have memorandums of agreement (MOA), MOUs and other cooperative agreements with other federal agencies, interest groups, and various state agencies in order to provide assistance with natural resources management at installations across the United States. Generally, these agreements allow installations and agencies or interest groups to obtain mutual conservation objectives. The DoD agreements applicable to the WHFRTC are listed in **Table 17**. A copy of these agreements is maintained by the Environmental Program Manager.

TABLE 17. DEPARTMENT OF DEFENSE COOPERATIVE AGREEMENTS APPLICABLE TO WHFRTC			
TYPE		COOPERATING AGENT	SUBJECT
1	MOU	USFWS	Ecosystem-based management of fish, wildlife, and plant resources on military lands
2	Cooperative Agreement	The Nature Conservancy	Assistance in natural resources inventory
3	MOA	National Biological Service of the Department of the Interior	Professional and Technical Assistance Conducting Biological Surveys, Research and Related Activities
4	MOU	USEPA	Integrated Pest Management (IPM)
5	MOA	Over 110 Federal and State agencies and non-governmental organizations	Federal Neotropical Migratory Bird Conservation Program (Agreement is among DoD, and through each of the Military Services)
6	MOU	U.S. Department of Agriculture, Natural Resources Conservation Service	Watershed and Environmental Enhancement of U.S. Army Installations (Agreement is with U.S. Army Environmental Center)
7	Interagency Agreement	U.S. Department of the Interior, USFS	Natural and Cultural Resources Support to ARNG Installations (Agreement is with ARNG)
8	MOU	Ducks Unlimited, Inc.	Cooperative development of selected wetlands and associated uplands to maintain and increase waterfowl populations and fulfill objectives of the North American Waterfowl Management Plan, within the context of DoD's environmental security and military missions
9	MOU	Bureau of Land Management, USFWS, National Park Service (NPS), Bureau of Reclamation, USFS, Defenders of Wildlife, Izaak Walton League, National Audubon Society, National Wildlife Federation.	Watchable Wildlife Programs

6.1.2.2 STATE AND LOCAL AGREEMENTS

The WHFRTC INRMP is reviewed and signed by the KDFWR and in a sense functions as a cooperative agreement. It is a cooperative plan that identifies how the KDFWR and the KYARNG will work together to meet mutual conservation objectives.

The coordination and regulation of hunting and fishing at the training site is through a joint effort of both WHFRTC and KDFWR. Persons eligible to hunt at WHFRTC must obtain both the Kentucky general state hunting and fishing licenses, as well as the WHFRTC site permits.

6.1.2.3 FEDERAL AGENCY COORDINATION AND TECHNICAL ASSISTANCE

U.S. Army Corps of Engineers - The USACE issues Section 401 and 404 permits. The KYARNG works closely with the USACE-Louisville District in any permitting or planning efforts during FY 2003. The WES is headquarters for the U.S. Army Engineer Research and Development Center (ERDC). WES assists KYARNG with wetland management and mapping. The Station produced a comprehensive wetland PLS of WHFRTC, including values and functions of wetlands and recommendations for management. A supplement to the wetland PLS was conducted in 2005 for TA 7 and 8,

U. S. Fish and Wildlife Service - The USFWS is the principal federal agency responsible for conserving, protecting, and enhancing fish and wildlife and their habitats for the continuing benefit of the American people. The agency also enforces federal wildlife laws, manages migratory bird populations, conserves and restores wildlife habitat such as wetlands, and administers the ESA. USFWS is a cooperating agency in development of this plan. The agency is responsible for reviewing the INRMP and providing guidance on federally listed species, species of management concern, and wetland management. **Appendix B** contains coordination with agencies for the protection and management of fish and wildlife at the WHFRTC.

Natural Resources Conservation Service - The NRCS has been an active partner in assisting the KYARNG to manage the natural resources on the training site. In 1994, the NRCS developed a resource conservation plan for the site. After identifying problem areas, the NRCS then produced an engineering design, construction/material specifications and estimated costs for the highest priority erosion site on the WHFRTC. NRCS will continue to be a major partner in the LRAM program. This support is provided through the MOU listed in **Section 6.1.2.1**.

U.S. Forest Service - The USFS can assist the KYARNG in conducting timber inventories and developing tree planting specifications through the Interagency Agreement between the ARNG and the USFS. The USFS can also assist the KYARNG in conducting a forest inventory for WHFRTC and providing guidance for forest management.

National Weather Service - The National Weather Service provides federal and state land management agencies fire weather information for the prevention, suppression, and management of forest and rangeland fires. The National Weather Service Forecast Office in Jackson (<http://www.crh.noaa.gov/pah/>) provides year-round weather forecasts for eastern Kentucky. Routine fire weather forecasts are issued daily for Muhlenberg County, and are available at:
<http://forecast.weather.gov/MapClick.php?zoneid=KYZ021>.

6.1.2.4 STATE AGENCY COORDINATION AND TECHNICAL ASSISTANCE

Kentucky Environmental and Public Protection Cabinet - The Environmental and Public Protection Cabinet protects Kentucky's environment and manages natural resources through the programs of the Department for Environmental Protection (KDEP) and Department for Natural Resources (KDNR).

- **Department for Environmental Protection** - The Division of Water, Division for Air Quality, Division of Waste Management, and Division of Environmental Services make up the Kentucky Department of Environmental Protection. The Division of Water issues "Water Quality Certification Permits" for any activity that involves the alteration of Waters of the State. The Division for Air Quality issues air quality permits.

- **Department of Natural Resources** - Within the KDNR, the Division of Forestry can provide forest stewardship assistance to the KYARNG staff in case of wildfire on the property. The KDOF has assisted, and will continue to assist, the KYARNG in conducting timber inventories and developing tree planting specifications.

The Division raises native tree seedlings that may be suitable for KYARNG planting needs. Tree seedlings available in Kentucky include white oak, black oak (*Quercus velutina*), northern red oak, pin oak (*Quercus palustris*), cherrybark oak (*Quercus pagoda*), black walnut, white and green ash (*Fraxinus pennsylvanica*), sycamore, yellow poplar, black locust (*Robinia pseudoacacia*), bald cypress (*Taxodium distichum*), shortleaf pine (*Pinus echinata*), white pine, and Virginia pine. Also within the KDNR, the Division of Conservation provides assistance to implement sound soil and water management practices.

Kentucky Department of Fish and Wildlife Agency Resources - The KDFWR is within the Kentucky Tourism Cabinet. KDFWR and USFWS were both consulted during development of this plan. The KDFWR District Ranger assists the KYARNG in enforcing state game regulations, including the MOU discussed in **Section 6.1.2.2**. Appendix B contains coordination letters from both federal and state fish and game agencies for protection of fish and wildlife resources at WHFRTC.

Kentucky State Nature Preserves Commission – The KSNPC has a mission to protect Kentucky's natural heritage by (1) identifying, acquiring, and managing natural areas that represent the best known occurrences of rare native species, natural communities, and significant natural features in a statewide nature preserve system; (2) working with others to protect biological diversity; and (3) educating Kentuckians as to the value and purpose of nature preserves and biodiversity. The KSNPC will continue to assist KYARNG in performing rare species and natural community consultations. KSNPC provides necessary expertise to the RTLA program by assisting with plant and animal identification.

Kentucky Heritage Council - The Kentucky Heritage Council will ensure this plan is implemented in accordance with cultural resources management laws and regulations. This agency and the State Historic Preservation Officer (SHPO) have reviewed this plan, and will provide a letter of cooperation following the final review. **Appendix B** contains coordination with agencies for protection and management of cultural resources at the WHFRTC.

The University of Kentucky – Through the University of Kentucky, the Kentucky Geological Survey (KGS) assists the KYARNG in conducting surface and ground water quality and quantity monitoring at all Kentucky training sites. The KYARNG also coordinates closely with the State Archaeologist and staff at the Kentucky Archaeological Survey at the University of Kentucky.

6.2 GEOGRAPHIC INFORMATION SYSTEMS

6.2.1 BACKGROUND

GIS is a computer system capable of assembling, storing, manipulating, and displaying geographically referenced information. Within the ITAM Program, GIS technology is used to create, analyze, display, and print information about training land in support of training (DA 1999).

GIS is most commonly used to create maps by overlaying multiple data layers, for example training area boundaries, roads, streams, wetlands, and so forth. However, a more valuable application of GIS software (ArcView, ArcInfo, or ArcGIS) is the ability to perform data analysis. Simple analyses on data layers have the ability to generate reports that might, for example, show the number of acres of wetlands within a training area. More detailed analyses can also involve use of multiple data layers and numeric functions to create new data layers. For example, in order to select the most appropriate location for a trail, a data layer could be produced showing all areas, excluding wetlands or areas within streamside management zones.

GIS is a tool that natural resource managers use to analyze and evaluate the condition and capabilities of training lands. GIS also allows the information collected by the environmental office to be communicated to the trainer via computer (and vice versa). This supports the planning and scheduling component of military training.

The data entered into the training site's database has many different uses. Of primary interest to the users of WHFRTC is the application of data to produce overlays of particular areas of the training site to get a snap-shot of what is happening within that portion of the site. Satellite imagery and aerial photography can be used to create a geo-referenced raster image and superimposed on a map of the site's training areas and training facilities using GIS. Trainers can use GIS-generated maps to plan maneuvers since terrain, topography, and vegetation can be portrayed on each map at or above the original scale of the input data.

6.2.2 KYARNG GIS

The KYARNG is in the process of developing its GIS facilities and skills at the Environmental Office in Frankfort and the WHFRTC, both of which will serve the KYARNG throughout the entire Commonwealth of Kentucky.

The KYARNG GIS program was implemented in 1997, when ArcView software and computer hardware for data management were acquired in the Environmental Office in Frankfort, Kentucky. To date, most core databases, or map layers, for WHFRTC have been completed [aerial photography, contour lines, grid scale, installation boundary, political boundary (county), roads, hydrology (rivers, streams, and ponds), wetlands inventory, soils, and vegetation cover]. Additional data layers needed include: erosion control structures, bivouac sites, constraints to training, crossing sites/ ford sites, LRAM projects, and sensitive species locations. Computer hardware and software have been acquired for statewide use.

6.3 FISH AND WILDLIFE MANAGEMENT

The KYARNG will maintain optimum and diverse fish and wildlife habitat by integrating fish and wildlife management strategies with other ecosystem management activities such as training area and forest management. Laws, regulations, and EOs pertaining to fish and wildlife management are listed in **Table 18**. These documents are described in **Appendix E**.

TABLE 18. LAWS, REGULATIONS, AND EXECUTIVE ORDERS APPLICABLE TO FISH AND WILDLIFE MANAGEMENT AT WHFRTC	
Requirement	Title
Law	Clean Water Act (33 USC §1341)
	Endangered Species Act, 7 U.S.C. 136;16 U.S.C. 460 et seq. (1973) as amended
	Fish and Wildlife Conservation Act (USC §2901 et seq.)
	Fish and Wildlife Coordination Act, as amended (16 USC §661 et seq.)
	The WHFRTC is a state-owned facility and is not directly subject to the Sikes Act " <i>Conservation Programs on Military Reservations</i> " (16 U.S. Code (USC) §670a et seq.), as amended. However, Army policy is to follow DoD and ARNG guidance on state-owned facilities.
	Migratory Bird Treaty Act, as amended (16 USC §703-712)
	National Environmental Policy Act (42 USC §4321 et seq.)
Code of Federal Regulations	50 CFR 21, Migratory Bird Permits
Executive Order	EO 11990, Protection of Wetlands
	EO 11988, Floodplain Management
	EO 13186, Responsibilities of Federal Agencies to Protect Migratory Birds

TABLE 18. LAWS, REGULATIONS, AND EXECUTIVE ORDERS APPLICABLE TO FISH AND WILDLIFE MANAGEMENT AT WHFRTC	
Requirement	Title
Kentucky Regulations	KRS 146 Natural Resources
	KRS 150 Fish and Wildlife Resources
	KRS 224 Environmental Protection

Fish and wildlife management at WHFRTC is coordinated through the KYARNG Environmental Office in Frankfort, KY. The training site has its own environmental staff including a fish and wildlife manager, an environmental site manager, and an ITAM coordinator. Prior to 2001, public access to WHFRTC was less restrictive than it is currently. Due to national security requirements, the site is not open to the general public for hunting and fishing.

6.3.1 GAME AND FISH POPULATIONS

General fish and wildlife management is accomplished in conjunction with the military mission and training activities. Inventory and monitoring of terrestrial habitats, wetlands and aquatic habitats, game populations, non-game populations, and threatened and endangered species are primarily conducted as Planning Level Surveys.

6.3.2 MIGRATORY AND BREEDING BIRDS AT WHFRTC

Considerations with regard to migratory bird management are: compliance with the Migratory Bird Treaty Act (MBTA); implementation of migratory bird management actions in accordance with EO 13186, *Responsibilities of Federal Agencies to Protect Migratory Birds*; and support, contribution and compatibility with the goals and efforts of numerous regional migratory and game bird conservation programs.

Virtually all birds that occupy the WHFRTC throughout the year are protected under the MBTA. The MBTA controls many actions that may negatively affect migratory birds, particularly collection and transportation of birds. Special purpose permits may be requested and issued that allow for the relocation or transport of migratory birds for management purposes.

Incidental taking of migratory birds is regulated in 50 CFR 21, Migratory Bird Permits. Part 21.15, Authorization of Take Incidental to Military Readiness Activities, effective 28 February 2007, allows incidental take by DoD in the course of military readiness activities under certain conditions specified in paragraph (a) (Take Authorization and Monitoring).. Except to the extent authorization is withdrawn or suspended pursuant to paragraph (b) of this section, the Armed Forces may take migratory birds incidental to military readiness activities provided that, for those ongoing or proposed activities that the Armed Forces determine may result in a significant adverse effect on a population of a migratory bird species, the Armed Forces must confer and cooperate with the USFWS to develop and implement appropriate conservation measures to minimize or mitigate such significant adverse effects. When conservation measures implemented under paragraph (a)(1) of this section require monitoring, the Armed Forces must retain records of any monitoring data for five years from the date the Armed Forces commence their action. During INRMP reviews, the Armed Forces will also report to the USFWS migratory bird conservation measures implemented and the effectiveness of the conservation measures in avoiding, minimizing, or mitigating take of migratory birds.

It is DoD policy to promote and support a partnership role in the protection and conservation of migratory birds and their habitat by protecting vital habitat, enhancing biodiversity, and maintaining healthy and productive natural systems on DoD lands consistent with the military mission. The Partners in Flight (PIF) program is an umbrella network of which DoD's bird conservation program is a vital part. DoD works with the National Fish and Wildlife Foundation to develop cooperative programs and projects with other federal, state, and non-governmental organizations. Migratory birds include species with at least some

populations breeding in the United States and/or Canada, for example songbirds, shorebirds, waterbirds, and waterfowl. Attention has centered on migrants, since this group is experiencing steep rates of population declines. However, decreasing populations have also been observed in resident bird species, which do not migrate, and temperate-zone migrants, which only migrate within North America.

PIF encourages state and federal agencies and non-governmental organizations to participate in BBS, off-road point counts, Monitoring Avian Production Survivorship (MAPS), and migration monitoring stations. It is important to note that BBS record birds only seen during the nesting season, and do not account for birds in the area at other times of the year. Also, birds occurring in extremely low densities, or in cyclic years, may be missed.

The Kentucky Comprehensive Wildlife Strategic Action Plan lists 14 bird species that have been identified as Kentucky bird species of greatest conservation need within the state (KCWCS 2005). These bird species receive extra funding for habitat improvements, general research and funding towards the implementation of measures needed to monitor the status of a species and their habitats. These measures were developed along with research and survey needs, ongoing efforts, and future conservation plans. Priority Conservations Areas were also identified where many of these species can be found in relatively small regions.

Some waterfowl species may also require some management attention. In 1981, Peabody Coal Company relocated approximately 80 giant Canada geese (*Branta canadensis*) to the site from Chicago. More than 20 years later, the geese are still thriving and return to the site each year to nest. Canada geese respond well to the provision of artificial nest sites and to grazing habitat adjacent to waterbodies (Green and Salter 1987). Other species that may benefit from Canada geese habitat management include ducks and a variety of other waterfowl. Twenty-five (25) wood duck boxes have been installed along pond and lake sides, 30 bluebird boxes have been installed along powerline right-of-ways, and several hawk perches have been set up near planted tree seedlings to discourage small mammals from destroying the seedlings.

6.3.3 NUISANCE WILDLIFE AND WILDLIFE DISEASES

When an animal causes damage to government property, it can be a health or safety risk to humans or other animals, a disruption to normal ecosystem function, or considered a nuisance. Currently, WHFRTC has two species that are considered to be a nuisance at the training site: brown-headed cowbirds and European starlings. Nuisance control is implemented as needed to maintain the species population at acceptable levels. Other common nuisance animals in the region are feral cats (*Felis sylvestris catus*), pigeons (*Columba livia*), raccoons, muskrats (*Ondatra zibethicus*), coyotes, feral hogs (*Sus scrofa*), and beaver (*Castor canadensis*). With the exception of feral cats, these animals are not always considered a nuisance.

Diseases affecting fish and wildlife may periodically occur at the training site. As outlined in AR 200-1, personnel will consult with appropriate Army Veterinary Corps personnel regarding large-scale fish and wildlife deaths and unnatural behavior occurring at WHFRTC.

Mosquitoes and ticks can occur in large numbers from spring to fall at WHFRTC. The KYARNG Integrated Pest Management (IPM) Plan covers management of these pests.

6.4 MANAGEMENT OF THREATENED AND ENDANGERED SPECIES

This section presents information about the management of sensitive species that are located or may be potentially be located at WHFRTC, and the requirements and strategies for management. A complete description of the training site's federal and/or state threatened and endangered species is detailed in Section 4.8.

One federally listed endangered species has been identified at WHFRTC, the gray bat. No designated critical habitat is found within WHFRTC or Muhlenberg County for any of the federally listed species known to occur in Kentucky. Due to historical mining activities at WHFRTC, habitat has changed.

Potential suitable habitat could exist for some federally and state listed threatened and endangered species.

Laws and regulations pertaining to the management of threatened and endangered species are included in **Table 19**. These laws and regulations are further described in **Appendix E**.

TABLE 19. LAWS, REGULATIONS, AND EXECUTIVE ORDERS APPLICABLE TO THREATENED AND ENDANGERED SPECIES MANAGEMENT AT WHFRTC	
REQUIREMENT	TITLE
Law	Endangered Species Act, 7 U.S.C. 136;16 U.S.C. 460 et seq. (1973) as amended
	The WHFRTC is a state-owned facility and is not directly subject to the Sikes Act “ <i>Conservation Programs on Military Reservations</i> ” (16 U.S. Code (USC) §670a et seq.), as amended. However, Army policy is to follow DoD and ARNG guidance on state-owned facilities.
	Migratory Bird Treaty Act, as amended (16 USC §703-712)
	Bald Eagle Protection Act of 1940 (16 U.S.C. 668-668d, 54 Stat. 250);
Code of Federal Regulations	50 CFR 21, Migratory Bird Permits
Executive Order	EO 11990, Protection of Wetlands
	EO 11988, Floodplain Management
Kentucky Regulations	KRS 146 Natural Resources
	KRS 150 Fish and Wildlife Resources
	KRS 224 Environmental Protection

The NDAA of 2004 made a significant revision to the ESA. NDAA stated that, “The Secretary [of the Interior] shall not designate as critical habitat any lands or other geographical areas owned or controlled by the Department of Defense, or designated for its use, that are subject to an integrated natural resources management plan prepared under section 101 of the Sikes Act (16 U.S.C. 670a), if the Secretary determines in writing that such plan provides a benefit to the species for which critical habitat is proposed for designation.” Under the 2004 NDAA, a military installation may have its INRMP obviate the need for critical habitat designation if the INRMP provides a benefit to listed species, and manages for the long-term conservation of the species.

The KYARNG will manage threatened and endangered species and Kentucky Species of Conservation Concern primarily by avoiding sensitive areas during training, preventing damage to sensitive areas, and rehabilitating damaged areas. Informal consultation is completed with the USFWS on activities at WHFRTC as required. Neither a separate biological assessment nor a separate formal consultation is necessary for this updated INRMP.

In cases where endangered species management and mission activities conflict, consultation with the USFWS and the KDFWR (as appropriate) would be initiated to avoid jeopardizing any listed species. The KYARNG is required to manage federally listed threatened and endangered species. Failure to protect federally listed species could lead to an ESA violation, which could negatively impact training land availability.

6.4.1 FEDERALLY LISTED SPECIES

The endangered gray bat is the only federally listed species known to occur at WHFRTC. In 1993, the gray bat was captured during mist-netting surveys over Cypress Creek. Bat surveys conducted in 2002 did not result in capture of gray bats.

Federally listed fauna species with known occurrences in Muhlenberg County, Kentucky include: threatened piping plover (*Charadrius melodus*), the threatened copperbelly water snake (*Nerodia erythrogaster neglecta*), and three endangered species of bivalves: fanshell mussel (*Cyprogenia stegaria*), Purple cat's paw pearly mussel (*Epioblasma obliquata obliquata*), and rough pigtoe (*Pleurobema plenum*).. The bald eagle (*Haliaeetus leucocephalus*) was formerly a federally threatened species found in Muhlenberg County. The eagle was officially delisted 8 August 2007. While the bald eagle is no longer protected by the ESA, it remains protected by the Bald and Golden Eagle Protection Act and the MPTA. While the USFWS does not have occurrence records for the federally endangered Indiana bat (*Myotis sodalis*) within Muhlenberg County, suitable habitat for the species is found at WHFRTC and surrounding areas (USFWS, 2008).

At present, there are no federally listed plant species in Muhlenberg County. In the event that any of the species described above are identified within the WHFRTC property boundaries, the KYARNG will initiate consultation with the USFWS to identify appropriate conservation and management strategies. The need for additional flora and fauna surveys will be determined in consultation with the USFWS, KDFWR and other conservation-based agencies based upon planned site activity.

Descriptions of the federally listed species known to occur at WHFRC or in Muhlenberg County are discussed in greater detail in the following sections.

6.4.1.1 GRAY BAT

The gray bat is the only federally listed species known to occur at WHFRTC.

Information sources for this section include the Kentucky Bat Working Group (www.biology.eku.edu/bats/graybat.htm), USFWS (www.fws.gov/southwest/es/Oklahoma/graybat.htm), and the Arkansas Game and Fish Commission (www.agfc.com/wildlife-conservation/endangered/bat-gray.aspx).

The gray bat was listed by the USFWS as an endangered in 1976. At this time, critical habitat has not been designated for the bat species.



PHOTO SOURCE: KENTUCKY BAT WORKING GROUP

The gray bat is a medium-sized bat with a wingspan of 10 to 11 inches (25-28 cm). It has grayish-brown fur and is the only bat in its range with unicolored dorsal hairs. The dorsal hairs of other bats within its range are bi- or tricolored. The wing membrane of the gray bat connects at the ankle instead of the base of the first toe as in other members of the genus *Myotis*.

Gray bats migrate each year between winter and summer caves. Mating occurs at winter caves in September. After copulation, females enter hibernation - males and juveniles continue feeding for several weeks. By early November, most gray bats are in hibernation. Adult females begin to emerge in late March, followed by juveniles and adult males. Females store sperm during the winter and become pregnant after emerging in the spring. A single offspring is born in late May or early June. Young begin to fly 20 to 25 days after birth. Gray bats feed on flying insects over bodies of water. Mayflies make up the major part of their diet.

Gray bats almost always roost in caves year-round. Historically, hibernation caves could contain well over a million individuals. Summer colonies can reach 250,000 individuals. Gray bats have very specific cave requirements. As a result, fewer than five percent of available caves are suitable. Winter caves must be very cold with a range in temperature between 42° and 52°F (6-11 °C). Winter caves are deep with vertical walls. Summer caves must be warm (57-77°F or 14-25°C) or with restricted rooms that can trap the body heat of roosting bats. Summer caves are located close to rivers or lakes where the bats feed. Bats are known to range at least 12 miles (20 km) from their colony to feed.

Gray bat distribution is limited to limestone cave areas of the southeastern United States. Major populations are found in Alabama, Arkansas, Kentucky, Missouri, and Tennessee. Smaller populations also occur in portions of Florida, Georgia, Kansas, Indiana, Illinois, Oklahoma, Mississippi, Virginia, and possibly North Carolina.

The population is estimated at more than 1.5 million; however, about 95 percent hibernate in only eight caves—two in Tennessee, three in Missouri, and one each in Kentucky, Alabama and Arkansas. This makes the population extremely vulnerable.

Gray bat numbers decreased significantly during recent decades—61 percent in Arkansas, 89 percent in Kentucky, 81 percent in Missouri and 76 percent in Tennessee and Alabama. The population is now on the upswing, though, as a result of improved breeding success due to better protection measures such as cave gates, fences and informational signs near caves.

The gray bat is extremely vulnerable to human disturbances at roosting caves. This is especially true at hibernation and maternity caves. The gray bat is also threatened by pesticides, loss of habitat due to flooding by man-made impoundments, commercializing of caves, and improper gating of caves. Human disturbance at winter caves is energetically costly for bats and can significantly decrease their chances of surviving the winter. Disturbance of maternity caves in the summer can cause large-scale mortality of flightless young. Gates, fences, and signs are often used to keep people out of active gray bat caves.

The top recovery tasks for the gray bat include: 1) acquiring and protecting caves; 2) controlling habitat destruction; and 3) educating the public about the danger human disturbance represents to the bat and about the ecological importance of the gray bat.

6.4.1.2 PIPING PLOVER

This species is known to occur in Muhlenberg County, but has not been observed at WHFRTC to date. Based on historical mining activities at WHFRTC and alterations to the lands, the potential for the piping plover to be present is low.

Information sources include USFWS (www.fws.gov/northeast/pipingplover) and eNature.com (www.enature.com/fieldguides).

The piping plover became a protected species under the ESA in January of 1986. It has dual classification as both a threatened and an endangered species throughout its range in the United States. It is considered a migrant species in Kentucky.



PHOTO SOURCE: NATURESERVE 2007

The piping plover is a small, stocky, sandy-colored bird resembling a sandpiper. The adult has yellow-orange legs, a black band across the forehead from eye to eye, and a black ring around the base of its neck. Like other plovers, it runs in short starts and stops. When still, the piping plover blends into the pale background of open, sandy habitat on outer beaches where it feeds and nests. The bird's name derives from its call notes, plaintive bell-like whistles which are often heard before the birds are seen.

Piping plovers return to their breeding grounds in late March or early April. With the rapid expansion of summer resorts and other development along the Atlantic Coast and the Great Lakes shorelines, many of the former nesting sites have been destroyed. Human-related activity on beaches has also proven detrimental to this species. In 1985, the Great Lakes breeding population had been reduced to just 17 pairs, and their only breeding grounds, once spread over eight states, were in northern Michigan. Currently their numbers are on the rise. Efforts are being made to protect both breeding habitat and wintering habitat (which is mainly along the Gulf coast) for this shorebird.

6.4.1.3 COPPERBELLY WATER SNAKE

This species is known to occur in Muhlenberg County, but has not been observed at WHFRTC to date. Although this snake has not been recorded at WHFRTC during faunal surveys, potential habitat for the snake is present.

General information for this species was adapted from USFWS (www.fws.gov/midwest/endangered/reptiles). The copperbelly water snake was listed as threatened by the USFWS in February of 1996. The population of copperbelly water snakes that live in southern Michigan, northeastern Indiana, and northwestern Ohio has been listed as threatened.



**PHOTO SOURCE: JIM HARDING,
MICHIGAN DEPT. OF NATURAL
RESOURCES**

Another population of the water snakes lives in southwestern Indiana and adjacent Illinois and Kentucky, and southeastern Indiana. This population is not listed as threatened, but is protected by conservation agreements with State Departments of Natural Resources, various other State agencies, and coal companies. Copperbelly water snakes have a solid dark (usually black) back with a bright orange-red belly. They grow to 3 to 5 feet in length. They are not poisonous. These snakes live in lowland swamps or other warm, quiet waters. Upland woods are used as winter hibernation. The snakes feed on frogs, tadpoles, crayfish, and small fish. During migration, snakes are vulnerable to predation, especially when their migration routes are interrupted by cleared areas, such as roads, mowed areas, and farmlands. Young snakes are born in the fall near or in the winter hibernation site. The average litter size is 18 young.

The snakes have declined mainly because of the drainage and filling of their lowland swamp habitat and clearing of adjacent upland woods where they spend the winter (hibernation sites). Copperbelly water snakes are collected fairly regularly because of their rarity, large size, unique color, and value in the pet trade. Under the ESA, collection is illegal without a USFWS permit.

The USFWS is preparing a recovery plan that describes actions needed to help the snake survive. Researchers are and will continue studying the copperbelly water snake to find the best way to manage for the snake and its habitat. Where possible, the snake's habitat (lowland swamps and adjacent upland woods) will be protected and improved. Conservation Agreements have been signed with the Illinois, Indiana, and Kentucky Departments of Natural Resources, other States agencies, and a number of coal companies as a means of protecting and enhancing habitat for the copperbelly in the southern portion of its range.

6.4.1.4 FANSHELL MUSSEL

This species is known to occur in Muhlenberg County, but has not been observed at WHFRTC to date. Based on historical mining activities at WHFRTC and alterations to the lands, the potential for the fanshell mussel to be present is low.

General information for this species was adapted from USFWS (www.fws.gov/endangered/i/f/saf14.html). The fanshell mussel became a protected species under the ESA in June of 1990. Since the turn of the century, the fanshell has undergone a substantial range reduction.



**PHOTO SOURCE: USFWS
1990**

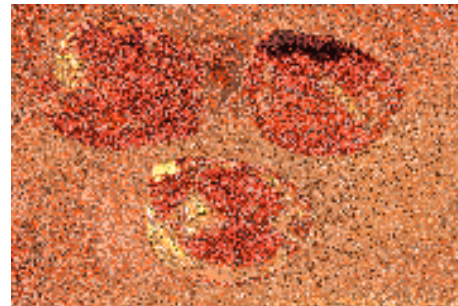
Based on current literature and personal communications with knowledgeable individuals, reproducing fanshell populations are now present in only three rivers - the Clinch River, Hancock County, Tennessee, and Scott County, Virginia; the Green River, Hart and Edmonson Counties, Kentucky; and the Licking River, Kenton, Campbell, and Pendleton Counties, Kentucky. Additionally, small remnant, apparently non-reproducing, populations may still persist in the other rivers within its range, but none in Muhlenberg County. The USFWS recovery criterion calls for the establishment of at least 12 viable populations. This may be difficult to achieve because much of the species habitat has been destroyed.

The fanshell has a medium-sized, sub-circular shell which seldom exceeds 3.2 inches (80 millimeters) in length. The exterior of the shell has green rays on a light green or yellow surface ornamented with green mottling. Strong concentric ridges cover the shell's lower surface. The interior of the shell is usually silvery white, sometimes flesh-colored. The fanshell's specific food habits are unknown but likely to be similar to other freshwater mussels. Freshwater mussels are known to feed on detritus, diatoms, phytoplankton, and zooplankton which they filter out of the water.

6.4.1.5 PURPLE CAT'S PAW PEARLY MUSSEL

The WHFRTC contains no suitable habitat for this species.

General information for this species was adapted from USFWS (www.fws.gov/endangered/i/f/saf15.html). The purple cat's paw pearly mussel was listed by the USFWS as an endangered species in July of the 1990. Only two non-reproducing populations survive; the middle Cumberland River, Smith County, Tennessee, and the Green River, Warren and Butler Counties, Kentucky. The mussel inhabits large rivers with a sand and gravel substrate. It has been collected in water of shallow to moderate depth with moderate to swift currents. The species has also been reported to inhabit boulder to sand substrates.



**PHOTO SOURCE: ENDANGERED
MOLLUSKS IMAGES
([EELINK.NET/ENDSPP/ESIMAGES/
ESMOLLUSKS.HTML](http://EELINK.NET/ENDSPP/ESIMAGES/ESMOLLUSKS.HTML))**

The mussel has a medium-sized shell that is subquadrate in outline. The shell's outside surface has numerous distinct growth lines. It is yellowish-green, yellow, or brownish in color and has fine, faint, wavy green rays with a smooth and shiny surface. The shells of the young often have a satin-like surface. The inside of the shell is purplish to deep purple.

The continued existence of even the two non-reproducing populations is questionable. Only one individual, an old but freshly dead specimen, has been collected in the Green River since 1971. Most of the purple cat's paw populations were apparently lost due to conversion of many sections of the bigger rivers to a series of large impoundments. This seriously reduced the availability of riverine habitat and likely affected the distribution and availability of the mussel's fish host. As a result, the species distribution has been substantially reduced. Water quality degradation is also endangering the species. Runoff from

oil and gas exploration and production is polluting the Green River, host of one of the species' last relict populations. At one time, 66 species of mussels inhabited this river; now, only about 40 species are known to survive.

6.4.1.6 ROUGH PIGTOE MUSSEL

The WHFRTC contains no suitable habitat for this species.

General information for this species was adapted from USFWS (www.fws.gov/midwest/Endangered/clams/rough_fc.html) and USEPA (www.epa.gov/oppead1/endanger/effects/atrazine/2007/appendix-c.pdf). The rough pigtoe mussel was listed by the USFWS as an endangered species throughout its entire range in Alabama, Indiana, Kentucky, Pennsylvania, Tennessee, and Virginia in June of 1976. A recovery plan addressing the rough pigtoe was approved in August of 1984. Critical habitat has not been designated for the rough pigtoe.



PHOTO SOURCE: USFWS FILE
PHOTO/ILLINOIS NATURAL HISTORY
SURVEY

The rough pigtoe is a medium-sized (reaching up to approximately 100 mm in length) freshwater mussel with a yellowish brown or light brown shell (becoming dark brown in adults) with faint green rays. Its shell is shaped like an equilateral triangle, with a brown, satin-like appearance.

In 1984, the rough pigtoe was reported in the Green River in Kentucky (below locks 4 and 5). The rough pigtoe is found in medium to large rivers with sand, gravel, and cobble. The species has also been reported from flats, and muddy sand in shallow waters. It has been collected in muddy sand on Green River. This species does not occur in the impounded sections of rivers and is apparently quite sedentary in the substrate. The rough pigtoe has been collected in the Green River.

Many of the historic populations of the rough pigtoe were apparently lost when the river sections they inhabited were impounded. It is believed that establishment of the Green River Dam, which was completed in 1969, has ultimately led to the loss of the rough pigtoe population within that river, if it still exists. A portion of the Green River below Greensburg, KY has been affected by oil brine pollution, which has eliminated nearly the entire mussel population that was once located there.

6.4.1.7 INDIANA BAT

General information for this species is from the Kentucky Bat Working Group. The Indiana bat is a small bat, less than two inches in length, with dark gray to brownish black fur. Characteristics that help distinguish it from similar species include a pinkish nose, small hind feet with sparse, short hairs that do not extend beyond the toes, and a calcar (the spur extending from the ankle) that has a slight keel. Its hair is less glossy in appearance than that of little brown bats. The Indiana bat is found throughout much of the eastern United States from Oklahoma, Iowa, and Wisconsin, east to Vermont and south to northwestern Florida.

For hibernation, Indiana bats prefer limestone caves with stable temperatures of 39 to 46 degrees F. As with the gray bat, few caves meet the specific roost requirements of the species. Subsequently, more than 85 percent of the population hibernates in only 9 sites. Summer habitat requirements are not completely known for the Indiana bat. Although floodplain and



INDIANA BAT
SOURCE: JOHN MACGREGOR,
KENTUCKY BAT WORKING GROUP

riparian forests are important habitats for foraging and roosting, other habitats are used. Indiana bats typically roost under loose bark during the summer.

Indiana bats mate in the fall and begin entering hibernation in October. Males tend to be active longer in the fall, but are hibernating by late November. During hibernation, Indiana bats cluster tightly together and, as a result, are sometimes called the social bat. Having stored sperm over the winter, female bats become pregnant soon after emergence in late March and early April. Females emerge from hibernation and migrate to summer habitats before the males. During summer, maternity colonies can be found under loose tree bark and usually consist of fewer than 100 individuals. Some males do not migrate and spend the summer near the hibernacula; others roost in similar habitats as the females but in smaller numbers. Females bear a single pup in late June or early July. Young bats are able to fly within one month after birth. Small moths are a major part of the diet of Indiana bats, but many different kinds of flying insects are taken.

Decreases in Indiana bat populations have been caused by several factors. Unfortunately, most are the result of human activity. Indiana bats suffered losses in the past because humans altered cave entrances. Structures built to restrict human access to caves have also hindered the movement of bats. These structures also cause changes in air flow, temperatures, and humidity levels, and make caves less suitable for bats. Human disturbance is always a factor with hibernating bats, and because Indiana bats gather together in large numbers during the winter, they are even more vulnerable to disturbance. Thousands of Indiana bats have also died at the hands of vandals. The most important hibernacula are now protected. However, Indiana bat numbers continue to decline. Some bats are lost periodically to flooding caused by natural events or human activity. Loss of forest habitat may be affecting maternity and foraging areas. As with all bats that feed primarily on insects, Indiana bats have probably suffered declines due to use of pesticides (Kentucky Bat Working Group, 2007).

6.4.2 STATE LISTED SPECIES

Based on flora and fauna surveys conducted at WHFRTC, there are 11 state-listed known to occur at WHFRTC, which include 2 state-listed endangered species (short-eared owl and the long-eared owl), 3 state-listed threatened species (lark sparrow, the northern harrier, and the federally endangered gray bat), and 6 KSNPC species of special concern (Henslow's sparrow, great blue heron, bobolink, savannah sparrow, Bell's vireo and the evening bat). The 11 state-listed rare species observed at WHFRTC are described in greater detail below with the exception of the federally endangered gray bat, which is discussed in **Section 6.4.1.1**.

6.4.2.1 SHORT-EARED OWL

The short-eared owl is a medium-sized hunter, inhabiting open fields, meadows, marshes, prairies, and tundra. With its widespread range and diurnal habits, it is one of the most readily observed species of owl. However, serious declines across its range may place it in jeopardy (Audobon Society, 2008).

Often first seen in flight, low to the ground over a grassland, marsh, or agricultural area, short-eared owls, though relatively small (15 inches in length), appear quite large, with the broad wings typical of owls. The plumage is brown with buffy mottling and streaking on the breast. The short ear tufts are rarely visible. In flight, this bird shows an overall rich, buffy brown color with light and dark patches on the upper sides of its wings. Short-eared owls have a buoyant flight style and are noticeably large-headed in flight.

Until very recently, the short-eared owl was known as a rare to uncommon transient and winter resident in Kentucky (Palmer-Ball 1996). Although the species turned up in some part of the state nearly every winter, nesting was not considered a possibility until the late 1980s when a substantial wintering population was discovered in Ohio County. Currently, Kentucky's nesting population of owls is restricted to a few of the more extensive, recently reclaimed surface mines in Ohio and Muhlenberg Counties.

6.4.2.2 LONG-EARED OWL

Long-eared owls are found throughout the northern hemisphere. Their range extends throughout temperate North America, through Europe and the former Soviet Union and as far east as Japan. Isolated populations are also found North and East Africa, the Azores, and the Canary Islands (University of Michigan, 2008, Cornell University, 2008).

The long-eared owl is a medium-sized woodland owl with prominent ear tufts that appear to sit in the middle of the head and are usually held erect. Long-eared owls are brownish gray, with vertical streaks that distinguishing them from great horned owls, which have horizontal streaks. The owls have pale patches on their face that give the appearance of white eyebrows, and a white patch below the bill. They have a black bill, orange or yellow eyes, and their legs and toes are completely feathered. Plumage is brown and buff, with heavy mottling and barring over most of the body. Male plumage tends to be lighter than the female plumage (University of Michigan, 2008, Cornell University, 2008).

Long-eared owls breed between February and July, and raise one brood per season. The owls inhabit dense vegetation close to grasslands, as well as open forests shrub lands from sea level up to 2000 meters in elevation. They are common in tree belts along streams of plains and even desert oases. They can also be found in shelterbelts, small tree groves, thickets surrounded by wetlands, grasslands, marshes and farmlands (University of Michigan, 2008, Cornell University, 2008).

Long-eared owls hunt almost exclusively at night and in open habitats. During brood-rearing, they may begin hunting before sunset. Long-eared owls are active search-hunters. They most likely capture prey using their excellent low-light eyesight and their superb hearing. Most prey is captured on the ground or from low vegetation (University of Michigan, 2008, Cornell University, 2008).

Populations of long-eared owls are difficult to track. However, within the U.S., populations appear to be largely stable, with declines locally in some states, including New Jersey, Minnesota and California. Most deaths are probably due to starvation or predation, although destruction of vegetation and alteration of habitat are also potential causes of population declines. Adults are occasionally killed by cars or shot by hunters in the U.S., but this is not common (University of Michigan, 2008, Cornell University, 2008).

Long-eared owls are not federally endangered or threatened in the United States, but they are considered endangered in the Commonwealth of Kentucky.

6.4.2.3 LARK SPARROW

A conspicuous sparrow of farmlands and roadsides, the lark sparrow has a bold face and tail pattern. The sparrow's head is patterned with black, chestnut, and white; its body is streaked above and white below, with a black spot in the center of the breast; its tail is black with white edges (Cornell University, 2008).

The lark sparrow breeding territory ranges from British Columbia, Saskatchewan, and northern Minnesota, south to California, northern Mexico, Louisiana, and Alabama. Members of this species spend the winters from southern California to Florida and southward. The sparrow breeds in open habitats, where grass adjoins scattered trees and shrubs, especially in poor or sandy soils. It prefers park-like woodlands, mesquite grasslands, and fallow fields with brushy edges, sagebrush (Cornell University, 2008).

Lark sparrows feed heavily on seeds in the winter. During summer, they eat both arthropods and seeds, but appear to feed their young only arthropods. The bird is a widespread, but uncommon species, that has declined in some of its eastern range due in part to urbanization and reduction of grassland habitat and to reversion of agricultural area to forests. In the western United States, it is still fairly common and widespread. Eastern Washington is at the western edge of its range. Lark sparrows are common hosts for brown-headed cowbirds. Pesticides, especially those used to control grasshoppers, are also a potential threat. The tendency of lark sparrows to occupy disturbed sites and edges between two habitat types has helped their numbers remain stable throughout the West (Cornell University, 2008).

6.4.2.4 NORTHERN HARRIER

The northern harrier, formerly named the marsh hawk, breeds throughout much of Canada, the western and northwestern United States, and Kentucky, Virginia, and West Virginia. The northern harrier is a slender, medium-sized raptor with a long, barred tail and distinctive white rump. It has an owl-like facial disk that is visible at close range. Harriers are unusual in that there is a greater difference between male and female plumage than is typical of raptors. Females are brown above with varying degrees of brown and buff streaking below. Males are gray above with an unmarked lighter color below; they also have black wingtips. Juveniles are brown above and plain orange-brown below (Audobon Society, 2008).

Diet varies based on prey availability, but northern harriers feed mostly on small mammals and sometimes birds. In spring and winter, especially in the northern part of their range, they prey predominantly on voles. As with most species that prey heavily on voles, northern harriers are somewhat nomadic, and densities change with the abundance of prey (Audobon Society, 2008).

Harriers are open-country birds, often seen soaring low over grassland. They also occur in farmlands, parks, and steppe habitat. Northern harriers sometimes roost on the ground in groups. Harriers use their sense of hearing more than other hawks, flying low over open fields and listening for prey. In flight, they hold their wings up in a slight 'V' position. Throughout much of their range, they are long-distance migrants, wintering as far south as Panama, but they are resident in other areas, including Washington (Audobon Society, 2008).

During the middle of the 20th Century, Northern harriers experienced declines due to pesticide use. The regulation of DDT has helped the harrier population recover, although habitat loss is still a significant threat. Many wetlands and open spaces are in danger of development or conversion to less beneficial habitat. Overgrazing also affects their habitat. Numbers have severely declined in the East due to increasing numbers of ground predators and lack of habitat. Northern harriers are, however, fairly adaptable and generalized, and seem to be fairly stable in North America in spite of these threats. Numbers are, however, on the decline globally (Audobon Society, 2008).

6.4.2.5 HENSLOW'S SPARROW

The Henslow's sparrow was first discovered in Kentucky by John James Audubon. During the breeding season, this small grassland bird is often found perched atop of a bush, dead vegetation, or fence post, singing its simple song. It has a relatively large, flat head, large dark brown eyes with a thin, white eye-ring, and short tale. Its head is olive-green with dark lines on the face and its body plumage is chestnut on the back and a buffy, thinly black-streaked breast and flanks. Rather than flying, this shy bird often prefers to run on the ground, through the grass (Cornell Univeristy, 2008).

The Henslow's sparrow's breeding range occurs from northeastern Oklahoma east to Maryland, and north to southeastern Minnesota and south to Kentucky and northern Tennessee. It winters in the southeastern United States, from east Texas to Central Florida. These sparrows prefer grasslands that have some standing dead vegetation, fence posts, or a few bushes (which males use for perches), with tall grass and a dense litter layer. They feed mainly on insects during the breeding season and seeds during the winter months. The maintenance of these habitats requires frequent disturbances (every 2-4 years) to reduce the amount of woody vegetation. Land managers have used prescribed burns, mowing and grazing to attain the appropriate habitat (Cornell Univeristy, 2008).

The populations of this species have been in decline in the northeastern part of their breeding range, but have been increasing in some spots of the Midwest. In the United States, the Henslow's sparrow is a Bird of Conservation Concern. In Kentucky, this species can be found in various locations, including reclaimed strip mines, Fort Campbell, Fort Knox, and the WHFRTC. Fort Knox is managing for Henslow's sparrow habitat by using a three-year rotational prescribed burning plan (Cornell Univeristy, 2008).

6.4.2.6 GREAT BLUE HERON

The great blue heron is the largest heron in North America, standing almost two feet tall. It has a long "S"-shaped neck, a long thick bill and a white crown stripe. The plumage is bluish gray on the back, wings and belly, and it has a reddish or gray neck. Its long legs are green, with chestnut feathers on the thighs. The males have a plume of feathers at the back of their heads. This heron species feeds mainly on fish, but is also known to eat invertebrates, small mammals, birds, amphibians and reptiles. It feeds mainly at dawn and dusk, slowly wading through the water and spearing its prey (University of Michigan, 2008, Cornell University, 2008).

In the summer, the great blue heron is found throughout southern Canada to the southern United States, and parts of the Caribbean, along sea and freshwater coasts. Its wintering range includes a small part of southern Canada, into northern South America. It always lives near water, although it tends to avoid marine habitats, preferring calmer waters. These herons usually nest in colonies, in trees located near water. Population numbers for great blue herons remain relatively strong, although habitat destruction and predation of its eggs and chicks are a concern (University of Michigan, 2008, Cornell University, 2008).

6.4.2.7 BOBOLINK

The male bobolink's distinctive plumage and song make this bird species hard not to notice while walking through a grassy field. The male, in its breeding plumage, is the only bird in America with white plumage on its back, and black plumage on its belly. The female plumage (and male non-breeding plumage) is buffy, with dark stripes on the back, rump, sides, and head. The male has a gregarious, rolling, bubbling song that he sings during flight (Cornell University, 2008).

Male bobolinks may have more than one female nesting on their territories and have been observed to cooperatively breed (where more than two adults feed the young at a nest). After the nesting season, bobolinks congregate in marshes to undergo molt before migrating south (Cornell University, 2008).

Breeding bobolinks are found across southern Canada and northern United States. It is a long-distance migrant, with wintering grounds in Central and South America – as far south as Argentina. It uses open grasslands and hay fields for breeding and freshwater marshes, rice and sorghum fields during migration and the non-breeding season (Cornell University, 2008).

Before European settlement, bobolinks bred mainly in tallgrass and mixed-grass prairies in the Midwestern United States and southern-central Canada. With the conversion of forests into farmland, their range expanded both east and west in the U.S. and Canada. With the current reduction in farmland, bobolink populations are declining. In their breeding grounds, the populations suffer due to fewer hayfields and earlier mowing cycles that kill the offspring before they have fledged. In their wintering grounds, the bobolink are considered agricultural pests, for they feed upon valuable rice crops; hence, many bobolinks are killed by humans (Cornell University, 2008).

6.4.2.8 SAVANNAH SPARROW

The adults of this species often breed in the same location where they hatched (i.e., natal philopatry). This tendency is thought to have helped drive the evolution of the 17 subspecies of this sparrow. This small songbird is brown or gray-brown, with streaking on its back, front, and flanks, and a yellowish eyebrow. However, there is a lot of variation in its plumage due to the many subspecies. Its song starts with two or three chip notes and ends with two short trills, the first one higher than the second (Cornell University, 2008).

Savannah sparrows inhabit various open habitats, including grasslands, tundra, marshes, and bogs. They feed on grass seeds and arthropods. It breeds throughout Canada and the northern United States, as far south as southern California and the southern Appalachian mountains, with pockets of breeding populations in Baja California and central Mexico. This species winters in the southern United States, Mexico, Guatemala, and Belize (Cornell University, 2008).

This species has expanded its range, probably due to anthropogenic environmental changes, and many populations are thriving. However, there may be some conservation concern with subspecies that have limited ranges and population sizes (Cornell University, 2008).

6.4.2.9 BELL'S VIREO

The Bell's vireo is a small insectivorous bird that breeds in the southwestern United States and northern Mexico, up through the Plain States, with its eastern edge of its range in western Ohio and southwestern Kentucky. Its winter range is in southern Mexico. It is found in riparian habitat, thickets, and scrub oak, where it gleans insects and spiders from leaves and branches. This vireo has a drab appearance, with gray to greenish plumage on its back, a yellow to white belly, two wing bars, and a faint eye ring. It has a scolding, jerky, hurried song. It is active and secretive, but is known to be fearless around its nest, where it can be closely approached (Cornell University, 2008 and IUCN, 2008).

A subspecies of Bell's vireo found in California, the "Least" Bell's vireo, is listed as Endangered. The other subspecies are listed as birds of conservation concern. The populations are declining throughout its range. It is thought this decline is due to habitat loss and to cowbird parasitism. The exposure to cowbird parasitism is thought to be relatively recent, caused by forest fragmentation, which brings the grassland dwelling cowbirds in closer proximity to the shrubland dwelling Bell's vireo. In California, managers have been reducing cowbird brood parasitism by trapping cowbirds (Cornell University, 2008 and IUCN, 2008).

6.4.2.10 EVENING BAT

This bat is like a small version of the big brown bat, with glossy brown fur and blackish face, wings and feet. It is noticeably smaller, however, typically reaching 4 inches (102 mm) in length with a wingspan of nearly 11 inches (280 mm). This species also does not have a keeled calcar. A calcar is a bony or cartilaginous process on the heel bone of bats, which helps to support the portion of the wing membrane lying between the legs. When it is referred to as a keeled calcar, the protrusion from the calcar resembles a nautical ship's keel in shape (Kentucky Bat Working Group, 2008).

This species is relatively common only in the western one-third of Kentucky, but there are scattered records as far east as Breathitt County on the Cumberland Plateau. The evening bat is essentially a summer resident, migrating southward in fall; there are apparently no winter records for the state. During the 2002 bat surveys at WHFRTC, an evening bat was mist-netted over Cypress Creek, near Highway 601 (Kentucky Bat Working Group, 2008).

Evening bats are not typically found in caves and most or all probably winter to the south of Kentucky where they may remain active throughout the year. These bats likely return to Kentucky during the latter part of April, and form summer colonies in both natural and artificial sites. In many areas, hollow trees are used primarily, but many evening bats roost in buildings and barns. There are even a few records of them roosting under bridges. Evening bats remain in Kentucky into September or October, but there are few records later in the year. This species forages in a variety of semi-open habitats from wetlands and stream corridors to woodland edges and parks. They prey upon a great variety of flying insects from small beetles to flies and moths. Proper management of forested wetland habitats will benefit this species at WHFRTC (Kentucky Bat Working Group, 2008).

6.5 WATER RESOURCE MANAGEMENT

Laws and regulations that are associated with control and abatement of pollution in U.S. waters, erosion control and soil conservation are listed in **Table 20**. These laws and regulations are described in **Appendix E**.

TABLE 20. LAWS, REGULATIONS, AND EXECUTIVE ORDERS APPLICABLE TO WATER RESOURCE MANAGEMENT AT WHFRTC	
REQUIREMENT	TITLE
Law	The WHFRTC is a state-owned facility and is not directly subject to the Sikes Act “ <i>Conservation Programs on Military Reservations</i> ” (16 U.S. Code (USC) §670a et seq.), as amended. However, Army policy is to follow DoD and ARNG guidance on state-owned facilities.
	Federal Water Pollution Control Act as amended by the CWA of 1977 (33 USC §1251);
	U.S. Fish and Wildlife Coordination Act (16 USC §661);
	NEPA (42 USC §4321);
	Soil Conservation Act (16 USC §590a et seq.);
Code of Federal Regulations	32 CFR 651, Environmental Analysis of Army Actions
Army Regulations	AR 200-1, Environmental Protection and Enhancement
Executive Order	EO 11989, Off-road vehicle use;
	EO 11990, Protection of Wetlands;
	EO 11752, Prevention, Control, and Abatement of Environmental Pollution;
	EO 12088, Federal Compliance with Pollution.
Kentucky Laws and Regulations	KRS 146 Natural Resources
	KRS 151 Geology and Water Resources
	KRS 224 Environmental Protection
	401 KAR 5, Water Quality

6.5.1 PERMITTING

For construction related projects at the WHFRTC, units should coordinate with the Training Site NCOIC and the Environmental Office 60 days in advance to review proposed activities for applicable permit requirements. Even when a permit is not required, KYARNG BMPs must be followed.

Under the CWA, Section 319 requires each state to prepare a Nonpoint Source Management Program. The KDOW is responsible for administering the state’s stormwater management program. Kentucky’s stormwater program is closely modeled after the federal National Pollution Discharge Elimination System (NPDES) program, which requires stormwater be treated to the maximum extent practicable. KDEP’s stormwater program requires any construction or other land-disturbing activity of more than one acre of soil disturbance to obtain a Kentucky Pollutant Discharge Elimination System (KPDES) permit. The KPDES permit establishes the required erosion control and revegetation standards. The construction general permit does not require runoff sampling, but there is a requirement for preparing and implementing a BMPs Plan prior to start of construction. This plan should be available for review by the KDOW upon site inspection, although it does not need to be submitted to or approved by the agency prior to permitting.

Physical disturbances to waters of the U.S. are regulated by the CWA under Sections 404 and 401 and are discussed in **Section 6.6.1**.

6.5.2 EROSION AND SOIL CONSERVATION

Erosion control and soil conservation are important water resource conservation issues. Accelerated erosion, continued compaction, or the removal of topsoil can drastically alter soils. Sediment resulting from erosion affects surface water quality and aquatic organisms. Two main types of soil erosion exist, wind erosion and water erosion. According to the soil survey, none of the soil components or mapping units has significant erosion potential from wind. However, many of them are susceptible to water erosion. Specific information regarding erosion potential of the soils at WHFRTC is provided in **Section 3.3.2.2**. Warning signs for trails or areas on site in need of maintenance include:

- Disturbed vegetation (i.e., trampled, crushed, or vegetation missing, “the soil is visible”).
- Puddling of the trail surface.
- Gullies and deep wheel ruts in the trail or road.
- Accumulation of sediment into nearby areas (sides of trails, bases of slopes).

Soil conservation provisions include routine trail maintenance (e.g., backfill ruts and stabilize soils as needed), regular inspection and repair of disturbed areas. The Environmental Office staff will identify areas needing maintenance or repair annually in late spring, following heavy spring rains. Damaged areas will be evaluated and prioritized. Land rehabilitation projects, including revegetation, will be scheduled and performed as soon as possible following disturbance, allowing sufficient time for soils to recover. All necessary rehabilitation work, best management practices, and associated costs will be included in project proposals and construction contracts and specifications.

BMPs to be implemented during these activities to maintain soil and water quality are provided in **Section 6.5.3**. Soil management techniques that will be used at the WHFRTC are provided in **Section 6.5.4**.

6.5.3 BEST MANAGEMENT PRACTICES FOR EROSION CONTROL AND CONSTRUCTION

The KYARNG follows BMPs for erosion control developed by KDOW in the Kentucky Best Management Practices for Controlling Erosion, Sediment, and Pollutant Runoff from Construction Sites: Planning and Technical Specifications Manual (KDOW 2007) and the Kentucky Erosion Prevention and Sedimentation Control Field Guide (KDOW 2006). The KYARNG incorporates these BMPs into all construction and natural resources management activities. Units must contact the Environmental Office for planning and documenting BMPs to comply with permit requirements.

Land rehabilitation projects are scheduled and performed as soon as possible following disturbance, allowing sufficient time for soils to recover. Seeding made in fall for winter cover is mulched. Temporary erosion control methods (such as cover crops) are used during rainy periods to provide cover to soils. Native plants are used to re-vegetate disturbed soils when feasible, effective, and economical. Areas that fail to establish vegetative cover adequate to prevent rill erosion (caused by water running over the surface of the soil) are re-seeded as soon as such areas are identified and weather permits. General BMPs are listed in **Table 21**.

TABLE 21. GENERAL BEST MANAGEMENT PRACTICES FOR EROSION CONTROL DURING REVEGETATION AND CONSTRUCTION PROJECTS	
TYPE	BEST MANAGEMENT PRACTICE
CONSTRUCTION	<ul style="list-style-type: none"> Clearing and grubbing must be held to the minimum necessary for grading and equipment operation. Construction must be sequenced to minimize the exposure time of cleared surface area. Grading activities must be avoided during periods of highly erosive rainfall. Construction must be staged or phased for large projects. Areas of one phase must be stabilized before another phase can be initiated. Stabilization shall be accomplished by temporarily or permanently protecting the disturbed soil surface from rainfall impacts and runoff. Erosion and sediment control measures must be in place and functional before earth moving operations begin, and must be properly constructed and maintained throughout the construction period. Regular maintenance is vital to the success of an erosion and sediment control system. All control measures shall be checked weekly and after each rainfall. During prolonged rainfall, daily checking is necessary. Construction debris must be kept from entering any stream channel. Stockpiled soil shall be located far enough from streams or drainageways, so that runoff cannot carry sediment downstream. A specific individual shall be designated to be responsible for erosion and sediment controls on each project site.
VEGETATIVE EROSION CONTROL	<ul style="list-style-type: none"> A buffer strip of vegetation at least as wide as the stream shall be left along any stream bank whenever possible. On streams less than 15 feet wide, the buffer zone shall extend at least 15 feet back from the water's edge. Temporary soil stabilization with appropriate annual vegetation (ex. annual ryegrass) shall be applied on areas on areas that will remain unfinished for more than 30 calendar days. Permanent soil stabilization with perennial vegetation shall be applied as soon as practicable after final grading.
STRUCTURAL EROSION CONTROL	<ul style="list-style-type: none"> Sediment barriers, such as a silt fence, must be installed along the base of all fills and cuts, on the downhill sides of stockpiled soil, and along stream banks in cleared areas to prevent erosion into streams. Barriers may be removed at the beginning of the workday, but must be replaced at the end of the work day. All surface water flowing toward the construction area shall be diverted around the construction area to reduce its erosion potential, using dikes, berms, channels, or sediment traps, as necessary. Temporary diversion channels must be lined to the expected high water level and protected by non-erodible material to minimize erosion. Clean rock, log, sandbag or straw bale check dams shall be properly constructed to slow runoff and trap sediment. Sediment basins and traps shall be properly designed according to the size of disturbed or drainage areas. Water must be held in sediment basins until at least as clear as upstream water before it is discharged to surface waters. Water must be discharged through a pipe or lined channel so that the discharge does not cause erosion and sedimentation. Streams shall not be used as transportation routes for equipment. Crossings must be limited to one point. A stabilized pad of clean and properly sized shot rock must be used at the crossing point. All rocks shall be clean, hard rocks containing no sand, dust, or organic materials.
ROAD AND TRAIL MAINTENANCE	<ul style="list-style-type: none"> Maintain access roads and trails in such a way as to prevent sediment from entering water bodies. Use methods such as: Water bars or other drainage structures should be constructed. Remove sediment and debris from dips, ditches and culverts; and revegetate

TABLE 21. GENERAL BEST MANAGEMENT PRACTICES FOR EROSION CONTROL DURING REVEGETATION AND CONSTRUCTION PROJECTS	
TYPE	BEST MANAGEMENT PRACTICE
	<p>problem areas.</p> <ul style="list-style-type: none"> Use lime, fertilizer, mulch, and/or seed when needed to prevent soil erosion. Amounts should be based on recommendations from the USDA-NRCS or the Kentucky Agricultural Extension Service.
STREAMSIDE MANAGEMENT ZONES (SMZ)	<ul style="list-style-type: none"> Streamside management zones shall be designed and managed along perennial and intermittent streams, lakes, and impoundments to prevent sediment from entering waters of the State. Methods to prevent sedimentation to streams include, but are not limited to, the following: <ul style="list-style-type: none"> Establish SMZs along any stream or water body where the potential exists for the movement of sediment into stream or waterbody. The width of SMZs should be a minimum distance of 50 feet from the disturbed area to the stream for zero percent slope and 20 additional feet for each additional 10 percent of slope. This applies to both sides of the stream (total minimum width of 100 feet). In association with wetlands, establish SMZs at least 50 feet in width along all sides of wetlands and open water. Do not remove any trees within an SMZ if such removal would result in soil potentially getting into stream or wetland. If trees can be harvested without risk of soil loss, maintain 50 to 75 percent of the vegetation canopy shading a perennial stream. Avoid operating any vehicles within an SMZ.

6.5.4 SOIL MANAGEMENT TECHNIQUES

For more information on soil management techniques, consult KDOW guides mentioned above.

6.5.4.1 REVEGETATION

Native Species. The KYARNG uses native non-invasive seeds such as those recommended in **Table 22** when feasible, effective, and economical. Local, native species are the best species for revegetation. The KYARNG will coordinate with other agencies as necessary to choose the most appropriate seed mixtures for application at WHFRTC. Optimal seeding dates for warm season grasses is 15 April 15 to 1 June. When planting native grasses, non-persistent grasses are included to act as a cover crop for the first 2 or 3 years to minimize erosion before native species become established. Examples include red top grass (*Agrostis palustris*), timothy grass (*Phleum pratense*), winter wheat, and grain sorghum (*Sorghum bicolor*). Soil pH should be in the range of 5.8 to 6.4.

When seeding warm season species into areas that are dominated by exotic cool season grasses, all existing vegetation should be weakened or destroyed, if possible, with herbicide, or a combination of tillage and herbicide. In areas dominated by native species, use less damaging techniques to prepare the seedbed, such as prescribed fire.

TABLE 22 RECOMMENDED NATIVE VEGETATION FOR REVEGETATION PROJECTS		
COMMON NAME	SCIENTIFIC NAME	FORM
GRASSES		
Big bluestem	<i>Andropogon gerardii</i>	Grass
River oats, Spangle grass	<i>Chasmanthium latifolium</i>	Grass
Wild rye	<i>Elymus virginicus</i>	Grass
Switch grass	<i>Panicum virgatum</i>	Grass
Little bluestem	<i>Schizachyrium scoparium</i>	Grass
Indian grass	<i>Sorghastrum nutans</i>	Grass
Gamma grass	<i>Tripsacum dactyloides</i>	Grass
MOSAIC FOR FULL SUN		
Big blue stem	<i>Andropogon gerardii</i>	Grass
New England aster	<i>Aster novae-angliae</i>	Forb
White wild indigo	<i>Baptisia alba</i>	Forb
Partridge pea	<i>Chamaecrista fasciculata</i>	Forb
Tall coreopsis	<i>Coreopsis tripteris</i>	Forb
Joe Pye weed	<i>Eupatorium fistulosum</i>	Forb
Purple bee balm	<i>Monarda fistulosa</i>	Forb
Grey headed coneflower	<i>Ratibida pinnata</i>	Forb
Blackeyed susan	<i>Rudbeckia hirta and R. triloba</i>	Forb
Sedum, stonecrop	<i>Sedum ternatum</i>	Forb
Rose vervain	<i>Verbena Canadensis</i>	Forb
Ironweed	<i>Vernonia altissima</i>	Forb
MOSAIC FOR SHADE		
Thimbleweed	<i>Anemone virginiana</i>	Forb
Wild Ginger	<i>Asarum canadense</i>	Forb
Ebony Spleenwort	<i>Asplenium platyneuron</i>	Fern
Shooting Star	<i>Dedecatheon meadia</i>	Forb
Alumroot	<i>Heuchera Americana</i>	Forb
Pachysandra	<i>Pachysandra procumbens</i>	Forb
Christmas Fern	<i>Polystichum acrostichoides</i>	Fern
Broad Beech Fern	<i>Phegopteris hexagonaptera</i>	Fern
Golden ragwort	<i>Senecio glabellus</i>	Forb
Foam-flower	<i>Tiarella cordifolia</i>	Forb
Spiderwort	<i>Tradescantia virginiana</i>	Monocot
Violets	<i>Violet spp.</i>	Forb
Woodsia	<i>Woodsia obtuse</i>	Forb

Soil bed Preparation. Extreme acidity, very low phosphorus levels, and the need for nitrogen fertilization are commonly encountered problems on reclaimed mineland. Therefore, soil amendments (lime and fertilizer) are typically applied to rehabilitation sites before seeding. Proper application procedures include soil analysis to ensure proper nutrient application levels. Other factors to consider are soil moisture, effects on non-target species, weather patterns, and contribution of nitrates (nitrification) of streams, ponds, and lakes.

To control erosion on bare soil surfaces, plants must be able to germinate and grow. Seedbed preparation is essential. The following guidelines will be used for designing LRAM project specifications:

Liming: Lime is used to neutralize acidic mine spoils. The rate of lime application should be sufficient to raise soil pH to a value no lower than 6.4 for all land uses. Liming rates for mine soils as determined on the basis of buffer pH values appear in **Table 23** (KDOW 1996). Quality agricultural limestone is the liming agent of choice. If no soil test is available, apply 3 tons of ground agricultural limestone per acre. If lime has been applied within the last year, no soil test or lime application is necessary. Tractor-mounted lime spreaders or broadcast spinners spread the agricultural lime at an even rate. Lime should

be incorporated into the top six inches of soil; usually done by discing. Incorporation not only increases the affected zone to allow better rooting of plants, but it also minimizes lime loss via rainfall runoff. Lime should not be applied under wet soil conditions because it is difficult to incorporate uniformly into the soil.

TABLE 23. LIMESTONE RATES FOR SOIL-BUFFER PH READINGS	
BUFFER PH READINGS	AGRICULTURAL LIMESTONE (TONS/ACRE) REQUIRED TO ADJUST SOIL TO PH 6.4
6.7 - 6.3	2 - 4
6.3 - 5.9	4 - 6
5.9 - 5.3	6 - 8
5.3 - 5.0	8 - 11
5.0 - 4.5	11 - 15
4.5 - 4.0	15 - 25
below 4.0	25

Fertilizer: Fertilizers consist of three primary plant nutrients: nitrogen (N), available phosphorous (P₂O₅), and water-soluble potash (K₂O). Mixtures of fertilizer materials are commercially available; their grade or content is expressed in weight percent as N:P:K. Fertilize according to the soil test. If no soil test is available, apply 60 pounds of nitrogen, 50 pounds of P₂O₅, and 100 pounds of K₂O per acre at seeding time. Lime and fertilizer shall be incorporated into the top 2 to 4 inches of the soil. Nitrogen should be applied at a rate of 60 pounds of N/acre for fall or spring seedings, with a top dressing of 30 pounds/acre six months later. Additions should be applied as pounds of N and not pounds of fertilizer. For example, 100 pounds of 46-0-0 contains only 46 pounds of nitrogen. An additional 30 pounds/acre should be applied during the spring of the second growing season when ground cover is the only re-vegetation objective.

The rates at which available phosphate and potassium (potash) are applied are determined on the basis of soil tests and intended land use. Fertilizer recommendations for vegetative covers to achieve either erosion control or hay and pasture are listed in **Table 24**. Fertilizer is most simply spread in the dry, granular form from a tractor-mounted fertilizer spreader. Incorporation into the soil is desirable but not required. It should be applied when soils are dry; otherwise, a salt solution forms when water and fertilizer are mixed that can significantly reduce the percentage of seed germination, especially for grasses. The effectiveness of bacteria inoculated on legumes is also reduced. It is not recommended to apply fertilizers and seed in the same tank mix when hydroseeders are used.

A possible free source of N, P, and K may be available from nearby poultry production farms. The chicken litter could be disposed at the WHFRTC and used as a free source of fertilizer. An arrangement could be made with local chicken house operators and WHFRTC and would be mutually beneficial to both by providing a disposal site for the custom operator and needed nutrients for the WHFRTC.

TABLE 24. FERTILIZER REQUIREMENTS FOR NEW SEEDLINGS (FROM KENTUCKY DIVISION OF WATER 1996)				
TEST LEVEL (LBS./ACRE) ^A	POUNDS P ₂ O ₅ AND K ₂ O TO APPLY PER ACRE ^B			
	SURFACE COVER		HAY AND PASTURE	
	P ₂ O ₅	K ₂ O	P ₂ O ₅	K ₂ O
Very Low (below 10 P; 75 K)	120-140	30-60	150-200	60-90
Low (10-30 P; 165 K)	100-120	0-30	100-150	30-60
Medium (31-60 P; 165-250 K)	50-100	0	50-100	0-30
High (above 60 P; 250 K)	0-50	0	0-50	0
a. If soil tests are very low, retesting is recommended prior to planting trees since additional P ₂ O ₅ may be needed to maintain surface cover.				
b. For alfalfa production, rates should be increased to 20-40 lbs. P ₂ O ₅ and 20-40 lbs. of K ₂ O/acre.				

Surface Roughening: If the area has been recently loosened or disturbed, no further roughening is required. When the area is compacted, crusted, or hardened, the soil surface shall be loosened by disking, raking, harrowing, chisel plowing, shallow ripping for compacted soils, or other acceptable means.

Tracking: Tracking with bulldozer cleats is most effective on sandy soils. This practice often causes undue compaction of the soil surface, especially in clayey soils and does not aid plant growth as effectively as other methods of surface roughening.

Seeding. Seed shall be evenly applied with a cyclone seeder, drill, cultipacker seeder or hydroseeder. Small grains shall be planted no more than one inch deep. Grasses and legumes shall be planted no more than ¼ inch deep. Seeding will be done during optimum seeding periods for individual species to the extent practicable.

Mulching. All seedlings made in fall for winter cover shall be mulched. At other times of the year, seedlings made on slopes in excess of 4:1, or on adverse soil conditions, or during excessively hot or dry weather, shall be mulched. For seedlings made during optimum spring and summer seeding dates, with favorable soil and site conditions, mulching may be optional.

Re-seeding. Areas that fail to establish vegetative cover adequate to prevent rill erosion (caused by water running over the surface of the soil) will be re-seeded as soon as such areas are identified and weather permits.

Temporary Seeding Planting Dates. Use temporary erosion control methods (such as cover crops) during rainy periods to provide cover to soils. Temporary plants should be planted at the following rates and dates: rye at 3 bushels per acre from 15 August through 1 November; wheat at 2-3 bushels per acre from 1 September through 1 November; annual ryegrass at 30 pounds per acre from 15 August through 1 November.

6.5.4.2 SEDIMENT BARRIERS

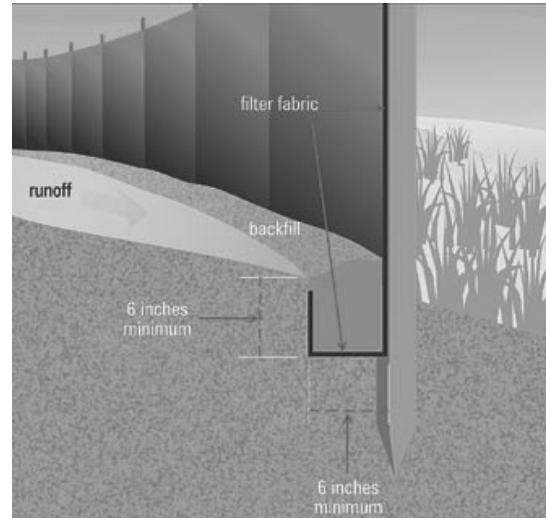
In addition to seeding and mulching areas greater than 150 square feet, use sediment barriers to prevent silt from leaving the site. Silt fences, rock filters, or other commercial sediment barriers are required below (downhill from) areas of bare soil. Hay or straw bales must not be used as sediment filters due to their inherent weakness and tendency to fall apart (KDOW, 2006).

Place filters on downhill edge of bare soil areas. Make sure the filter catches all the muddy runoff. The goal is to pond runoff, to filter and settle it out. Multiple units are needed for long slopes. Spacing on long slopes is every 60 to 110 feet. Put filters across slopes, on the contour (level).

Silt Fences. Silt fences should be installed on the contour below bare soil areas. Use multiple fences on long slopes 60 to 80 feet apart. Silt fencing should not be installed up and down hills, above (uphill from)

areas of bare soil, or in ditches, channels, or streams. Each 100-foot section of silt fence can filter runoff from about 1/4 acre (about 110 feet uphill). To install a silt fence correctly, follow these steps:

- Note the location & extent of the bare soil area.
- Mark silt fence location just below bare soil area.
- Make sure fence will catch all flows from area.
- Dig trench 6 inches deep across slope.
- Unroll silt fence along trench.
- Join fencing by rolling the end stakes together.
- Make sure stakes are on downhill side of fence
- Drive stakes in against downhill side of trench.
- Drive stakes until 8 to 10 inches of fabric is in trench.
- Push fabric into trench; spread along bottom.
- Fill trench with soil and tamp down.



Silt Fence
Source: KDOW

Inspect the silt fence frequently, and repair or replace promptly as needed. Sediment collecting behind silt fences must be removed before it is halfway up the fence. Move collected sediment to a vegetated area or other place where it will not wash into ditches, channels, or streams. Re-trench and tamp down fencing that is undercut by gullies. Remove the silt fence when it has served its usefulness to avoid blocking storm flow or drainage.

Other Sediment Barriers. Brush cleared from the site can make an excellent sediment filter if it is properly placed (see previous illustration) and built up well. Brush barriers are installed on the contour and are 2 to 5 feet high and 4 to 10 feet wide at the base. Walk them down slightly with a loader or dozer to compress the material in the brush barrier. Stuff additional brush on the uphill side where bypasses or undercutting are evident.

Fiber rolls and other commercial products made from coconut fiber, plastic, wood shavings, or other material can also be used as sediment barriers on slopes flatter than 10:1. Follow manufacturers' installation instructions and ensure that sediment filter spacing on slopes is correct. Make sure runoff does not bypass brush barrier, coconut rolls, or other barriers underneath or around the ends.

6.5.4.3 ROADWAYS AND DITCHES

Provide V-shaped side ditches as shown in Field Manual (FM) 5-35 Engineer Field Data (DA 1987). Size and shape the ditches according to this manual, generally with a 2:1 slope. Slopes should not be too steep to avoid bank sloughing. Provide properly sized and installed culverts according to FM 5-35 to protect roadways and prevent erosion. In erosive areas, use rip rap to stabilize the ditches. On steep erosive slopes, construct V-ditches with geotextile fabric and riprap to add stability. Shape and crown roads to drain water. Install culverts to improve drainage and minimize shrinking, swelling, and frost damage. Add crushed rock or gravel to prevent road damage caused by low strength. Use sediment barriers in sloping areas where road ditches have a tendency to wash.

6.6 WETLANDS, FLOODPLAINS AND OTHER AQUATIC HABITAT MANAGEMENT

Portions of the WHFRTC are within the FEMA 100-year floodplain of both Cypress Creek and Little Cypress Creek. Aquatic ecosystems on the site are comprised of intermittent streams, perennial

streams, ponds and lakes mostly created as a result of impoundments of the streams or isolated surface depressions that filled with water following the mining process; many function as sediment-retaining ponds. Cypress Creek does not support its designated uses of swimming and aquatic life (KDOW, 2000). Water quality is considered impacted by mining practices. Refer to **Section 3.4** for information pertaining to wetlands, floodplains, and other aquatic habitats existing at the WHFRTC. Laws, regulations, and EOs pertaining to wetlands and floodplain protection and policies are listed in **Table 25** and described in **Appendix E**.

TABLE 25. LAWS, REGULATIONS, AND EXECUTIVE ORDERS APPLICABLE TO AQUATIC HABITAT MANAGEMENT AT WHFRTC	
Requirement	Title
Law	Rivers and Harbors Act of 1899; Fish and Wildlife Coordination Act of 1967; Land and Water Conservation Fund Act of 1968; Federal Water Pollution Control Act as amended by the CWA of 1977 (33 USC §1251); The WHFRTC is a state-owned facility and is not directly subject to the Sikes Act "Conservation Programs on Military Reservations" (16 U.S. Code (USC) §670a et seq.), as amended. However, Army policy is to follow DoD and ARNG guidance on state-owned facilities.
Executive Order	EO11988, Floodplain Management; EO 11990, Protection of Wetlands;
Kentucky Laws and Regulations	200 KAR 6:040 and 401 KAR 4:060, Floodplain Management and Flood Control KRS Chapter 224; 401 KAR 5:031, Water Resources Protection 405 KAR 16:180 and 405 KAR 18:180, Wetland Protection

6.6.1 PERMITTING

Projects that involve the discharge of dredged or fill materials into waters of the United States, including wetlands, are regulated by the USACE under CWA Section 404 and require Section 401 WQC. Units should contact the Environmental Office regarding any activities that could potentially affect waterbodies. The Environmental Office will review proposed activities for applicable permit requirements and will coordinate regulatory permits. Even when a permit is not required, KYARNG BMPs must be followed. When a permit is required, a pre-application meeting with the USACE and KDOW is recommended, particularly for large-scale projects. The meeting should be held well in advance of the onset of a project (at least three months). Agencies should be notified by letter (KYARNG letterhead). A written meeting agenda is recommended. A sign-in sheet is required. After the meeting, a written meeting summary should be prepared and provided to attendees and placed in the appropriate Environmental Office file.

Examples of activities that may require a Section 404 permit and Section 401 WQC are stream relocations, road crossings, stream bank protection, construction of boat ramps, placing fill, grading, dredging, ditching, mechanically clearing a wetland, building in a wetland, constructing a dam or dike, and stream diversions. General or individual permits may be required for such activities.

General permits issued by the USACE authorize various types of development projects in waters of the U.S. Activities authorized under general permits are considered similar in nature, causing minimal adverse effects to the environment. The USACE uses general permits for certain activities to minimize regulatory burdens and administrative costs by allowing landowners to proceed without having to obtain individual permits in advance. One type of general permit is known as a Nationwide permit; there are currently 49 Nationwide permits covering a variety of issues that were issued by the USACE in March 2007. Nationwide permits authorize certain activities and are valid only if the conditions applicable to the permit are met. A summary table of these permits is included as **Appendix G**.

In general, individual permits are required for disturbances that exceed thresholds for disturbances covered by general permits. Permitting requirements vary depending on type, location, and extent of disturbance. A Section 404 individual permit, issued by the USACE, may be required prior to significant impacts.

The CWA Section 401 WQC is authorized by the CWA and KRS Chapter 224. The KDOW is responsible for implementing the Section 401 program. The WQC program ensures that activities involving a discharge into waters of the state and requiring a federal permit or license are consistent with Kentucky's water quality standards in 401 KAR 5. For both wetland and stream disturbances, the applicant must complete and submit the *Combined Application for Permit to Construct Across or Along a Stream and/or Water Quality Certification* along with appropriate attachments. For stream-related impacts, detailed plan and profile drawings must be submitted along with the permit application. Impacts in streams or lakes designated as Special Use Waters always require an individual WQC and a detailed sediment and erosion control plan.

For wetland-related impacts involving greater than one acre of wetland loss, the KDOW Wetland Mitigation Guidelines must be followed. Wetland losses involving less than one acre may be regulated by the USACE. The USACE is responsible for making official jurisdictional wetland determinations.

The KDOW also has authority over and issues permits for the placement of debris (e.g., including logging during tree cutting) and/or construction activities within the floodplains of perennial streams that have a drainage area larger than one square mile. Activities that occur in a regulated floodplain may also require a Stream Construction Permit from the KDOW.

6.6.2 MANAGEMENT STRATEGIES

The KYARNG may not be able to significantly improve the quality of Cypress Creek but it can ensure that the WHFRTC does nothing to further degrade the condition of the stream. The KYARNG maintains riparian habitats along streams by implementing SMZ from the water's edge back on both sides of regulated streams and around regulated lakes and ponds. Regulated wetlands are protected by 50-foot wetland buffer zone around wetlands. Signs will be placed in areas where encroachment is likely or already occurring. Aquatic, riparian, and wetland areas need the protection of a permanent vegetative cover to reduce erosion into adjacent waterways. Maintaining connectivity between drainages facilitates wildlife migration, provides habitat cover for small and large mammals, shades stream banks, and ultimately allows for reduced erosion into Cypress and Little Cypress Creeks. The KYARNG uses the following habitat management techniques for maintenance of the riparian, wetland, and aquatic ecosystems on the WHFRTC

- Monitor and maintain wetland, floodplain and other aquatic ecosystems through periodic PLS, troop awareness, and the implementation of soil and water conservation management techniques (see **Section 6.5**).
- Follow the Guidelines for Management of Floodplains, Wetlands, and Aquatic Areas:
 - Caution should be taken within 100-feet of either side of a stream for the presence of small isolated wetlands (Gravatt et al., 1999).
 - Avoid the net loss of size, function, or value of wetlands. Avoid modification of flood plains and wetlands where there are practical alternatives. Where no practicable alternatives exist, obtain necessary permits from the USACOE, KDFWR, and KDOW, and implement mitigating measures to minimize potential harm to life, property, and the natural values of flood plains and wetlands.
 - Present all construction project plans to the Environmental Office for review as far in advance as possible; special permits are required when disturbing federal jurisdictional wetlands, perennial or intermittent streams.
 - Maintain wetland and floodplain riparian vegetation buffers to reduce build-up of sediments and the delivery of chemical pollutants to streams and wetlands.

- Monitor and direct the location and use of toxic substances, such as pesticides, petroleum products, and other hazardous substances to minimize the risk of water contamination.
- Monitor erosion along the intermittent streams within the training site boundaries. Walk the streambanks annually during the winter months when erosion is most visible. Mark erosion sites on a map and take appropriate corrective measures.
- Aquatic, Riparian, and Wetland Ecosystem Management Policies in **Table 26** will be implemented.

TABLE 26. AQUATIC HABITAT MANAGEMENT POLICIES AT WHFRTC	
TOPIC	POLICY
Streamside Management Zones or Riparian Buffer Zones	<p>Streamside management zones shall be designated and managed along perennial (Cypress Creek and Little Cypress Creek) and intermittent streams and ponds to prevent sediment from entering waters of the Commonwealth. Methods to prevent sedimentation to streams include, but are not limited to, the following:</p> <ul style="list-style-type: none"> a. No digging for training purposes, mowing, or construction activities is allowed 100-feet on either side of streams without prior review and permission from the NCOIC and the Environmental Office. b. Trees will not be removed within an SMZ without prior approval from the Training Site Engineer and an inspection prior to removal operations to ensure that the tree is not being used as a bat roosting or maternity colony site. c. Avoid operating any vehicles within an SMZ, and cross intermittent streams only at established trail and road culvert crossings.
Wetland Buffer Zones	<p>Tracked and wheeled vehicles shall not be driven within 50-feet of wetlands (marked with Siebert stakes or equivalent where necessary). Foot traffic in wetlands is permissible at any time of the year; however, excessive foot traffic can cause soil instability, which can increase sedimentation of Cypress and Little Cypress Creeks. No soil disturbance may occur within a 50-foot zone around wetlands without first notifying the KYARNG Environmental Office. Permits may be necessary for all soil disturbing activities within 50 feet of wetlands on the site.</p>
Vehicle Movement and Training Activities	<p>No tank traps, foxholes, hull downs, tent drainages, or similar excavations are permitted on dams or emergency spillways of any water impoundments. Vehicle traffic on the dams will be confined to existing roads.</p> <p>Movement of any soil must be approved. Digging/Excavation will have prior approval of the Training Site Engineer.</p> <p>No soil disturbance may occur within this 50-foot zone around wetlands without first notifying the KYARNG Environmental Office. Permits may be necessary for all soil disturbing activities within 50 feet of wetlands on the site.</p> <p>Cross intermittent streams only at established trail and road culvert crossings.</p> <p>Avoid operating any vehicles within an SMZ.</p>
Vehicle Movement and Training Activities <i>Continued</i>	<p>Tracked and wheeled vehicles shall not be driven within 50-feet of wetlands (marked with Siebert stakes or equivalent). Foot traffic in wetlands is permissible at any time of the year; however, excessive foot traffic can cause soil instability, which can increase sedimentation of Cypress and Little Cypress Creeks.</p> <p>Vehicle refueling on range firing lines or in training areas is prohibited. Units will clean up any petroleum, oil spills and lubricant contamination before clearing the training area</p> <p>Report all hazardous materials/petroleum spills to the Training Site Engineer through Range Control immediately. Reportable quantity spills must be reported to KDEP immediately. Manage spills in accordance with the KYARNG Hazardous Materials/Waste Management Plan.</p>

TABLE 26. AQUATIC HABITAT MANAGEMENT POLICIES AT WHFRTC

TOPIC	POLICY
Wildlife and Natural Resources Protection	Should potential rare, threatened or endangered species listed be encountered on the training area at any time, contact the KYARNG Environmental Program Manager, who will contact the KSNPC, KDFWR, and USFWS, depending on jurisdiction.

6.7 TERRESTRIAL HABITAT MANAGEMENT

Terrestrial habitat at WHFRTC includes forests and grassland. **Section 4.2** provides a complete summary and description of the community types found on the installation. According to White and Yahn (2006), invasion of non-native species is currently the most detrimental factor affecting the health of the natural vegetation communities on WHFRTC. Invasive/exotic species management is addressed in **Section 6.8**. Laws, regulations, and EOs pertaining to terrestrial habitat management are listed in **Table 27** and described in **Appendix E**.

TABLE 27. LAWS, REGULATIONS, AND EXECUTIVE ORDERS APPLICABLE TO WETLANDS MANAGEMENT AT WHFRTC

REQUIREMENT	TITLE
Law	Federal Insecticide, Fungicide, and Rodenticide Act (6 USC §136) Forest and Rangeland Renewable Resources Planning Act (16 USC §1601 <i>et seq.</i>) Sale of Certain Interests in Land, Logs (10 USC §2665) Migratory Bird Treaty Act, as amended (16 USC §703-712) The WHFRTC is a state-owned facility and is not directly subject to the Sikes Act "Conservation Programs on Military Reservations" (16 U.S. Code (USC) §670a <i>et seq.</i>), as amended. However, Army policy is to follow DoD and ARNG guidance on state-owned facilities.
Army Regulation	AR 200-1, <i>Environmental Protection and Enhancement</i>

6.7.1 FOREST MANAGEMENT

Approximately 61 percent (6,545 acres) of the WHFRTC is forested. Because a forest inventory has not been conducted, forest management strategies have focused on providing habitat for troop concealment purposes and avoiding impacts to wildlife habitat. As part of this INRMP update, a Forest Management Plan (FMP) was developed for the WHFRTC and is provided in **Appendix H**. This plan outlines specific goals, objectives management policies, and projects to manage forest land at the WHFRTC.

6.7.2 GRASSLAND MANAGEMENT

The grassland ecosystem includes mixed grasses/forbs and native/exotic shrublands. Maintenance of a healthy grassland ecosystem will provide vital maneuver opportunities for field training exercises at the training site and vital habitat for ground-nesting birds and other grassland dependent species. Grasslands (open treeless areas) are especially important to the military mission for tracked and wheeled maneuver exercises. Grasslands and shrub-dominated areas at WHFRTC also provide cover for wildlife as well. Bird species listed in **Section 5.4.2** will also benefit from grassland habitat management on the training site. Without some type of human intervention (e.g., mowing or the introduction of fire), over time open grassy areas will close in with shrubs and trees and become less than ideal for military purposes and grassland-dependent species. The KYARNG utilizes the following habitat management techniques for maintenance of the grassland ecosystem on the WHFRTC:

- Mow and bushhog grasslands as needed. In areas where open grassland is maintained by mowing, mow in strips or a mosaic pattern to increase habitat diversity for small mammals and birds. Remove hay when cut to simulate grazing by large mammals. The accumulation of litter gradually diminishes grassland vigor.
- Conduct PLS (floristic, faunal, migratory bird, and erosion surveys).
- Continue using prescribed fire (see **Section 6.7.3**) to maintain maneuver areas and habitat for northern harriers, Henslow's sparrow, lark sparrow, Bell's vireo, short-eared owl, long-eared owl and their principal small rodent prey (Dechant et al. 2001a, 2001b).
- The Simulated Urban Area in TA 3 is prime Bell's vireo habitat. The birds nest from approximately April 15 through August 15 in the thick, brushy areas, and any disturbances to this area (such as mowing, bushhogging, vehicle maneuver, or burning) during this critical time period should be avoided. Dismounted troop movement will have little or no effect on the habitat.
- Manage riparian areas and wetlands adjacent to grasslands. Allow SMZ that are currently in mixed grass/forbs to succeed to shrub communities and then to riparian forest by ceasing mowing within 100 feet of Cypress and Little Cypress Creek, within 50 feet of intermittent streams, and within 50 feet of wetlands. Mark areas with Sieber stakes as needed.
- Monitor grasslands regularly for areas needing rehabilitation and after implementing management practices. Rehabilitate any loss of soils or vegetation in areas where vegetation does not recover naturally and/or soils have been disturbed during military training exercises.
- Discontinue mowing of vegetation in the floodplain and within 100 feet of streams and wetlands, so that riparian vegetation remains established around wetlands and stream banks.
- Delay mowing practices during the breeding season for grassland birds to enhance brood survival. Recommended time to exclude mowing within the grasslands is from April to September. Late March or November is the best time to mow. Vegetation management during these times allows for sufficient plant growth, which provides nesting for bird species and winter cover for other wildlife.
- Minimize pesticide use in the grasslands. Pesticides can affect insect species and the birds that rely on them for food. Pesticide use on grasslands is also expensive because of the large areas that must be treated. Do not use chemical pesticides in habitats used for nesting, breeding, or foraging by northern harriers, Henslow's sparrow, lark sparrow, Bell's vireo, short-eared owl, long-eared owl. Pesticides can affect insect species and the birds that rely on them for food.
- Do not plant KY 31 Fescue (*Festuca arundinacea*), Chinese, Korean, or Kobe lespedezas (*Lespedeza bicolor*, *L. cuneata*, and *L. stipulacea*), as these species provide very little benefit to wildlife and may even be detrimental. Instead, use other locally grown (or developed) native grasses and native lespedezas. An exception may be needed as part of mine reclamation activities.

- Maintain large, non-fragmented tracts of quality habitat for the survival and maintenance of neotropical migratory bird and large mammal populations. Configuration of protected habitats should conform to shapes that minimize edge-to-area ratios (Reese and Ratti, 1988). Circular shapes are preferable in achieving this goal. Narrow, linear, or small protected habitats should be avoided if possible.
- Educate all military personnel about species dependent on grasslands and their habitats. Ensure that any sensitive species discovered on the training site in the next five years are included in Environmental Awareness training materials and monitored (especially ground-nesting birds).
- Plant stands of native prairie grasses for hay production on prime farmland plots.
- Maintain the sod farm on prime farmland soils for erosion control vegetation.
- Continue to implement ITAM Program and Natural Resources projects that will benefit grasslands. Monitor the grassland ecosystem through RTLA monitoring. The SRP process within the LRAM portion of the ITAM program identifies areas needing rehabilitation, and LRAM projects rehabilitate loss of soils or vegetation in areas where vegetation does not recover naturally and/or soils have been disturbed during military training exercises. The SRA portion of the ITAM program and the TRI portion of the ITAM program contain policies and procedures for educating and informing troops about protection of natural resources.
- Continue with the completion of Environmental Pre-Activity Surveys prior to digging emplacements (e.g., foxholes and individual fighting positions, etc.) in accordance with KYARNG Regulation 350-7. The Training Site NCOIC and the Environmental Office will use the Environmental Pre-Activity Survey to determine if further environmental review is needed.

6.7.3 FIRE MANAGEMENT

Wildfire has the potential to severely damage property, natural resources and to endanger human life. The effects of wildfire on the military mission are twofold: primarily the destruction of natural vegetative communities, training structures, and equipment, and secondarily, exposing sensitive areas to weather events, which could result in soil erosion.

A state-wide Integrated Wildland Fire Management Plan (IWFMP) has been prepared for the KYARNG training sites, including the WHFRTC. Army policy requires that IWFMP be developed for installations with unimproved grounds that present a wildfire hazard and/or installations that utilize prescribed burns as a land management tool. The IWFMP must be compliant and integral with INRMP, the installation's existing fire and emergency services program plan, and the Integrated Cultural Resources Management Plan (ICRMP). The purpose of the IWFMP is to reduce wildfire potential, effectively protect and enhance valuable natural resources, integrate applicable state and local permit and reporting requirements, and implement ecosystem management goals and objectives on Army installations (DA 2002). Responsibility for implementation of the IWFMP falls on TAG, who designates a Wildland Fire Program Manager (WFPM) to administer the plan.

The goals of the IWFMP reflect the KYARNG's commitment to safety and the sustainable use of training land, as well as its long-term vision for the WHFRTC terrestrial habitat.

- **GOAL 1: SAFETY** - Provide first and foremost for firefighter, military personnel and public safety. Ensure that all fire management activities implement suppression and control practices and technologies, which minimize resource damage and unnecessary suppression and rehabilitation costs.
- **GOAL 2: MILITARY MISSION** - Support the military training mission at the WHFRTC by managing wildland fire to sustain military training areas.
- **GOAL 3: ECOSYSTEM MANAGEMENT** - Maintain, protect, and improve ecological integrity at WHFRTC.

Major components of the IWFMP include: a general description of the installation; information pertaining to the causes and management of wildfires that occur on site; and WHFRTC's prescribed burning program. In general, wildfires rarely occur at WHFRTC and one has never escaped the training center's boundary. In circumstances where wildfires have occurred, the KYARNG has had the manpower and equipment to bring them under control. The KYARNG routinely uses prescribed fire to maintain grassland ecosystems, enhance rare species habitat, and control undesired exotic vegetation by reduction of vegetative litter. Site specific burn plans are completed prior to all prescribed burns.

The WHFRTC has defined 20 burn units (**Figure 7**). These areas are burned on a rotation basis, which is discussed in the IWFMP.

6.7.4 AGRICULTURAL OUTLEASING

The KYARNG has allowed limited haying by private entities at the WHFRTC to help maintain grasslands. Although a variety of agricultural interests are feasible at the WHFRTC, hay production is most conducive to training activities. Currently, no formal agricultural outleases are in effect at WHFRTC. Any future leases would be established and managed by KDMA.

6.8 INTEGRATED PEST MANAGEMENT

IPM is "a comprehensive approach to pest control or prevention that considers various chemical, physical, and biological suppression techniques; the habitat of the pest; and the interrelationship between pest populations and the ecosystem" (AR 200-1). Laws, regulations, and executive orders pertaining to integrated pest management are listed in **Table 28** and discussed in **Appendix E**.

TABLE 28. LAWS, REGULATIONS, AND EXECUTIVE ORDERS APPLICABLE TO INTEGRATED PEST MANAGEMENT AT WHFRTC	
REQUIREMENT	TITLE
Federal Law	Federal Noxious Weed Act of 1974 (7 USC §2801 et seq.) Federal Insecticide, Fungicide, and Rodenticide Act (7 USC §136) Federal Pest Plant Act (7 USC §150a et seq.) National Aquatic Invasive Species Act of 2003 (NAISA)
Executive Order	EO 12865, Reduction of Pesticide Application by 50 percent by Fiscal Year (FY) 2000 EO 13112, Invasive Species
Kentucky Laws and Regulations	KRS Chapter 224; 401 KAR 5:031, Water Resources Protection Laws KRS Chapters 217.541 et seq., 249; 250: Noxious Weed Control 405 KAR 16:180 and 405 KAR 18:180, Wetland Protection

6.8.1 STATEWIDE PEST MANAGEMENT PLAN

The KYARNG Statewide IPM Plan governs pest management operations at KYARNG facilities. It describes the KYARNG's pest management requirements, outlines the resources necessary for surveillance and control, and describes the administrative, safety, and environmental requirements of the program.

The KYARNG Pest Management Coordinator is responsible for overall program administration, oversight, quality assurance, scope of work reviews, record keeping, and reporting. The Coordinator annually evaluates ongoing pest control operations and evaluates all new pest management operations to ensure compliance with the ESA and MBTA. A copy of the Statewide IPM Plan and other pest management files are kept in the KYARNG Environmental Office in Frankfort.

6.8.2 KYARNG PEST MANAGEMENT APPROACH

The Statewide IPM Plan sets forth a three-step approach to controlling an unwanted plant or animal, as shown in **Table 29**.

TABLE 29. KYARNG APPROACH TO PEST SPECIES MANAGEMENT		
STEP	DESCRIPTION	
1	Assess Species Level	Assess species abundance before using any control approach. In most cases, periodic visual inspections should be sufficient to determine population levels of invasive species. Maps, permanent plots, or photographs can be used to help determine levels of specific plant or animal species. A determination of how much a plant is spreading will be made before control is attempted.
2	Attempt Control *	Cultural Control: Manipulate environmental conditions to suppress or eliminate pests. For example, removing trash from the training areas will eliminate a source of food for predators and, through good sanitary practices, may prevent pest populations from becoming established. <i>Cultural controls should always be the first attempt at controlling pests at the training site.</i>
		Mechanical/Physical Control: Alter the environment in which a pest lives by mechanically removing or trapping pests from where they are not wanted or preventing their entrance. Another type of cultural control for weedy vegetation is the use of hot water treatment using a steam unit to eliminate weeds and seed production. Perennial weeds may need subsequent treatment to provide complete control.
		Biological Control: Use predators, parasites or disease organisms to control pest populations. Biological control may be effective by itself, but is often used in conjunction with other types of control.
		Chemical Control: Chemicals were once considered to be the most effective control available, but pest resistance rendered many pesticides ineffective. In recent years, the trend has been to use pesticides that have limited residual action. While this has reduced human exposure and lessened environmental impact, the cost of chemical control has risen due to requirements for more frequent application. Since personal protection and special handling and storage requirements are necessary with the use of chemicals, the overall cost of using chemicals as a sole means of control can be quite costly when compared with nonchemical control methods. <i>Whenever possible, chemical control will be considered the last option when performing control operations and most likely will be used in conjunction with other control methods.</i>
3	Monitor Results	Monitor control method efficiency after control methods have been undertaken. Periodic visual inspections, interpretation of aerial photos, and photo point monitoring should be sufficient to monitor most invasive plant and animal species. Populations of invasive exotic plant or animal species will be resurveyed and compared to the baseline determination of a species level after control efforts are implemented. This can be accomplished during routine site inspections. Units should report suspected rabid or injured animals to their field commander, who will report the occurrence to the KDFWR District Biologist at (606) 864-9358.
* Attempt control using these general means. Specific control prescriptions are contained in the Kentucky IPM Plan. Source: KYARNG Statewide IPM Plan		

6.8.3 PEST SPECIES MANAGEMENT

The Statewide IPM Plan provides detailed management information on the following topics, which will not be duplicated in this plan, with the exception of noxious and invasive plants identified at WHFRTC, which are discussed in **Sections 6.8.5 through 6.8.7**. Forest pest management is discussed in **Appendix H**.

- Disease Vectors and Public Health Pests
- Pest of Real Property
- Stored Food Product Pests
- Noxious and Invasive Plants
- Ornamental Plant and Turf Pests
- Other Undesirable Vegetation
- Animal Pests
- Household and Nuisance Pests
- Other Pest Management Requirements

6.8.4 USE OF CHEMICALS AT WHRTC

Herbicides can be used to control unwanted vegetation in areas where mechanical mowing is difficult or not cost effective. A wide range of USEPA-registered herbicides are available for use at the WHFRTC, but only those herbicides pre-approved by the KYARNG Pesticide Coordinator and included in the KYARNG IPM Plan may be used. Herbicides can also be used to conduct Timber Stand Improvement (TSI) and to control invasive plants and noxious weeds through subcontracted projects. Aquatic weed control, if necessary, would be done by KYARNG or subcontracted. Treatment is typically done to control non-native invading species, and to control weeds in designated fishing ponds. The Kentucky Department of Agriculture is available for technical support.

6.8.5 NOXIOUS WEEDS

Noxious weeds are defined as “any living stage (including but not limited to, seeds and reproductive parts) of any parasitic or other plant of a kind, or subdivision of a kind, which is of foreign origin, is new to or not widely prevalent in the United States, and can directly or indirectly injure crops, other useful plants, livestock, or poultry or other interests of agriculture, including irrigation, or navigation or the fish and wildlife resources of the United States or the public health (*Federal Noxious Weed Act of 1974*).”

The Federal Noxious Weed Act of 1974 and EO 13112 require Federal agencies to control exotic species on Federal lands. The USDA has designated 104 species as Federally-listed Noxious Weeds; none have been identified at WHFRTC to date. The Kentucky Department of Agriculture is authorized to prevent the importation and spread of pests that are injurious to the public interest and for the protection of the agricultural industry. Of the eight Kentucky-listed Noxious Weeds species, five have been identified at WHFRTC (see **Table 30**). Recommendations for these five species are presented in the following sections.

TABLE 30. KENTUCKY STATE-LISTED NOXIOUS WEEDS

COMMON NAME	SCIENTIFIC NAME	CODE	U.S. NATIVITY
Musk thistle*+	<i>Carduus nutans</i>	CANU4	Invasive
Canada thistle	<i>Cirsium arvense</i>	CIAR4	Invasive
Kudzu	<i>Puereria lobata</i>	PULO	Invasive
Multiflora rose*	<i>Rosa multiflora</i>	ROMU	Invasive
Giant foxtail*	<i>Setaria faberi</i>	SEFA	Invasive
Burr cucumber*	<i>Sicyos angulatus</i>	SIAN	Native
Black nightshade	<i>Solanum ptycanthum</i>	SOPT7	Native
Johnsongrass* +	<i>Sorghum halepense</i>	SOHA	Invasive

* designates species which have been identified at WHFRTC (White and Yahn, 2006).
+ designates species actively controlled at WHFRTC

6.8.5.1 MUSK THISTLE**MUSK THISTLE**

Source: Elaine Haug,
Smithsonian Institute of
Systematic Biology–Botany
Woodbridge Occoquan National
Wildlife Refuge

Musk (or nodding) thistle (*Carduus nutans*) is a large plant, growing up to 6 feet tall and flowering from June through October. Plants typically overwinter as rosettes and send up flowering stalks the following spring. Seeds mature and can begin dispersing within 7 to 10 days of flowering. Each thistle produces many seeds, often in excess of 10,000 seeds per plant. The fine filaments or pappus (thistle down) of the seed coat permit windborne dispersal over long distances to suitable habitats.

Musk thistle has been formally designated as a noxious weed by Kentucky state law (KRS Chapter 249). As such, all landowners are required to control the plant if it is growing on their property. Control is considered to be prevention of seed production. The spread of musk thistles has become a significant problem at the WHFRTC. In most cases, periodic visual inspections should be sufficient to monitor thistle populations. This can be accomplished by the use of maps, permanent plots, and photographs.

Control Methods: Biological control methods include two exotic weevils that can reduce population numbers of the musk thistle: the flower head weevil (*Rhinocyllus conicus*), a European weevil that feeds on developing thistle seed heads; and the rosette weevil (*Trichosirocalus horridus*) another European weevil that feeds on thistle rosettes. In May of 1996, 600 flower head weevils were introduced to three of four high-density musk thistle sites on the WHFRTC. Larvae of this species feed beneath developing seeds, destroying them, and pupate in the flowers; adults emerge in mid-summer and hibernate in overwintering floral rosettes. There is one generation of thistle-head weevils per year.

Mechanical control methods include cutting and removing, or mowing thistles within 2-3 days after terminal blooms flower in late April or early May. This results in plants that will not produce seed or regenerate significantly. Time of mowing is important; for example, if mowing is delayed to only four days after the terminal bloom flowers, significant amounts of seed are produced. Since thistle stands mature at different times, careful monitoring and proper timing are necessary for mowing to be a viable IPM option. However, even if mowing is done late and seed is produced, mowing the stalks will reduce seed dispersal and seed production, keeping infestations from spreading widely.

Biological controls can be combined with cultural controls such as timely mowing or reseeding with competitive desirable plants. Mechanical controls should be used early in the season to stress the plants, and natural enemies allowed to enter the system to further weaken and eliminate thistles. Controlled burning may only damage the above ground portion of the thistle allowing rapid regrowth from the root section or from seed. Fire should be used only in combination with other control measures.

6.8.5.2 MULTIFLORA ROSE

Multiflora rose is an introduced, thorny shrub that can form impenetrable thickets in successional fields, pastures, roadsides, and in dense forests, particularly near natural disturbances such as treefall gaps and along streambanks. A single mature plant can produce up to half a million seeds annually. If well established, a huge seed bank develops that can continue to produce seedlings for at least 20 years after removal of mature plants. Control is difficult in areas where steep slopes prevent mowing access (KYDOF, 2007). Control can be obtained through cut stump application of glyphosate, piclorum, or triclopyr herbicides.



MULTIFLORA ROSE

Source: James H. Miller,
USDA Forest Service, Bugwood.org

Such applications are most effective late in the growing season (July-September), and also during the dormant season. Alternatively, repeated cutting or mowing (i.e., three to six times during the growing season), in more than one growing season, can result in high plant mortality. Removal of individual plants by pulling or grubbing is generally not effective as new plants will readily sprout from remaining roots. The routine use of prescribed fire has been shown to hinder expansion (MDC, 2006; White and Yahn, 2006).

6.8.5.3 GIANT FOXTAIL



Giant Foxtail

Source: Robert H. Mohlenbrock,
USDA-NRCS PLANTS Database

Giant foxtail (*Setaria faberi*), also called Japanese bristlegrass, is a common annual grassy weed. It arrived in North America in the 1930s from Asia. Stems can grow 6 to 12 feet, the leaf blades can be 20 inches long. The inflorescence, or support system for the flowers, looks like a bushy tail. Giant foxtail is a weed in gardens or field crops, but to wildlife the large seeds are a food source (MU Extension, 2007).

A number of herbicides are effective on giant foxtail; however, repeated use has led to resistance (CDFA, 2007).

It is often spread by poorly composted manure and "dirty" hay or straw. The seeds have an approximate 2 year lifespan in the soil. To avoid new infestations, use only certified seed, always clean equipment after working in infested areas. Remove plants by hand, dig up, or till before seeds are produced. Fire is not recommended as it seems to promote the spread of this plant (USFS 2006). Giant foxtail can be effectively controlled with a number of herbicides such as metolachlor and nicosulfuron. This plant is known to be resistant to some herbicides, such as clethodim, fenoxaprop-p-ethyl, fluazifop-p-butyl, quizalofop-p-ethyl, and sethoxydim (USFS 2006).

6.8.5.4 BURR CUCUMBER

Burr cucumber (*Sicyos angulatus*) is a climbing weed found in forests and shady, damp places, and along streams and roads. Vines are slightly fuzzy and can reach lengths of 15-25 feet. Leaves are relatively circular in shape and resemble cultivated cucumber leaves with three to five shallow lobes. Its flowers range from white to green. Fruits are borne in clusters of three to ten. Each fuzzy, yellow fruit is only about 1/2 to 3/4 inches long and about 1/4 inch thick, and covered with prickly bristles. Inside each fruit is a single, flat, egg-shaped seed (UMN Extension 2007).

Repeatedly pulling or cultivation of young plants before they have set seed will reduce the number of seeds in the area over time.

Dicamba, the active ingredient in some post-emergent herbicides, will control burr cucumber, but it should not be used under the canopy of trees and shrubs because rain or irrigation water can wash it into the root zone where it will be a problem (UMN Extension 2007). Glyphosate, the active ingredient in post-emergent herbicides such as Round-Up, can be sprayed or painted onto young plants early in the season. This product may be used around trees as it will not be absorbed by the roots or bark.



BURR CUCUMBER

Source: Robert H. Mohlenbrock,
USDA-NRCS PLANTS Database

6.8.5.5 JOHNSON GRASS



JOHNSONGRASS

Source: Lowell Usbatsch
USDA-NRCS PLANTS Database

Johnson grass is a tall, coarse, perennial grass with stout (up to 3/4 inches in diameter) rhizomes. It grows in dense clumps or nearly solid stands and can reach 8 feet in height. Leaves are smooth, 6 to 20 inches long, and have a white or light green mid-vein. Stems are pink to rusty red near the base. Seeds are reddish-brown and nearly 1/8 inch long. This species was originally native to the Mediterranean and now occurs in all warm-temperate regions of the world. It occurs in crop fields, pastures, abandoned fields, rights-of-way, forest edges, and along stream banks. It thrives in open, disturbed, rich, bottom ground, particularly in cultivated fields.

The thick rhizomes live over winter and in the spring send out new, white, spur-like shoots. The grass leaves emerge late in spring and the plant forms seed by July 1. A single plant may produce over 80,000 seeds per year. Stems and leaves die back after the first frost, but the dead litter often covers the ground all winter. Rhizome cuttings commonly form new plants, making it very difficult to eradicate. It spreads rapidly and is not affected by many of the agricultural herbicides.

Control Methods**Mechanical Controls**

- **Mowing/Cutting:** For areas of heavy infestation, repeated and close mowing kills Johnson grass seedlings, prevents seed production, and reduces rhizome growth and regrowth of shoots. In areas of light infestation, cutting and removal of seed heads during early July and then spot application of 2% Roundup to the foliage usually will be effective if continued for 3-4 years.
- **Hand Pulling/Grubbing:** Clumps and individual plants may be hand pulled during June just after a rain when the ground is soft. All plant parts should be removed from the area. Broken stems and roots left in the ground should be dug up if only a small area is involved. It may be necessary to hand pull a population several times to obtain control. Surrounding seed sources should be eliminated, where possible, to prevent continual reinvasion.

Herbicidal Controls

- **Foliar spray Method:** Dense patches can be controlled by spraying the foliage with 2% glyphosate (tradename Roundup) using a hand sprayer or backpack sprayer. Best results are obtained when glyphosate is applied to plants that are 18 inches tall to early flowering stage. During this period, the herbicide will be most effectively translocated to the roots and rhizomes. Since Roundup is a nonselective herbicide, care should be taken to avoid contacting non-target plants. Do not spray so heavily that herbicide drips off the target species. The herbicide should be sprayed while backing away from the area to avoid walking through wet herbicide. By law, herbicides may only be applied as per label instructions. Herbicide treatment may need to be repeated for several years to ensure good control.

6.8.6 NON-NATIVE INVASIVE PLANTS AT WHFRTC

Invasive and exotic species may include plants, insects, or animals. An **invasive** species is defined as “an alien species whose introduction does or is likely to cause economic or environmental harm or harm to human health.” An alien (or **exotic**) species is defined as a “species including its seeds, eggs, spores, or other biological material capable of propagating that species that is not native to that ecosystem (EO 13112)”. Because of their invasive capacity, many exotic species have the ability to spread rapidly through ecosystems since their natural predators are often not present. Such species often retard natural succession and reforestation and generally cause a reduction of biological diversity in natural ecosystems. Management action is needed to keep them under control.

Control is only legally required for species found on the USDA federal noxious weed list, none of which have been identified at WHFRTC. However, the KY-EPPC recommends that Rank 1 (severe threat) and Rank 2 (significant threat) species be controlled and managed in the early stages of detection when possible. The “Lesser Threat” and “Watch List” species may become problems in the future and should be monitored. This approach is consistent with EO 13112.

The KYARNG's primary approach to control undesirable vegetation is by mowing in areas where vegetation growth is unwanted or would interfere with military operations. The following section provides specific management strategies for the invasive/exotic pest plants listed as a “severe threat” by KEPPC and documented at WHFRTC during the most recent botanical survey (Littlefield and Yahn 2006).

Additional management recommendations to control or eradicate invasive pest plants on the WHFRTC are available from the Plant Conservation Alliance Alien Plant Working Group's internet-based project “Alien Plant Invaders of Natural Areas: Weeds Gone Wild” (<http://www.nps.gov/plants/alien/>).

6.8.7 SEVERE THREAT INVASIVE/EXOTIC PLANT SPECIES

6.8.7.1 PURPLE CROWN VETCH



PURPLE CROWN VETCH

Source: Jim Stasz

USDA-NRCS PLANTS Database

Purple crown vetch (*Coronilla varia*) is a perennial, herbaceous legume that flowers from May to August. Flowers are in clusters and range from pinkish lavender to white. This plant spreads rapidly by seed and by its creeping root system. Purple crown vetch is distinguished by its compound leaves with an odd number of leaflets (15 to 25), the presence of leaves and flower stalks arising from the main stem, and the occurrence of flowers in an umbel. The preferred habitat of this plant is open, sunny areas. It occurs along roadsides and in open fields (INPC 2007). For small infestations of mature plants, hand pulling can be effective. Mowing during the flower bud stage for 2 to 3 years may reduce vigor and control spread. Be sure to cut plants low to the ground before they seed. Application of triclopyr and glyphosphate subsequent to mowing can also be effective. Repeat treatments are necessary to control this species effectively (White and Yahn 2006).

6.8.7.2 AUTUMN AND RUSSIAN OLIVE

Autumn olive (*Elaeagnus umbellata*) and Russian olive (*Elaeagnus angustifolia*) are medium to large shrubs which often reach heights of 20 feet. These exotic (non-native) species were planted on the site during mine reclamation to provide cover for wildlife and serve as soil stabilizers and enrichers. Both species have nitrogen-fixing root nodules, which allow them to thrive in poor soils. Autumn and Russian olive have silvery white scales covering the lower leaf surface. Autumn olive has oval-shaped leaves; whereas, Russian olive has narrower leaves that are lance-shaped. Plants flower and develop fruit annually after reaching three years of age. An individual plant can produce up to eight pounds of fruit. Once established, the species are highly invasive and difficult to control. They can create heavy shade which suppresses plants that require direct sunlight, such as grasses. Burned, mowed, or cut plants will resprout vigorously.

Eradication of these noxious weeds is desired because they will serve as a concentrated seed source for the entire region around the training site. However, these shrubby plants serve as troop concealment in the Simulated Urban Area near the Northern

Lake and also provide nesting cover for Bell's vireo in the grassland/shrub ecosystem of the training site. For this reason, control of existing areas can only be undertaken after suitable Bell's vireo habitat and concealment areas are created using non-aggressive native shrub species (See **Chapter 5.3** for recommended species).

Approximately 370 acres are planted in Autumn and Russian olive shrubs. At this time a determination of how much the plant is spreading should be made before control is attempted. These units should not be burned, mowed, or cut without some kind of herbicide treatment.

Control Methods

Young seedlings and sprouts can be hand-pulled in early spring when adequate ground moisture is present to allow removal of the root system along with above-ground growth. The olives are easily seen in early spring because their leaves appear while most native vegetation is still dormant.



AUTUMN OLIVE

Source: Herman, D.E. et al.
USDA-NRCS PLANTS Database

A combination of mechanical and chemical treatment appears to be the most successful. Cutting the plant off at the main stem and applying herbicide to the stump has been effective in killing root systems and preventing resprouting. Recommended herbicides include a 10-20% solution of glyphosate (tradename Roundup) applied to the cut stump or a narrow band of undiluted triclopyr (tradename Garlon 4) can be applied around the base of the plant 6-12 inches above the ground. Cut stump treatment is particularly effective late in the growing season (July to September), but is also effective during the dormant season (October to March). Treatment of cut stumps should occur within minutes of cutting (Missouri Department of Conservation 1993). None of the recommended herbicides are restricted use pesticides.

6.8.7.3 CHINESE LESPEDEZA



CHINESE LESPEDEZA

Source: G.A. Cooper, USDA-NRCS PLANTS

Chinese lespedeza is a warm season, perennial herb in the pea family, or Fabaceae. Chinese lespedeza is native to eastern Asia and was first introduced in the southern United States. Widespread use of lespedeza by federal and state agencies for bank stabilization, soil improvement, wildlife and forage and cover, and hay facilitated its spread throughout the eastern United States.

It has an erect growth form, ranging from about 3 to 5½ feet in height, and leaves that alternate along the stem. Each leaf is divided into three smaller leaflets, about ½ to 1 inch long, which are narrowly oblong and pointed, with awl-shaped spines. Leaflets are covered with densely flattened hairs, giving a grayish-green or silvery appearance. Mature stems are somewhat woody and fibrous with sharp, stiff, flattened bristles. Violet to purple flowers emerge either singly or in clusters of 2-4, from the axils of the upper and median leaves.

Chinese lespedeza, sometimes called sericea lespedeza, is primarily a threat to open areas, such as meadows, prairies, open woodlands, wetland borders and fields. Chinese lespedeza can grow in a variety of habitats including severely eroded sterile soils. It will invade open woodlands, fields, prairies, borders of ponds and swamps, meadows, and open disturbed ground, but is intolerant of shade. Once it gains a foothold, it can crowd out native plants and develop an extensive seed bank in the soil, ensuring its long residence at a site. Established dense stands of lespedeza suppress native flora and its high tannin content makes it unpalatable to native wildlife as well as livestock.

Chinese lespedeza begins growth from root crown buds at the base of last year's stem. The flowers begin to develop in late July and continue through October. Within the *Lespedeza* genus there are no specialized structures for seed dispersal. Dispersal is aided by animals consuming the fruits and passing the seeds. A study on natural populations found that several species of *Lespedeza* comprise 1.5% to 86.8% of the annual diet of bobwhite quail in the southeastern U.S. Autumn dispersal is aided by the haying of infested fields. Mature seeds of this genus remain viable for up to twenty years.

Control Methods

Mechanical control includes mowing of plants in the flower bud stage for 2 or 3 consecutive years may reduce the vigor of lespedeza stands and control further spread. Plants should be cut as low to the ground as possible and impact to adjacent native plants should be minimized as much as possible.

Herbicidal controls include the foliar spray method. Because root reserves increase up to the flower bud stage, all herbicide treatments should be completed in early to mid summer. The addition of a non-ionic surfactant at a concentration of 0.5% improves the effectiveness of foliar treatments. Triclopyr and clopyralid have been shown to be effective in controlling Chinese lespedeza. A 2% solution Triclopyr or 0.5% solution of clopyralid thoroughly mixed with water is effective during the vegetative stage prior to branching or during flowering. Treatments should cover the leaves and stems of plants to the point of runoff. These herbicides are not labeled for use in wet areas or adjacent to streams. On wet sites, a

foliar treatment with a 2% glyphosate herbicide mixture has proven effective from late June until seed set (White and Yahn 2006).

6.8.7.4 JAPANESE HONEYSUCKLE

Japanese honeysuckle (*Lonicera japonica*) is a perennial climbing or trailing woody vine in the Caprifoliaceae (Honeysuckle) family, introduced from Japan for its value as an ornamental, for erosion control, and for wildlife cover. It became established throughout the United States by the early 1900s and has now spread over the eastern and midwestern U.S. Japanese honeysuckle is still propagated and promoted as a ground cover in areas where it has not yet become a pest. This plant can reach a total height of 30-40 feet, depending on surrounding vegetation. Annual growth may reach 30 feet. The leaves are evergreen, and the vines are woody and range from very hairy to smooth. Flowers are very fragrant and are born in pairs in the axils, blooming from April to June. Fruits are small in diameter, black, containing 2-3 seeds each. Fruits mature from August to October.

Japanese honeysuckle starts its growing season in early spring when temperatures reach 34 to 48 °F. Plants reproduce by vegetative reproduction, in which stolons develop new roots. Seeds, dispersed widely by birds, may germinate in a variety of light conditions.



JAPANESE HONEYSUCKLE

Source: Jil M. Swearingen
National Park Service,
Washington D.C

Control Methods

Mechanical control includes grubbing. This method works for small initial populations or environmentally sensitive areas where herbicides cannot be used. Using a pulaski or similar digging tool, remove the entire plant, including all roots and runners. Juvenile plants can be hand pulled depending on soil conditions and root development; but must be completely removed so that the root system will not resprout. All plant parts, including mature fruit, should be bagged and disposed of in a trash dumpster to prevent reestablishment.

Prescribed burns or a combination of prescribed burns and herbicide spraying appears to be the best way to eradicate this vine. In fire-adapted communities, spring prescribed burns greatly reduce Japanese honeysuckle coverage and crown volume. Repeated fires reduce honeysuckle by as much as 50% over a single burn. A previously burned population of honeysuckle will recover after several years if fire is excluded during this time. By reducing honeysuckle coverage with fire, refined herbicide treatments may be applied, if considered necessary, using less chemical.

Herbicidal Controls include the foliar spray method. This method should be considered for large thickets of populations where risk to non-target species is minimal. Air temperature should be above 65°F to ensure absorption of herbicides.

- Glyphosate (tradename Roundup): Apply a 2% solution of glyphosate and water plus a 0.5% non-ionic surfactant thoroughly wetting all leaves after surrounding vegetation has become dormant (October-November). Use a low pressure and coarse spray pattern to reduce spray drift damage to non-target species. Glyphosate is a non-selective systemic herbicide that may kill non-target partially-sprayed plants.
- Triclopyr (tradename Garlon 4): Apply a 2% solution of triclopyr and water plus a 0.5% non-ionic surfactant to thoroughly wet all leaves. Use a low pressure and coarse spray pattern to reduce spray-drift damage to non-target species. Triclopyr is a selective herbicide for broadleaf species. In areas where desirable grasses are growing under or around multiflora rose, triclopyr can be used without non-target damage.

The cut stump method is another herbicidal control type. This control method should be considered where vines are established within or around non-target plants, or where they have grown into the canopy. This treatment remains effective at low temperatures as long as the ground is not frozen.

- Glyphosate (tradename Roundup): Cut the stem two inches above ground level. Immediately apply a 25% solution of glyphosate and water to the cross-section of the stem.
- Triclopyr (tradename Garlon 4): Cut the stem two inches above ground level. Immediately apply a 25% solution of triclopyr and water to the cross-section of the stem.

6.8.7.5 AMUR (BUSH) HONEYSUCKLE



AMUR HONEYSUCKLE

Source: Herman, D.E. et al.
USDA-NRCS PLANTS Database

Amur (bush) honeysuckle (*Lonicera maackii*) is an upright, deciduous shrub that grows to be 6 to 15 feet tall and has dark green leaves that end in a sharp point at the tip and the underside of the leaf has hair along the veins. Bush honeysuckles have a broad tolerance to a variety of moisture regimes and habitats including lake and stream banks, wetlands, prairie, and upland forest communities. Fruits are usually red to yellow. Birds are the main contributors of the spread of this species. Bush honeysuckle competes with native species by shading them. These shrubs have a longer leaf out period than most native species. In addition, they appear to produce an allelopathic chemical that enters the surrounding soil and inhibits native plant growth (INPC 2007).

Control Methods

For small infestations, hand removal of seedlings or small plants may be used for small populations; however, it is important to remove all portions of the root to avoid resprouting. For chemical control, use a foliar spray with a 2% glyphosphate or triclopyr mixture where risk to non-target species is minimal and when air temperatures are above 65 °F. Treatment of a 25% solution of glyphosphate or triclopyr immediately after cutting stumps is also effective (White and Yahn 2006).

6.8.7.6 SWEET CLOVER

White and yellow sweet clover (*Melilotus alba*, and *M. officinalis*), native to Europe and Asia, were used as a forage crop and soil builder during their initial introduction, and are now used as a wildlife cover crop and in production of honey. These biennial herbs have adapted to a variety of temperatures and light levels. In the first year, they put all energy reserves toward developing a strong root system, and in the second season they flower, set seeds and die. Thus, seed production is essential in proliferation. The leaves of both sweet clovers are alternate and trifoliate. Leaflets are finely-toothed and oblong. Mature

plants (second-year) may appear bushy and have small pea-like flowers that are yellow or white, which produce one or two seeds each. Areas most likely to contain sweet clover include roadsides, abandoned fields, railroad ballasts, pastures and any unflooded, open natural community such as a prairie (INPC 2007).

Control Methods

For small infestations, hand pulling of first year stems in late summer/early fall is a feasible method that can be utilized to control white and yellow sweet clover. Mowing in late spring/early summer may reduce,



YELLOW SWEET CLOVER

Source: Patrick J. Alexander
USDA-NRCS PLANTS Database

but not prevent seeds from setting. Burning two years in a row has also been found to reduce the size of sweet clover populations. If chemical control is required, use a foliar application of 2,4-D on young seedlings.

6.8.7.7 JAPANESE STILT GRASS



JAPANESE STILT GRASS

Source: Ted Bodner,
USDA-NRCS PLANTS Database

Japanese stiltgrass (*Microstegium vimineum*), is an annual colonial grass that spreads rapidly into disturbed lowland areas. *Microstegium* is native to Japan, Korea, China, Malaysia, and India. It was first identified in the U.S. in Knoxville, Tennessee in 1919, and in 1933 was collected in western North Carolina. By 1964, the grass had spread to 35 counties in North Carolina. By 1972, it had been identified in 14 eastern states, and in 1978, it was collected in Arkansas. *Microstegium* can be found throughout the state of Kentucky, primarily in previously disturbed mesic areas.

Inconspicuous at first, populations may go unnoticed until they have displaced native communities. It is a C-4 shade tolerant plant that can survive and reproduce under a closed forest canopy. It reaches a height of 24

to 39 inches. Plants bloom in August and September. Seeds mature over a period of about two weeks in September and October. Reproduction is exclusively from seed. Each plant may produce from 100 to 1,000 seeds that remain viable in the soil for five or more years. Seed dispersal is primarily by animals, flooding, and deposition with fill dirt.

This plant spreads rapidly into disturbed areas but can invade undisturbed areas by forming satellite populations brought in by animals or flooding. On fertile mesic sites, Japanese grass can replace competing ground vegetation within 3-5 years. *Microstegium* is adapted to low light conditions. It will grow and produce seed in light levels as low as 5% of full sunlight.

Control Methods

Mechanical Controls include mowing and cutting: Mow plants as close to the ground as possible using a weedeater or similar grass cutting tool. Treatments should be made when plants are in flower and before seeds are produced. Treatments made earlier may result in plants producing new seed heads in the axils of lower leaves.

Herbicidal Control includes herbicidal treatments that are made late in the growing season, but before the plants set seed. Treatments made earlier in the growing season may allow a second cohort of plants to produce seeds.

- Glyphosate (tradename Roundup): Apply a 2% solution of glyphosate and water plus a 0.5% non-ionic surfactant to thoroughly wet all foliage. Do not spray to the point of runoff. Ambient air temperature should be above 65°F to ensure translocation of the herbicide to the roots. Do not apply if rainfall is expected within two hours following application.
- Sethoxydin (tradename Poast): Apply a 1.5% solution of sethoxydin and water plus 1% nonphytotoxic vegetable-based oil to all foliage on a spray-to-wet basis. Do not spray to the point of runoff. Ambient air temperature should be above 65°F. Do not apply if rainfall is expected within one hour following application.

6.8.7.8 TREE OF HEAVEN

Tree-of-heaven (*Ailanthus altissima*) is a rapidly growing, deciduous tree in the mostly tropical quassia family (Simaroubaceae). Mature trees can reach 80 feet or more in height. It has smooth stems with pale gray bark, twigs which are light chestnut brown and large compound leaves. Small yellow-green flowers

have 5-6 petals and are borne in dense clusters near ends of upper stems. Pink to tan fruit is winged with a single seed in the middle. Roots have aggressive rhizomes. All parts of the tree, especially the flowers, have a strong, offensive odor similar to peanuts or cashews. Tree-of-heaven reproduces both sexually (seeds) and asexually (vegetative sprouts). Established trees also produce numerous suckers from the roots and re-sprout vigorously from cut stumps and root fragments.



TREE OF HEAVEN

Source: Ginger Webb
SW School of Botanical Medicine

This tree is found in disturbed soils, fields, roadsides, fencerows, woodland edges, forest openings, and rocky areas. It thrives in poor soils and tolerates pollution. It is not found in wetlands or shaded areas. Tree-of-heaven is a prolific seed producer, grows rapidly, forms thickets, dense stands, and can overrun native vegetation. It colonizes by root sprouts and spreads by prolific wind- and water-dispersed seeds. Once established, it can quickly take over a site and form an impenetrable thicket. They produce toxins that prevent the establishment of other plant species.

Control Methods

Manual: Young seedlings may be pulled or dug up, preferably when soil is moist. Care must be taken to remove the entire plant including all roots and fragments. Cutting large seed producing female trees would at least temporarily reduce spread by this method.

Chemical: It can be effectively controlled using any of several readily available general use herbicides such as triclopyr or imazapyr (USFS 2006). The herbicides may be applied as a foliar (to the leaves), basal bark, cut stump, or hack and squirt treatment. Basal bark application is one of the easiest methods and does not require any cutting. It works best during late winter/early spring and in summer. The cut stump method is useful in areas where the trees need to be removed from the site and will be cut as part of the process. The hack-and-squirt or injection method is very effective and minimizes sprouting and suckering when applied during the summer.

Biocontrol: A potential biological control for tree-of-heaven may lie in several fungal pathogens, (*Verticillium dahliae* and *Fusarium oxysporum*) that have been isolated from dead and dying tree-of-heaven trees in New York and in southern and western Virginia (USFS 2006).

6.8.7.9 ASIAN BITTERSWEET

Asian Bittersweet (*Celastrus orbiculatus*) is native to Eastern Asia, Korea, China and Japan. It is a deciduous, woody, perennial vine or trailing shrub. The plant has light brown stems that may reach 2 – 4 inches in diameter and up to 59 feet in length. Leaves (2-5 inch) are glossy, rounded, finely toothed and arranged alternately along the stem. Clusters of small whitish-greenish flowers emerge in May – June from leaf axils allowing each plant to produce large numbers of seeds. At maturity, globular, green to yellow fruits split open to reveal three red-orange, fleshy arils that contain the seeds. These showy fruits have made oriental bittersweet popular for use in floral arrangements. They reproduce by seed and vegetatively by root suckering.

Asian bittersweet infests forest edges, woodlands, early succession fields, hedgerows, coastal areas and salt marsh edges, particularly those suffering some form of land disturbance. While often found in more open, sunny sites, its tolerance for shade allows oriental bittersweet to invade



ASIAN BITTERSWEET

Source: J. Miller
Invasive & Exotic Spp. of N. America

forested areas. The plant is currently found from New York to North Carolina, and westward to Illinois (USFS 2005).

Asian bittersweet is an aggressive invader that threatens all vegetation levels of forested and open areas. It grows over other vegetation, completely covering it, and kills other plants by preventing photosynthesis, girdling, and uprooting by force of its massive weight. In the northeastern U.S., exotic Asian bittersweet appears to be displacing the native climbing bittersweet (*Celastrus scandens*), which occurs in similar habitats, through competition and hybridization (USFS 2005).

Control Methods

Mechanical: Hand pull by the roots and remove from the site, preferably before fruiting. If fruits are present, vines should be bagged and disposed of in a landfill, or left in the bags and allowed to bake in the sun long enough to kill the seeds.

Chemical: Herbicides, such as glyphosate (e.g., Roundup) or triclopyr (e.g., Garlon) are successful (USFS 2005). These herbicides are taken into the roots and kill the entire plant.

6.8.7.10

COMMON REED



COMMON REED

Source: B. Blossey
Invasive and Exotic Species of North America

The common reed is native to Europe. It is a tall perennial wetland grass in the Grass family (Poaceae) ranging in height from 3 to 20 feet. Strong leathery horizontal shoots, called rhizomes, growing on or beneath the ground surface give rise to roots and tough vertical stalks. Cane-like stems, 1 inch in diameter, support broad sheath-type leaves that are .5 to 2 inches wide near the base, tapering to a point at the ends. Large dense, featherlike, grayish purple plumes, 5 to 16 inches long, are produced in late June to September. The plant turns tan in the fall and most leaves drop off, leaving only the plume-topped shoot. The root system is comprised of rhizomes that can reach to 6 feet deep with roots emerging at the nodes. Common reed reproduces by spreading rhizomes that form large colonies.

The common reed thrives in sunny wetland habitats. It grows along drier borders and elevated areas of brackish and freshwater marshes and along riverbanks and lakeshores. The species is particularly prevalent in disturbed or polluted soils with alkaline and brackish waters, but will tolerate highly acidic conditions. It can grow in water up to 6 feet deep and also in somewhat dry sites. It can be found along roadsides, ditches, open wetlands, riverbanks, lake shores, dredged area, and disturbed or undisturbed plant communities (USFS 2005).

Common reed has become a destructive weed, quickly displacing desirable plants species such as wild rice (*Zizania* spp.), cattails (*Typha* spp.), and native wetland orchids (*Orchis* spp.). Invasive stands of common reed eliminate diverse wetland plant communities, and provide little food or shelter for wildlife (USFS 2005). Its high biomass blocks light to other plants and occupies all the growing space below ground so plant communities can turn into a *Phragmites* monoculture very quickly.

Control Methods

Manual: Common reed can be cut and the rhizomes can be dug up, but physical control is difficult because this species can reestablish from seed or remaining rhizomes. Frequent mowing is sometimes effective on controlling common reed.

Chemical: It can be effectively controlled using any of several readily available general use herbicides such as glyphosate (USFS 2005)

Biocontrol: There is no known biological control for common reed, although goats are known to forage on many types of emergent vegetation.

6.8.7.11 COMMON CHICKWEED

Common chickweed (*Stellaria media*), a winter annual, is a native to Europe. Chickweed is a mat-forming plant in the pink family (Caryophyllaceae) growing up to 12 inches tall. Stems are light green in color and with hairs in vertical rows. Stems usually run prostrate along the ground, rooting at the nodes, with the upper portion erect or ascending and freely branching. Small oval to elliptic leaves are arranged oppositely, 1/2 to 1 1/2 inches in length, light green in color and smooth or hairy toward base and petioles. Small star-shaped flowers consist of 5 white petals that are deeply lobed, giving the appearance of 10 petals and grow alone or in small clusters at the ends of the stems. The fruit is an oval, straw-colored capsule that contains many tiny reddish brown seeds. Seed output can be from 600 to 15,000 per plant. It reproduces vegetatively through a fibrous root system and by seeds.



COMMON CHICKWEED

Source: Michael Moore
SW School of Botanical Medicine

Common chickweed found in a wide variety of habitats and soil textures. Soil pH ranges from 4.8 to 7.3 (USFS 2006). It prefers soil with high level of nitrogen supply. It can readily tolerate very low temperatures, and can even flower and fruit under a snow cover at temperatures as low as -16°F. It is sensitive to drought. It is found along disturbed lands, cultivated fields, waste places, trails, roadsides, forest, and gardens (USFS 2006).

Common chickweed is able to create dense mats of shoots up to 12 inches long, shading young seedlings of other plants. It invades, spreads, and out-competes other spring annuals. Common chickweed is reported to contain poisonous glycosides and high nitrate levels (USFS 2006).

Control Methods

Manual: Hand pull or dig; remove entire plant and root; dispose of all plant parts because plant shoots have the ability to re-root.

Chemical: It can be effectively controlled using any of several readily available general use herbicides, such as glyphosate or triclopyr. It is resistant to some herbicides - acetolactate synthase (ALS) inhibitors: chlorsulfuron, metsulfuron, tribenuron, triasulfuron, rimsulfuron, sulfometuron, flumetsulam and imazapyr (USFS 2006).

6.9 OUTDOOR RECREATION MANAGEMENT

AR 200-1 provides guidance for access to military lands and waters by recreational users by stating that “such access will be within manageable quotas, subject to safety, military security, threatened or endangered species restrictions, and the capability of the natural resources to support such use; and at times as such can be granted without bona fide impairment of the military mission, as determined by the installation commander.” This section provides details on public access and enforcement at the WHFRTC. Laws and regulations pertaining to site access and use are listed in **Table 31** and discussed in **Appendix E**.

TABLE 31. LAWS, REGULATIONS, AND EXECUTIVE ORDERS APPLICABLE TO OUTDOOR RECREATION AT WHFRTC	
REQUIREMENT	TITLE
Law	The WHFRTC is a state-owned facility and is not directly subject to the Sikes Act "Conservation Programs on Military Reservations" (16 U.S. Code (USC) §670a et seq.), as amended. However, Army policy is to follow DoD and ARNG guidance on state-owned facilities.
Executive Order	EO 12960, Recreational Fisheries;
Army Regulation	AR 200-1, <i>Environmental Protection and Enhancement</i>
Kentucky Laws and Regulations	KRS Chapter 56:010, Action for Trespass or Injury to State Property KRS Chapter 149, Forest Protection Laws of Kentucky KRS Chapter 150, Fish and Wildlife Protection KRS Chapter 235.00, Boating Statutes KAR Title 301, Tourism Development Cabinet Department Of Fish And Wildlife Resources

6.9.1 PUBLIC ACCESS

Access to WHFRTC must be controlled during training exercises for military troop and public safety. Limitations on public access will be enforced during training exercises due to the presence of hazards related to training activities. Some possible threats to public safety related to training activities include: training residue (for example, concertina wire) and training mechanisms (for example, vehicles, smoke, and live-firing on ranges). Potential hazards related to previously strip-mined lands include: steep slopes (some greater than 2:1) adjacent to ponds and lakes, deep water, and protruding cables left from mining activities. All of these are potential hazards to outdoor recreationists on foot or in a vehicle.

Public access to the training site is controlled by secured gates; with only one gate open to the public during daylight hours to provide access to Coleman Cemetery. Illegal use of or entry to the site is subject to state trespass regulations (KRS 511, 512, 513, 514). Any person entering the training site for any purpose prohibited by law or lawful regulation is trespassing. According to KRS Chapter 56.010, the Finance and Administration Cabinet shall institute civil proceedings in the name of the Commonwealth for any trespass or injury to any state property under its control. Trespassing is a serious matter in that it may endanger the life of the person entering the training site as well as potentially endangering lives of Kentucky Army National Guardsmen and interfering with military training.

6.9.1.1 HUNTING AND FISHING

The WHFRTC deer hunting program began in 1996 and continued until 2000 through an agreement with the KDFWR. KDFWR handled the lottery drawings for the hunts conducted on the training site and operated check stations during the hunts. In 2001, WHFRTC began the administration of its own hunting program for turkey, deer, small game, and quail. The KYARNG Wildlife Management Fund Committee meets on a quarterly basis to ensure timely resolution of hunting and fishing issues and ensures proper disposition and expenditure of funds derived from hunting and fishing permit fees.

Hunting and fishing are the primary natural resources-based outdoor recreation programs at WHFRTC. Hunting seasons and bag limits follow those published in each year's KDFWR Kentucky Hunting and Trapping Guide. All hunting dates will correspond with KYFWR assigned hunting dates. Any quota hunting or draw hunts conducted by the site, which may be outside these assigned dates, will be posted for public information two weeks prior the draw date. In the past, more civilians than military personnel have participated in hunting activities.

The WHFRTC hunting program is limited to military personnel, dependents, civilian employees, federal and state law enforcement personnel, and guests of military personnel. Hunting and fishing regulations at the site including hunting seasons, bag limits and size limits will be in accordance with all applicable state and federal laws.

In addition to Kentucky State hunting and fishing licenses, permits and stamps, hunters and fishermen on the WHFRTC are required to purchase a training site hunting or fishing permit. WHFRTC permits are issued by the WHFRTC Security Office. All checks for fees must be made payable to the WHFRTC Wildlife Management Fund. These moneys will be used to support recreational site maintenance, troop morale, welfare and recreational activities, and wildlife programs established by the training site.

Hunters and fishermen are responsible for (1) becoming familiar with the Hunting and Fishing SOP (**Appendix I**); (2) purchasing all hunting and fishing permits issued by the training site prior to hunting or fishing on WHFRTC; (3) having in their possession all State hunting and fishing licenses and tags prior to hunting on the installation; and (4) the behavior and actions of any and all guests. See **Figure 8** for designated hunting and fishing areas at WHFRTC.

Hunting – the training site is divided into 26 hunting areas. All areas not designated as hunting areas are considered off-limits and will not be used for outdoor recreational activities. Training and hunting areas are clearly marked on the training center map available at range control and the security office. Hunting opportunities at WHFRTC include: small game, deer and turkey bow hunting, deer and turkey gun hunting and waterfowl hunting.

Fishing – authorized in all lakes and ponds at WHFRTC except for the lake adjacent to the main entrance to the training center. Creel and size limits will be enforced on fish taken from WHFRTC waters. All baits and tackles are authorized on lakes and ponds owned and maintained by the training site. Persons will not seine or set fish traps in any lake or pond on the facility.

6.9.1.2 ALL-TERRAIN VEHICLE USE

All-terrain vehicles (ATVs) have great potential for damage to natural resources. No off-road driving for recreational purposes is permitted on WHFRTC. The only exception to this policy is the use of these vehicles by severely handicapped hunters whose physical disability makes it impossible to hunt by conventional methods.

6.10 CULTURAL RESOURCES PROTECTION

Prior to any new projects, building alterations, or ground disturbing activities at the WHFRTC, the Cultural Resource Manager in the Environmental Office must be contacted. The Cultural Resource Manager will assess whether an architectural or archaeological survey is required and what permits need to be obtained to comply with all federal and state regulations pertaining to cultural resources.

Cultural resources include sites, buildings, structures, or objects that may have significant archeological and historic values, or properties that may play a significant traditional role in a community's history, beliefs, customs, and practices. Cultural resources, thus, encompass a wide range of sites and buildings from prehistoric Native American campsites to Military buildings constructed during the Cold War, as well as traditional cultural properties still used today.

Sections 106 and 110 of the National Historic Preservation Act (NHPA, Public Law (PL) 89-655) provide the framework for federal review and protection of cultural resources, and to ensure that they are considered during federal project planning and execution. The implementing regulations for the Section 106 process (36 CFR Part 800) have been developed by the Advisory Council on Historic Preservation (ACHP). The Secretary of Interior maintains a National Register of Historic Places (NRHP) and sets forth significance criteria (36 CFR Part 60) for inclusion in the register. Cultural resources may be considered "historic properties" for the purpose of consideration by a federal undertaking if they meet NRHP criteria. Historic properties may be those that are formally placed in the National Register by the Secretary of the Interior, those that meet the criteria and are determined eligible for inclusion, and historic properties that are yet undiscovered but may meet eligibility criteria.

The DoDI 4710.02 (DoD Interactions with Federally Recognized Tribes) provides guidance for interacting and working with federally recognized American Indian and Alaska Native governments or tribes. This Instruction implements Annotated DoD American Indian and Alaska Native Policy (27 Oct 99), which governs compliance with EO 13175 (Consultation and Coordination with Indian Tribal Governments) and Presidential Memoranda for Heads of Executive Departments and Agencies on Government-to-Government Relations with Native American Tribal Governments (29 April 1994). The DoD policy assigns responsibilities and provides procedures for DoD interactions with federally recognized tribes. The policy requires that government agencies communicate with tribes on a government-to-government basis in recognition of their sovereignty. Addressing tribal concerns between tribes and military installations requires communication at both the tribal leadership-to-installation commander and the tribal staff-to-installation staff levels. The effect of a proposed DoD action that may have the potential to significantly affect protected tribal resources, tribal rights, and Indian lands must be assessed before decisions are made.

The laws, regulations, executive orders and policies governing the protection of cultural resources are listed in **Table 32** and discussed in **Appendix E**.

TABLE 32. LAWS, REGULATIONS, AND EXECUTIVE ORDERS APPLICABLE TO CULTURAL RESOURCES MANAGEMENT AT WHFRTC	
REQUIREMENT	TITLE
Law	Archaeological and Historic Preservation Act of 1974 (AHPA) American Indian Religious Freedom Act of 1978 (AIRFA) National Historic Preservation Act (NHPA, PL 89-655) National Historic Preservation Act (NHPA, PL 89-655)
Army Regulation	Army Regulation 200-1
Federal Regulation	Section 106 of the National Historic Preservation Act (NHPA) of 1966 as amended, its implementing regulation (36 CFR 800)
Executive Order	EO 13007 <i>Indian Sacred Sites</i> EO 11593 <i>Protection and Enhancement of the Cultural Environment</i> EO 13175 <i>Consultation and Coordination with Indian Tribal Governments</i>
DoD Instruction	DoD Interactions with Federally Recognized Tribes (DoDI 4710.02)
Kentucky Regulations	KRS Chapter 164.705-.735, Archaeology KRS Chapter 381.765, Human Burials KRS Chapter 525.115, Violating Graves

6.10.1.1 CULTURAL RESOURCES MANAGEMENT

The KYARNG maintains a state-wide ICRMP for all property managed by the KDMA, including the WHFRTC. An ICRMP is a five-year plan required by AR 200-1 and DoDI 4715.3 for compliance with applicable federal laws and regulations concerning cultural resources. The ICRMP is a component of the installation master plan and functions as a decision document for cultural resources management actions and specific compliance procedures. The plan's purpose is to integrate cultural resources requirements with ongoing mission activities so that the availability of mission essential properties and acreage is maintained and compliance with requirements is achieved.

In 2006, the Kentucky Archaeological Survey (KAS) documented two historic cemeteries at the WHFRTC. One of these cemeteries is within TA 7 and is known as the Cedar Grove Cemetery. Interments range from the early-nineteenth to the twenty-first century. Because the cemetery is active, no site numbers were assigned and no additional work was recommended for either cemetery. However, it was recommended that the Kentucky Heritage Council be contacted if any ground disturbing activities should

take place within an area identified as a possible unmarked African-American graveyard at the Cedar Grove Cemetery (KAS 2007a).

The KAS conducted a Phase I archaeological reconnaissance of TA 7 and 8 in 2007. One historic archaeological site (15Mu255), one historic cemetery (15Mu256), and three non-site localities were identified during the course of this survey. Due to their recent age and significant soil disturbance caused by strip-mining and/or logging activities, the historic archaeological site (15Mu255) and Non-Site Localities 1-3 are not eligible for listing on the National Register of Historic Places (NRHP) (KAS 2007b). The Eades Cemetery (15Mu256) contains nineteenth century burials of descendants of some of the earliest settlers in Muhlenberg County. It is potentially eligible for listing in the NRHP. Although no depressions were observed in the vicinity of the Eades Cemetery, the possibility exists that additional unmarked graves may be present (KAS 2007b). The KAS recommended that the Kentucky Heritage Council be contacted prior to ground disturbing activity near this cemetery, and recommended that a geophysical survey, including the use of ground penetrating radar (GPR), be conducted by professional archeologists to determine the presence and extent of any additional burials in this area.

To date, no Native American sacred plant, animal, and mineral gathering localities or Traditional Cultural Properties (TCPs) have been identified at WHFRTC. Because of the intensive disturbance caused to the natural environment by surface and underground mining, there is little potential for Native American sacred sites on TA 7 and TA 8.

Cultural resources management policies are described in **Table 33**. SOP 4 and 6 in the Kentucky statewide ICRMP apply to natural resources management at WHFRTC.

TABLE 33. KYARNG CULTURAL RESOURCES STANDARD OPERATING PROCEDURES APPLICABLE TO NATURAL RESOURCES MANAGEMENT AT WHFRTC		
Topic		Policy
1	SOP #4: Inadvertent Discovery	<p>In the event that archaeological deposits are encountered during any construction or excavation activities, the activity must stop and the Environmental Program Manager/Cultural Resources Manager (EPM/CRM) must be notified. If bone is present within the deposit, the EPM/CRM will ensure that a qualified professional accompanies him/her to the work site to assist in identification of the materials as human remains. Because of the potential for archaeological deposits to contain Native American human remains or cultural materials, failure to report discovery of archaeological deposits may result in violation of NAGPRA, ARPA and other related federal and state laws resulting in fines and penalties against the KYARNG/DMA.</p> <p>Follow Procedures in the ICRMP for:</p> <ul style="list-style-type: none"> a. Situation #2: Construction and maintenance activities, including but not limited to digging, bulldozing, clearing-and-grubbing, maintaining earth berms, and roadwork conducted by KYARNG troops. b. Situation #3: Construction and maintenance activities, including, but not limited to digging, bulldozing, clearing-and-grubbing, maintaining earth berms, and roadwork conducted by contractors. c. Situation #4: Artifacts found in eroded areas, gullies, dirt trails, or road cuts on DMA property.
2	SOP #6: New Construction	<ul style="list-style-type: none"> a. Ensure no disturbance or destruction of significant archaeological resources. Known archeological sites should be managed as avoidance areas (no digging). b. Follow Procedures in the ICRMP.

6.10.1.2 NATIVE AMERICAN CONSULTATION

Consultation proceedings have been conducted in accordance with the NHPA, Native American Graves Protection and Repatriation Act (NAGPRA), EO 13175, EO 13007, 36 CFR 800, and DoDI 4710.02, which implements the 27 Oct 99 Annotated Department of Defense American Indian and Alaska Native Policy. The KYARNG ICRMP describes in detail how and when the KYARNG will consult with Native American Tribes. Federally recognized tribes were invited to comment on the NEPA public review process, which will facilitate future consultations. A Memorandum for Record is included in **Appendix B** documenting this effort.

No federally recognized Native American Indian tribes currently reside in Kentucky, but seven tribes have been determined to have historic ties to the Commonwealth. At this time, it is unknown whether any of the seven tribes have specific ties to the area now occupied by the WHFRTC. These tribes were contacted in April 2010 to determine whether they have ties to the area now occupied by the WHFRTC: Eastern Band of the Cherokee Indians; Cherokee Nation of Oklahoma; United Keetoowah Band of Cherokee Indians in Oklahoma; The Chickasaw Nation; Absentee Shawnee Tribe of Oklahoma; Eastern Shawnee Tribe of Oklahoma; and Shawnee Tribe. A copy of this correspondence is provided in **Appendix B**. One Native American Tribe, the United Keetoowah Band of Cherokee Indians in Oklahoma, has responded. They stated that they have no objections to the INRMP. However, they did state that if any remains, artifacts, or other items are inadvertently discovered, they asked that all construction cease and immediately contact the Tribe by phone or letter. This response is provided in **Appendix B**.

To date, no Native American sacred plant, animal, and mineral gathering localities or Traditional Cultural Properties (TCPs) have been identified at WHFRTC. Because of the intensive disturbance caused to the natural environment by surface and underground mining, there is little potential for Native American sacred sites on TA 7 and TA 8.

If the existence of Traditional Cultural Properties (TCP) becomes known, the KYARNG will comply with EO 13175 (*Consultation and Coordination with Indian Tribal Governments*), EO 13007 (*Indian Sacred Sites*), and the NHPA of 1996 as amended.

6.11 NATURAL RESOURCES LAW ENFORCEMENT

Many aspects of integrating the training mission with natural resources management require effective enforcement if they are to be successful. Such programs as hunting/fishing access controls, protection of wetlands, water pollution prevention, rare species protection, and others are very dependent on law enforcement.

The WHFRTC is within the jurisdiction of TAG of Kentucky. The Criminal Laws of the Commonwealth of Kentucky are in effect within the boundaries of the training site. The WHFRTC TSC has jurisdiction and responsibility over the training site. All of the WHFRTC, local state, and federal laws and regulations, discussed in previous sections will be enforced. KYARNG personnel may call upon KDFWR or the Kentucky State Police to issue hunting and fishing citations.

6.12 ENVIRONMENTAL STEWARDSHIP

Environmental Stewardship at WHFTRC is a moral and legal obligation for all users to carefully and responsibly use and manage the land and resources of the training site. When leaders and soldiers alike can adopt an attitude of ownership and environmental stewardship of the training site, the natural resources will be more effectively conserved and sustained for future training use. True environmental stewardship and awareness must trickle down from TAG through the Training Directorate to each Commander and soldier within the KYARNG. Command emphasis is necessary to convey the seriousness of environmental stewardship.

6.13 ENVIRONMENTAL AWARENESS

Environmental awareness, through the distribution of educational materials, is a useful natural resources management tool as it educates land users on the sound environmental stewardship of natural and cultural resources and reduces the potential for inflicting avoidable impacts and/or incurring legal violations. Environmental awareness applies to soldiers, other services using Army lands, installation staff, other land users, and the public. It also encompasses efforts to inform environmental professionals of Army and installation mission and training activities (DA 1999). These efforts are designed to improve their understanding of the effects of their mission, training, or activity on natural resources and environmental sensitive areas.

Environmental awareness also serves to educate the public and garner their support by effectively communicating the nature of the military mission at WHFRTC and the level of success of natural resources management at the site. When military users and the public are informed and educated about “easily understood” management practices (such as reseeding) as well as “misunderstood” management practices (such as restrictions on field operations or access), they tend to lend more support than opposition to the practice.

Environmental awareness will be employed at the WHFRTC by promoting troop awareness, through the distribution of educational materials, maintaining and/or developing strong community relations, and by encouraging public involvement

6.13.1 TROOP AWARENESS

The policies and guidelines set forth throughout this INRMP as well as any of the established KYARNG SOPs were designed to educate troops training at WHFRTC about natural resources on the training site, including water, air, noise, and plant and animal life. The TSC conducts advance party environmental briefings and post-training reviews to ensure that troops training at WHFRTC adhere to the appropriate policies and guidelines. Each unit environmental compliance officer will be involved in incorporating the information in this INRMP into training plans to minimize effects of troop activities on natural resources.

6.13.2 EDUCATIONAL TRAINING TOOLS

A *Leader and Soldier Field Card* has been developed and maintained for WHFRTC for use by trainers in the field. The field card will consist of condensed information contained in other environmental awareness materials, such as the INRMP or any other applicable KYARNG SOPs. The field card should include a brief description of the installation and a list of “Dos and Don’ts” with particular emphasis on training area protection, erosion control, and cultural resources protection.

During the planning period, state and federal agencies (e.g., the NRCS, USFWS, KDFWR, and KSNPC) will be a valuable source of information for the Environmental Office and Training Site Personnel through fact sheets, site visits, and regular workshops offered throughout Kentucky. Annual updates from these agencies can be a source of new technology and management techniques to aid in implementing a successful natural resources management program.

6.13.3 COMMUNITY RELATIONS AND PUBLIC INVOLVEMENT

There are many different ways to educate the public about activities at WHFRTC and promote good community relations at the same time. The local newspaper and local radio stations are excellent means of sharing information and promoting new programs.

Newspaper articles and public service announcements can reach a diverse audience, and can be specifically designed to impress one or more categories of receivers. Awards presented to KYARNG personnel are a good topic for such articles/announcements. Newspaper picture features can enhance understanding of the natural resources and be easily understood by most people. Specific examples of article topics include: natural communities on the training site; use of native species for revegetation and habitat enhancement; working with other agencies, etc. All contact with media staff should be coordinated with the PAO in Frankfort.

SECTION 7: MANAGEMENT GOALS AND OBJECTIVES

Per DoD Supplemental Guidance, the 2003 INRMP was reviewed “as to operation and effect,” to determine whether it meets the requirements of the Sikes Act and if it contributes to the conservation and rehabilitation of natural resources on military installations. Goals and objectives presented within this section for future natural resources management were updated in accordance with this review. Previous sections that presented important background information on resources, current conditions, and management issues were used to formulate natural resources management goals. Goals listed in **Table 34** below express the KYARNG’s vision of the desired condition of the natural resources. These goals are supported by objectives and projects, which provide management strategies and specific actions to achieve these goals. **Table 36** in **Section 8.0** presents a list of planned projects and how they relate to following goals and objectives. All projects are subject to funding availability.

TABLE 34. MANAGEMENT GOALS AND OBJECTIVES FOR WHFRTC		
MANAGEMENT GOAL		OBJECTIVES
1	Manage natural resources to <u>support the military mission</u> in a manner consistent with the KYARNG Environmental Management System and in compliance with Federal and State laws, Army regulations and policies.	<p>OBJECTIVE 1.1: Initiate programs and projects that enhance the training land and training opportunities and/or do not unnecessarily limit training land availability.</p> <p>OBJECTIVE 1.2: Continue to educate WHFRTC users regarding the natural resources and their part in ensuring sustainable use of the site.</p> <p>OBJECTIVE 1.3: Maintain sustainable, realistic terrain for military training and identify environmental constraints to land use so that military training can be matched to ecosystem carrying capacity.</p> <p>OBJECTIVE 1.4: Ensure that KYARNG activities at the WHFRTC remain in compliance with environmental, cultural, and historic regulations as well as INRMP policies.</p> <p>OBJECTIVE 1.5: Implement this INRMP within the framework of Army policies and regulations using the NEPA process to make informed decisions regarding natural resources.</p> <p>OBJECTIVE 1.6: Ensure feedback from training officers is incorporated into natural resource planning and management.</p>
2	<u>Coordinate mission requirements and land maintenance activities</u> to minimize land impacts from training,	<p>OBJECTIVE 2.1: Evaluate potential impacts of proposed training, and modify training if necessary to prevent impacts to natural resources.</p> <p>OBJECTIVE 2.2: Maintain records of the type of training that occurs in various areas to correlate site conditions and training site use.</p>
3	Manage <u>fish and wildlife resources</u> in a manner compatible with the military mission and within the limits of the natural habitat.	<p>OBJECTIVE 3.1: Maintain natural ecosystems favorable for indigenous fish and wildlife populations.</p> <p>OBJECTIVE 3.2: Conduct planning level surveys to monitor flora and fauna species at the WHFRTC.</p> <p>OBJECTIVE 3.3: Provide small game (rabbit and squirrel) and turkey and deer (bow and gun) hunting and recreational fishing opportunities to guardsmen and their families within the constraints of the military mission regulations.</p> <p>OBJECTIVE 3.4: Continue to manage waterfowl, such a wood ducks and geese, to improve their populations.</p> <p>OBJECTIVE 3.5: Survey for neotropical migratory birds in coordination with Partners in Flight and KDFWR.</p> <p>OBJECTIVE 3.6: Maintain stable populations of game species (e.g., deer, turkey, quail) through sound population management strategies in cooperation with Quail and Turkey Unlimited.</p>

TABLE 34. MANAGEMENT GOALS AND OBJECTIVES FOR WHFRTC

MANAGEMENT GOAL		OBJECTIVES
4	Protect, restore, and maintain populations of <u>rare plant and animal species</u> in compliance with Federal and State laws and regulations.	<p>OBJECTIVE 4.1: Coordinate and conduct threatened and endangered species surveys and survey methodologies with appropriate state and federal agencies through master cooperative agreements.</p> <p>OBJECTIVE 4.2: Maintain updated records and maps of rare, threatened, and endangered plant and animal species locations at the WHFRTC.</p> <p>OBJECTIVE 4.3: Schedule only compatible training activities in areas known to contain federally threatened and endangered species, if any.</p> <p>OBJECTIVE 4.4: When appropriate, identify site-specific habitat requirements and develop short and long-range management strategies for threatened and endangered species.</p> <p>OBJECTIVE 4.5: Maintain viable populations of grassland-dependent state-listed bird species (i.e., Henslow's sparrow, short-eared owl, long-eared owl, lark-sparrow, and northern harrier)</p>
5	Protect, maintain, and improve <u>soil and water quality</u> in accordance with State and Federal laws and regulations to sustain the overall condition of the WHFRTC training lands.	<p>OBJECTIVE 5.1: Plan, design, and implement activities in cooperation with federal, state, and local regulatory authorities to minimize soil loss and site degradation.</p> <p>OBJECTIVE 5.2: Implement BMPs when conducting land management activities.</p> <p>OBJECTIVE 5.3: Control or eliminate runoff and erosion, and rehabilitate eroded areas through sound vegetative and land management practices.</p> <p>OBJECTIVE 5.4: Monitor groundwater quality and water levels in the mine spoil during the spring and fall (i.e., wet and dry seasons).</p>
6	<u>Protect and maintain riparian, wetland and aquatic habitats</u> in accordance with state and federal laws and regulations while adhering to ecosystem principles management for water quality enhancement, wildlife food and cover, and aquatic habitat.	<p>OBJECTIVE 6.1: Proactively manage for wetlands during the environmental planning process, avoiding potential impacts to the maximum extent possible.</p> <p>OBJECTIVE 6.2: Protect riparian forests and wetlands from disturbance during routine land management projects and military training activities on the site by maintaining SMZs and buffer zones.</p> <p>OBJECTIVE 6.3: Monitor effects of military training on wetlands through annual visual site reconnaissance of Siber stakes and signs to ensure compliance with SMZs and buffer zones.</p> <p>OBJECTIVE 6.4: Maintain current maps of wetlands at the WHFRTC.</p> <p>OBJECTIVE 6.5: Conduct planning level surveys and jurisdictional wetland delineations as needed.</p> <p>OBJECTIVE 6.6: Foster compliance with Federal, state and local laws and DA regulations and policies, including "no net loss" of wetlands.</p> <p>OBJECTIVE 6.7: Monitor effects of military training on surface water quality through long-term water and macroinvertebrate sampling at selected monitoring sites.</p>

TABLE 34. MANAGEMENT GOALS AND OBJECTIVES FOR WHFRTC

MANAGEMENT GOAL		OBJECTIVES
7	Maintain the <u>grassland habitats</u> for the purposes of military training, wildlife food and cover, and soil stabilization.	<p>OBJECTIVE 7.1: Conduct flora and vegetation community planning level surveys as needed.</p> <p>OBJECTIVE 7.2: Use prescribed fire, mowing and LRAM to maintain open training land and manage grassland habitat at the WHFRTC.</p> <p>OBJECTIVE 7.3: Monitor and rehabilitate, as needed, grassland communities at the WHFRTC periodically for training impacts.</p> <p>Objective 7.4: Protect existing breeding or forage habitat for Henslow's sparrow, short-eared owl, long-eared owl, lark-sparrow, northern harrier, and bell's vireo in grassland areas within Training Areas 1 and 4.</p> <p>OBJECTIVE 7.5: Control invasive exotic species using IPM methods and strategies for the purpose of improving and sustaining training area lands and eradication of exotic species.</p> <p>Objective 7.6: Use environmental awareness and training site SOPs to educate troops about sustaining grassland ecosystems.</p>
8	Maintain the <u>forest resources</u> for the purposes of military training, wildlife food and cover, noise buffers, and watershed protection.	<p>OBJECTIVE 8.1: Maintain forests in a condition that minimizes threat to safety and human health.</p> <p>Objective 8.2: Maintain current stand conditions in forest ecosystems along and around waterways with SMZs currently meeting state standards for BMPs.</p> <p>Objective 8.3: Monitor animal and plant populations dependent on the forest resources in cooperation with KSNPC, KDFWR, and Partners in Flight to ensure management goals are being met.</p> <p>Objective 8.4: Protect potential bat roosting and foraging habitat by enforcing existing policies.</p> <p>OBJECTIVE 8.5: Manage and monitor for non-native and invasive insect species that pose a threat to forest resources.</p> <p>OBJECTIVE 8.6: Complete a forest inventory to determine present stocking levels of trees within the Forest Ecosystem.</p> <p>OBJECTIVE 8.7: Protect existing populations of Long-eared owls and their preferred habitat, which is Virginia pine-dominated forest adjacent to grassland or shrublands.</p> <p>OBJECTIVE 8.8: Provide areas within WHFRTC forests for military training purposes and wildlife foraging and roosting habitat.</p>
9	<u>Provide cost-effective and compatible landscaping</u> for the Cantonment Area to reduce maintenance costs and provide wildlife habitat.	<p>OBJECTIVE 9.1: Use native tree species, shrubs, and perennial plants when landscaping</p> <p>OBJECTIVE 9.2: Plant wind and sunbreaks around buildings and parking areas.</p> <p>OBJECTIVE 9.3: Establish forest, prairie, or wildflower areas to reduce mowing.</p>

TABLE 34. MANAGEMENT GOALS AND OBJECTIVES FOR WHFRTC

MANAGEMENT GOAL	OBJECTIVES
10	<p><u>Use prescribed fire</u> to reduce risk of wildfires, to enhance ecological process and functions, maintain rare species habitat, to control undesired exotic vegetation, and to sustain the military mission.</p>
11	<p><u>Use IPM practices</u> that maximize safety and minimize pesticide use and potential hazards to humans, wildlife and their environments.</p>
12	<p>Continue to <u>develop and maintain a GIS system</u> providing efficient data storage, retrieval, and presentation to facilitate fully informed management decisions.</p>
13	<p><u>Protect and preserve cultural resources</u> in Accordance with State and Federal Laws and Regulations.</p>

OBJECTIVE 10.1: Develop individual burn prescriptions for burn units to be burned each year.

OBJECTIVE 10.2: Reduce shrub cover in patchy areas from 50 percent to less 10 percent cover.

OBJECTIVE 10.3: Improve the density of planted grass cover to 90 percent.

OBJECTIVE 10.4: Burn up to 30 percent of the total burn unit acreage on an annual rotation cycle, and burn each unit at least every five years.

OBJECTIVE 10.5: Attempt to minimize unintentional impacts of prescribed burning to invertebrate populations.

OBJECTIVE 10.6: Reduce vegetative litter with prescribed fire in areas where musk thistle will be sprayed with herbicide.

OBJECTIVE 10.7: Use fire on a 5 year rotational basis to maintain open shrub stands that are optimal nesting habitat for Bell's vireo.

OBJECTIVE 10.8: Create and maintain firebreaks in an ecologically sound manner.

OBJECTIVE 10.9: Ensure all personnel assigned to those positions are trained to a level appropriate for their expected duties per NWCG guidelines.

OBJECTIVE 11.1: Comply with all federal, state, and local laws and regulations pertaining to pest management and pesticide use on the training site.

OBJECTIVE 11.2: Support and adhere to the KYARNG Pest Management Plan.

OBJECTIVE 11.3: Apply the most effective management strategies when populations of invasive exotic species exceed defined levels. Pest management will be achieved by non-chemical control (e.g., using mechanical or biological methods) whenever feasible and economical.

OBJECTIVE 11.4: Prevent the further introduction of noxious plant and animal species to the training site to the greatest extent possible.

OBJECTIVE 12.1: Continue to collect GIS data throughout the training site, and revise existing files within the GIS database as more current data becomes available.

OBJECTIVE 12.2: Update GIS hardware/software as technology advances and performance demands necessitate.

OBJECTIVE 12.3: Ensure adequate technical staff is available and trained in new methods to maintain current GIS databases and manage information needs.

OBJECTIVE 13.1: Comply with federal, state, and local laws and regulations pertaining to cultural resources found on the training site.

OBJECTIVE 13.2: Adhere to guidelines presented in the KYARNG ICRMP and in particular SOPs 4 and 6.

TABLE 34. MANAGEMENT GOALS AND OBJECTIVES FOR WHFRTC

MANAGEMENT GOAL	OBJECTIVES
14	<p><u>Form communication links</u> with other agencies, organizations, and the public to share information and aid in decision-making.</p> <p>OBJECTIVE 14.1: Involve the surrounding community in the WHFRTC natural resources program.</p> <p>OBJECTIVE 14.2: Ensure that the WHFRTC natural resources program is coordinated with other agencies and conservation organizations with similar interests.</p> <p>OBJECTIVE 14.3: Establish and maintain credibility with the public by publishing at least quarterly in local newspapers the training schedule (include dates and types of training).</p> <p>OBJECTIVE 14.4: Promote quick and accurate responses to public questions and concerns.</p> <p>OBJECTIVE 14.5: Provide support to the PAO in producing public service announcements to inform the public of events occurring on WHFRTC.</p> <p>OBJECTIVE 14.6: Use media effectively to convey natural resources management efforts on WHFRTC.</p>
15	<p><u>By implementing the SRA program</u>, educate site users about environmental concerns and responsibilities to minimize resource damage and to instill a sense of pride and stewardship responsibility by implementing the SRA program.</p> <p>OBJECTIVE 15.1: Brief decision-makers about WHFRTC natural resources program.</p> <p>OBJECTIVE 15.2: Develop and distribute information to units, leaders, soldiers, civilian employees, and other installation users to improve their understanding of impacts of their activities on the environment.</p> <p>OBJECTIVE 15.3: Conduct advance party briefings and post-training reviews to ensure that troops training at WHFRTC adhere to the appropriate policies and guidelines.</p>
16	<p><u>By implementing the RTLA program</u>, identify and evaluate land impacts from training, and identify training activities compatible with WHFRTC topography, soils, land cover, and ecosystems.</p> <p>OBJECTIVE 16.1: Ensure that physical and biological resources are georeferenced and recorded using global positioning system (GPS) technology to ensure data collection consistency from year to year.</p> <p>OBJECTIVE 16.2: Conduct RTLA monitoring every five years using a systematic, qualitative approach focusing on general site parameters such as vegetation, presence and severity of soil erosion, presence of specific animal species, and specific evidence of training related impacts.</p> <p>OBJECTIVE 16.3: Record the type of training that occurs in various areas so that correlations among site conditions and training may later be established.</p> <p>OBJECTIVE 16.4: Record natural events (for example, weather events) that could affect land condition.</p> <p>OBJECTIVE 16.5: Incorporate remote sensing, where appropriate, to supplement monitoring procedures and facilitate trend and change detection analysis.</p> <p>OBJECTIVE 16.6: Use RTLA data to facilitate land management decisions by installation management staff.</p>
17	<p><u>By implementing the TRI program</u>, minimize training impacts, prevent excessive or irreversible land damage, and minimize training-related land rehabilitation costs.</p> <p>OBJECTIVE 17.1: Evaluate potential impacts of proposed training events, and modify training if necessary to prevent impacts to natural resources.</p> <p>OBJECTIVE 17.2: Maintain a record of types and locations of training that occur in WHFRTC training areas.</p> <p>OBJECTIVE 17.3: Rotate use of training areas (e.g., bivouac areas) to prevent overuse of any one site if necessary.</p>

TABLE 34. MANAGEMENT GOALS AND OBJECTIVES FOR WHFRTC

MANAGEMENT GOAL	OBJECTIVES
18	<p>By implementing the LRAM program, apply BMPs to ensure rehabilitation, repair and maintenance results are commensurate with the applied resources and to ensure long-term sustainability of installation lands, training and testing missions.</p> <p>OBJECTIVE 18.1: Schedule and perform land rehabilitation projects during optimum seeding periods. If projects cannot be performed within the optimum seeding period, then stabilize the soil immediately and complete seeding as soon as possible.</p> <p>OBJECTIVE 18.2: After heavy training exercises are conducted on the site, identify damaged areas and schedule appropriate rehabilitation.</p> <p>OBJECTIVE 18.3: Use temporary erosion control methods (such as silt fences or hay bale diversions) as needed during periods of heavy troop training and inclement weather to avoid silt migration to water bodies and other sensitive areas.</p> <p>OBJECTIVE 18.4: Include water management, landscaping, erosion control and natural resource conservation in all site feasibility studies and in project planning, design, and construction.</p> <p>OBJECTIVE 18.4: Coordinate long-term land maintenance plans with other real property management programs on the WHFRTC (e.g., master planning, range development, etc.)</p>

SECTION 8: NATURAL RESOURCES PROGRAM IMPLEMENTATION

The KYARNG depends on natural resources for the sustainability of many training programs and will manage natural resources to ensure sustainable use. The updated INRMP is not intended to impair the ability of the KYARNG to perform its mission. However, the updated INRMP does identify usage restrictions on sensitive attributes such as wetlands and T&E species.

Implementation of this updated INRMP will be realized through the accomplishment of specific goals and objectives as measured by the completion of projects described within this INRMP. An INRMP is considered implemented if an installation:

- Actively requests, receives, and uses funds for “must fund” projects and activities;
- Ensures that sufficient numbers of professionally trained natural resources management staff are available to perform the tasks required by the INRMP;
- Coordinates annually with cooperating agencies;
- Documents specific INRMP action accomplishments undertaken each year.

8.1 ANNUAL WORK PLANS

8.1.1 WORK PLANS

Natural resources management includes recurring activities and special projects. KYARNG Environmental staff generally performs recurring activities. Projects can be done by Environmental staff, agencies such as KSNPC, or contracted. The implementation schedule and planned projects to be funded during this planning period (2010-2015) are detailed in **Table 35**.

TABLE 35. PLANNED IMPLEMENTATION PROJECTS (2010 – 2015)

(Subject to Funding Availability)

PROJECT		LOCATION	OBJECTIVE # (CHAPTER 7)	DESCRIPTION	LEGAL DRIVERS	FUNDING TYPE	PROGRAM DATE
1	Recurring Maneuver Damage Costs	Throughout	1.1, 1.3, 1.4, 3.1, 5.1, 5.2, 5.4	Funds will be used as necessary to restore disturbed or eroding areas as a result of training activities. Efforts will include replanting vegetation to include native grasses and other species recommended by KDFWR and NRCS. Funds will also be used to purchase fertilizer, lime, seed and mulch for proactive and continuous maintenance of areas damaged by military maneuvers.	CWA, AR 200-1	ITAM	2010-2015
2	Environmental Awareness	Throughout	1.1, 1.2, 1.6 4.2, 13.1, 13.2, 13.3	Funds will be used to update Leader and/or Soldier Field Card and other environmental awareness related materials for WHFRTC as needed. Prepare/purchase posters, booklets, displays, films and training materials for troop environmental awareness training. Prepare training site environmental awareness video. Assemble Environmental Information Packets to be handed out to Officers-In-Charge (OIC) at Yearly Training Coordination Conferences.	Army Policy, AR 200-1, ESA, CWA	VENQ /ITAM	2010-2015
3	Vegetation Control	See Figure 6 for grassland areas	1.1, 1.3, 3.1, 5.2, 7.4, 7.5, 9.3	Funds will be used for mowing and brush plowing to maintain areas used for maneuver training and other areas inhibited and/or restricted by vegetation.	Federal Noxious Weed Act, Noxious Weed Control (KRS 217.541 et seq. 249; 25), Army Policy, AR 200- 1	VENQ /ITAM	2010-2015
4	Agricultural Outlease	See Figure 6 for grassland areas	1.1, 1.3, 3.1, 5.2, 7.4, 7.5, 9.3, 13.1	KYARNG will evaluate the feasibility of an agricultural outlease with a local farmer for hay production. Agricultural outleasing would provide a mechanism by which the KYARNG could maintain open areas as training lands without incurring the expense of labor or equipment costs (i.e., reduce costs associated with Project 3).		VENQ	2010-2015
5	Planning Level Surveys	Throughout	1.1, 3.2, 4.1, 4.2, 7.1	Funds will be used to conduct biological inventories (small mammals, herptiles, insects, fish) and update rare species lists. The KYARNG plans to undertake periodic mist net surveys at WHFRTC to help determine presence/absence of these bat species. The KYARNG will coordinate with USFWS on these surveys.	ESA, AR 200-1	VENQ	2010-2015
6	Forest Inventory and Management Plan Update	See Figure 6	1.1, 3.1, 5.1, 8.1, 8.2, 8.3, 8.4, 8.5, 8.6, 14.1	Conduct a Forest Inventory. The inventory will be used to aid in the development of specific forest management prescriptions and identify areas needing rehabilitation or restoration.	Army Policy, AR 200-1	VENQ	2010-2015

TABLE 35. PLANNED IMPLEMENTATION PROJECTS (2010 – 2015)

(Subject to Funding Availability)

PROJECT		LOCATION	OBJECTIVE # (CHAPTER 7)	DESCRIPTION	LEGAL DRIVERS	FUNDING TYPE	PROGRAM DATE
7	ITAM Program Administration Recurring Costs	Throughout		Costs associated with upgrades to facilities to support ITAM staff and technical functions (All ITAM components). Lease and maintain GSA vehicles for ITAM support Purchase miscellaneous supplies to support the ITAM function Identify ITAM requirements at WHFRTC in the Integrated Workplan Analysis Module (IWAM) Purchase LRAM equipment for maintenance of training site lands Hire one or more student interns to assist with projects as needed at WHFRTC.		ITAM	2010-2015
8	Prescribed Fire	Throughout		Construct and maintain fire breaks or other fuels modifications, directly associated with ranges/training areas fire management resulting from training activities. Construct firebreaks for fires not resulting from training activities (e.g., prescribed burn program) as needed. GPS firebreaks and include in future versions of the INRMP. Monitor effects of prescribed fire through post burn evaluations. Train WHFRTC employees in prescribed burn methods as needed.		VENQ	2010-2015
9	Reclamation of Abandoned Mine Lands	Throughout		Continue to work with Division of Abandoned Lands for reclamation of pre-law abandoned mine land areas and implement as funding allows.		VENQ	2010-2015
10	Water Quality Monitoring	Throughout		Conduct water quality monitoring of long-term water quality monitoring sites (included in project 5.14). Conduct surveys for macroinvertebrates at long term monitoring sites to determine jurisdictional status when projects require.	Need to evaluate the need for this.	VENQ	2010-2015
11	Pest Management	Throughout		Update pest management plan as needed.		VENQ	2010-2015
12	Hunting	Throughout		Coordinate annual hunts with KDFWR. Determine annual hunting quotas in advance of hunting season with KDFWR.		VENQ	2010-2015

8.1.2 FUNDING

Implementation of this updated INRMP is subject to availability of annual funding. Where projects identified in the plan are not implemented due to lack of funding, or other compelling circumstances, the installation will review the goals and objectives of this updated INRMP to determine whether adjustments are necessary.

The following discussion of funding options is not all-inclusive of funding sources. Since many funding sources rely on a variety of grant programs, award criteria and amounts can change considerably from one year to another. Funding through grant programs can occur on a one-time award, annually, or in multiples of years.

8.1.2.1 FEDERAL NGB FUNDS

The NGB is the primary source of funding to support management of natural resources at the WHFRTC through a master cooperative agreement with the KYARNG.

For some projects, the installation requests project validation and funding through the NGB-ARE STEP program, with requests completed by the KYARNG Environmental Office in Frankfort, KY. The NGB provides funding for natural resource surveys, environmental monitoring projects, and compliance-related projects.

The NGB Army Installations Division (NGB – ARI) provides funding for the personnel, equipment, and supplies in support of the KYARNG CFMO. This office is involved in planning, scheduling, and oversight of training; maintenance of roads and trails, vegetation management and pest management; facilities infrastructure; and military construction planning; all of which are critical to the natural resources management program.

A five-year ITAM Work Plan is used to channel ITAM funding requests from the KYARNG, through NGB, to the U.S. Army's Office of the Deputy Chief of Staff for Operations (ODCSOPS). In addition to maintaining key personnel and natural resources data collection efforts, the ITAM work plan budget will fund a number of projects of major importance to maintaining, preserving, and protecting the natural resources at WHFRTC. The annual ITAM Work Plan is the basis for identifying installation ITAM resource requirements and for allocating funding to support installation core capabilities. ITAM funds cannot be used for:

- correcting environmental statutory compliance requirements;
- performing routine range maintenance, modifications, or Sustainment, Restoration, and Maintenance (SRM) responsibilities;
- performing Army Conservation Program requirements, such as PLSs; and;
- adding additional GIS data layers that are not a part of the ITAM requirement (DA, 2005).

8.1.2.2 OTHER FEDERAL FUNDS

The NRCS manages the Federal Domestic Assistance Program (Plant Materials for Conservation) that assembles, evaluates, selects, releases, and introduces into commerce and promotes the use of new and improved plant materials for soil, water, and related resource conservation and environmental improvement programs.

Program initiatives under the CWA provide funding through several sources. The USEPA's Office of Water sponsors those projects related to the CWA. Available funding may support programs such as cost-sharing for overall water-quality management (e.g., monitoring, permitting, and enforcement), lake water quality assessments and mitigation measures, and implementation of non-point source pollution control measures. Refer to the USEPA's Office of Water funding website for potential sources of funding: <http://www.epa.gov/ater/funding.html>.

The Abandoned Mine Land Reclamation (AMLR) Program, authorized by the Surface Mining Control and Reclamation Act of 1977, Public Law 95-87, 91 Stat. 445-532, is administered by the U.S. Office of Surface Mining Reclamation and Enforcement, Department Of The Interior. Its purpose is to protect the public, health, safety and general welfare, and restore land, water and environmental resources affected by coal and noncoal mining practices that occurred prior to August 3, 1977. Grants support the operation of an approved State or Tribal Abandoned Mine Land (AML) reclamation program. Approved programs use grant funds for mine site reclamation projects on eligible lands, which are lands and waters mined or affected by coal mining processes that occurred prior to August 3, 1977 (as well as certain post-1977 and noncoal mining activities). Grants also support project administration. Grants may also include funding for AML-related activities including: the Emergency program, to abate sudden mining-related dangers to public health and safety; the Appalachian Clean Streams program, to treat water affected by acid mine drainage; Set-Aside funds, to establish special accounts to fund future acid mine drainage treatment or coal mining reclamation; and the Subsidence Insurance program, to develop a self-sustaining State subsidence insurance program.

8.1.3 PRIORITIES AND SCHEDULING

The STEP database will be used to validate projects and determine funding priority. Projects need to be funded consistent with timely execution to meet future deadlines. Projects are generally prioritized with respect to compliance. Highest priority projects are projects related to recurring or current compliance, and these are generally scheduled earliest.

Recurring requirements include projects and activities needed to cover the recurring administrative, personnel, and other costs necessary to meet applicable compliance requirements (Federal and State laws, regulations, Presidential EOs, and DoD policies), or that are in direct support of the military mission. Recurring costs include manpower, training, and supplies; hazardous waste disposal; operating recycling activities; permits and fees; testing, monitoring, and/or sampling, and analysis; reporting and record keeping; maintenance of environmental conservation equipment; and, compliance self-assessments.

Current compliance includes projects and activities needed because an installation is currently or will be out of compliance if projects or activities are not implemented in the current program year. Examples include:

- Environmental analyses, monitoring, and studies required to assess and mitigate potential effects of the military mission on conservation resources;
- Planning documents;
- Baseline inventories and surveys of natural and cultural resources (historical and archaeological sites);
- Biological assessments, surveys, or habitat protection for a specific listed species;
- Mitigation to meet existing regulatory permit conditions or written agreements;
- Wetland delineations in support of subsequent jurisdictional determinations and consequent permitting;
- Efforts to achieve compliance with requirements with deadlines that have already passed;
- Initial documenting and cataloging of archaeological materials.

Maintenance requirements include those needed projects and activities that are not currently out of compliance but would be out of compliance if projects or activities are not implemented in time to meet an established deadline beyond the current program year. Examples include:

- Compliance with future requirements that have deadlines;
- Conservation and GIS mapping to be in compliance;

- Efforts undertaken in accordance with non-deadline specific compliance requirements of leadership initiatives;
- Wetlands enhancement to achieve the EO for “no net loss” or enhancement of existing degraded wetlands;
- Public education programs on the importance of protecting archaeological and natural resources;
- Lower priority projects include those that enhance conservation resources of the installation mission, or are needed to address overall environmental goals and objectives, but are not specifically required under regulation or EO and are not of an immediate nature. These projects are generally funded after those of higher priority.
- Examples of lower priority projects include:
 - Community outreach activities, such as “Earth Day” and “Historic Preservation Week” activities;
 - Educational and public awareness projects, such as interpretive displays, oral histories, “Watchable Wildlife” areas, nature trails, wildlife checklists, and conservation teaching materials;
 - Biological assessments, surveys, or habitat protection for a species;
 - Restoration or enhancement of cultural or natural resources when no specific compliance requirement dictates a course or timing of action;
 - Re-interment of Native American remains on DoD managed or controlled land;
 - Management and execution of volunteer and partnership programs.

8.2 NATURAL RESOURCES MANAGEMENT STAFFING

Natural resources program oversight and INRMP implementation is conducted through the KYARNG Environmental Office. Training for KYARNG personnel, as well as others participating in the management of natural resources, will be practical and job-related. All training programs will involve at minimum a review of legal compliance requirements, applicable DoD/DA regulations, pertinent State and local laws, and current scientific and professional standards as related to the conservation of natural resources. The following annual workshops, professional conferences, and classes are excellent means of obtaining interdisciplinary training for natural resources managers:

- North American Wildlife and Natural Resources Conference
<http://www.wildlifemanagementinstitute.org/pages/main.html>
- Defense Environmental Network Information Exchange (DENIX) <http://www.denix.mil/>;
- Army Training Support Center – <http://www.atsc.army.mil/>;
- National Military Fish and Wildlife Association – <http://www.nmfwa.org/>;
- USACE Wetland Delineation Courses – <http://www.hnd.usace.army.mil/to/pindex.html>;
- Locally available training through the Cooperative Extension Service, universities, professional and trade organizations, State government, and commercial businesses.

Conferences and workshops will be evaluated for their usefulness, and decisions will be made based on appropriateness to ongoing projects and funding availability. Personnel will be trained in related environmental fields, as appropriate. NEPA training will be required of all supervisory personnel and those who review or prepare NEPA documents.

8.3 INRMP REVIEWS

8.3.1 REVIEW FOR OPERATION AND EFFECT

Not less than every five years, the INRMP will be reviewed for operation and effect to determine if the INRMP is being implemented to meet the intent of the Sikes Act and contributing to the conservation and rehabilitation of natural resources at the WHFRTC. The review will be conducted by the three cooperating parties to include the commander responsible for the INRMP, the Regional Director of the USFWS, and Director of the KDFWR. These agencies all have technical representatives who actually do the review.

The review for operation and effect will either conclude that the INRMP is meeting the intent of the Sikes Act and it can be updated and implementation can continue, or that it is not effective in meeting the intent of the Sikes Act to conserve natural resources while providing for no net loss in training capability and it must be revised. Mutual agreement of the review for operation and effect must be obtained from both the Regional Director of the USFWS, and Director of the KDFWR. This may be achieved via a signed letter, a jointly executed memorandum, or in some other way that reflects mutual agreement.

If only minor updates are needed, they will be done in a manner agreed to by all parties. The updated INRMP will be reviewed by USFWS and KDFWR. A new NEPA review is not necessary for an update and the continued implementation of an existing INRMP that has previously undergone NEPA review. In this case, an Environmental Checklist and Record of Environmental Consideration (REC) citing the previous NEPA document is needed.

If a review of operation and effect concludes that an INRMP must be revised, there is no set time to complete the revision. The existing INRMP remains in effect until the revision is complete and USFWS and KDFWR concurrence on the revised INRMP is received. The KYARNG will endeavor to complete such revisions within 18 months depending upon funding availability. Revisions to the INRMP will go through a more detailed review process similar to development of the initial INRMP to ensure KYARNG military mission, USFWS, and KDFWR concerns are adequately addressed and the plan meets the intention of the Sikes Act. Per DoD guidance an INRMP update only need to be available for public review if proposed actions “are expected to result in biophysical consequences materially different from those anticipated in the existing INRMP and are analyzed in an existing NEPA document”. The KYARNG may make this decision and provide public availability as deemed necessary.

8.3.2 ANNUAL REVIEWS AND COORDINATION

Per DoD policy, the KYARNG reviews the INRMP annually in cooperation with the USFWS and KDFWR. The KYARNG will converse with the agencies annually to determine if changes or issues indicate the need for a meeting. If warranted, a meeting will be held with the USFWS and the KDFWR and documented by meeting minutes. If a meeting is not necessary, the conversation will be documented via email correspondence or record of conversation.

At this annual review, the need for updates or revisions will be discussed. If minor updates are needed, the requesting party will initiate the updates and after agreement of all three parties they will be added to the INRMP. If it is determined that major changes are needed, all three parties will provide input and an INRMP revision and associated NEPA review will be initiated with the KYARNG acting as the lead coordinating agency. The annual meeting will be used to help expedite the more formal review for operation and effect and if all parties agree and document their mutual agreement, it can fulfill the requirement to review the INRMP for operation and effect.

If not already determined in previous annual reviews, by the fourth year annual review a determination will be jointly made to continue implementation of the existing INRMP with minor updates or to proceed with a revision. If the parties feel that the annual reviews have not been sufficient to evaluate operation and effect and they cannot determine if the INRMP implementation should continue or be revised, a formal review for operation and effect will be initiated. The determination on how to proceed with INRMP implementation or revision will be made after the parties have had time to complete this review.

In accordance with the Army Guidance for Implementation of the SAIA, dated May 25, 2006, annual reviews shall at minimum verify that:

- Current information on INRMP conservation metrics as described in Army Environmental Database Environmental Quality (AEDB-EQ) is available.
- All “must fund” projects and activities have been budgeted for and implementation is on schedule.
- All required trained natural resources positions are filled or are in the process of being filled.
- Projects and activities for the upcoming year have been identified and included in the INRMP. An updated project list does not necessitate revising the INRMP.
- All required coordination has occurred.
- All significant changes to the installation’s mission requirements or its natural resources have been identified.
- The INRMP goals and objectives are still valid.
- No net loss of training capability has occurred due to implementation of the INRMP in accordance with the Sikes Act.

As part of the annual review the KYARNG will specifically:

- Invite feedback from the USFWS and KDFWR on the effectiveness of the INRMP;
- Inform the USFWS and KDFWR which INRMP projects and activities are required to meet current natural resources compliance needs; and
- Document specific INRMP action accomplishments from the previous year.

Information for the annual reviews comes from the KYARNG environmental staff, KYARNG military leadership, cooperating agencies, project files, and AEDB-EQ as applicable. Natural resources data and program and project information are available to cooperating agencies. They may request to see project folders or to have a site visit to view natural resources projects in progress at any time.

8.4 MONITORING INRMP IMPLEMENTATION

The DUSD *Updated Guidance for Implementation of the Sikes Act Improvement Act* updated Conservation Metrics for Preparing and Implementing INRMPs. Progress toward meeting these measures of merit is reported in the annual EQR to Congress. Reporting requirements include:

- The installation name and state.
- The year the most recent INRMP was completed or revised.
- Date planned for the next revision.
- Was the INRMP coordinated with appropriate military trainers and operators?
- Were projects added to the INRMP as a result of comments from military trainers and operators?
- Were segments of the INRMP concerning the conservation, protection and management of fish and wildlife resources agreed to by the USFWS Regional Director? (FWS coordination)
- Were projects added to the INRMP as a result of FWS comments?
- Has annual feedback been requested from the FWS?
- Has annual feedback been received from the FWS?
- Were segments of the INRMP concerning the conservation, protection and management of fish and wildlife resources agreed to by the State fish and wildlife agency Director? (State coordination)

- Were projects added to the INRMP as a result of State comments?
- Has annual feedback been requested from the State fish and wildlife agency?
- Has annual feedback been received from the State fish and wildlife agency?
- Does the INRMP contain a list of projects necessary to meet plan goals and objectives, as well as timeframes for implementation of any such projects?
- Amount of money spent in reporting FY to implement the INRMP.
- Did the installation seek public comment on the draft INRMP?
- Were projects added to the INRMP as a result of public comments?

SECTION 9: BIBLIOGRAPHY

- ABC, 2000 American Bird Conservancy. 2000. Partners in Flight Bird Conservation Plan for The Interior Low Plateaus (Physiographic Area 14).
- ABC, unpublished report American Bird Conservancy. Unpublished. Partners in Flight Bird Conservation Plan for The Northern Cumberland Plateau (Physiographic Area 21).
- Audubon Society, 2008 website:<http://www.audubon2.org/watchlist/viewSpecies.jsp?id=187>
- Bailey, 1995 Bailey, RG. 1995. Descriptions of the Ecoregions of the United States. United States Department of Agriculture, Forest Service. Fort Collins, Colorado.
http://www.fs.fed.us/land/ecosysmgmt/ecoreg1_home.html
- Bailey, 1996 Bailey, RG. 1996. Ecosystem Geography. Springer. New York, New York.
- Barbour et al., 1987 Babour M.G., J.H. Burk, and W.D. Pitts, 1987, Terrestrial Plant Ecology, The Benjamin/Cummings Publishing Company, Inc., Menlo Park, California.
- Bower and Jackson, 1981 Bower, DE and WH Jackson. 1981. Drainage Areas of Streams at Selected Locations in Kentucky. Open File Report 81-61. Geological Survey, United States Department of the Interior, Louisville, Kentucky.
- Brent, 2001 Brent, JE. 2001. Draft Integrated Cultural Resources Management Plan, Kentucky Army National Guard, Frankfort, Kentucky (draft July 2001). Kentucky Archaeological Survey, jointly administered by the University of Kentucky Department of Anthropology and the Kentucky Heritage Council. Report No. 43. Versailles, Kentucky.
- Calibre Systems, 2002 Calibre Systems, Inc. 2002. Integrated Natural Resources Management Plan and Environmental Assessment; Wendell H. Ford Regional Training Center, Muhlenberg County, Kentucky. Submitted to Kentucky Department of Military Affairs, Environmental Office.
- CDFA, 2007 California Department of Food and Agriculture. Accessed 13 February, 2007. Noxious Weed Index. Last updated 25 February, 2005.
http://www.cdfa.ca.gov/phpps/ipc/weedinfo/winfo_table-commname.htm
- CES, 1994 Center for Earthquake Studies. 1994. Major Earthquake Motion Intensity Map for Use with CUSEIS—Richter Magnitudes, Ms=7.0 to 7.9 Originating in the New Madrid Seismic Zone. Southeast Missouri State University, One University Plaza, Cape Girardeau, Missouri.
- Cornell University, 2008 http://www.birds.cornell.edu/AllAboutBirds/BirdGuide/Long-eared_Owl_dtl.html.

- Cowardin et al., 1979 Cowardin, LM, V Carter, FC Golet, and ET LaRoe. 1979. Classification of Wetlands and Deepwater Habitats of the United States. FWS/OBS-79/31, U.S. Fish and Wildlife Service, Washington, DC.
- DA, 1987 Department of the Army. 1987. FM (35) Engineer Field Data.
- DA, 1999 Department of the Army. 1999. Integrated Training Area Management Procedural Manual Implementing Draft. U.S. Army Environmental Center, Aberdeen Proving Ground, Maryland.
- EL, 1987 U.S. Army Corps of Engineers Environmental Laboratory. 1987. Corps of Engineers Wetland Delineation Manual. Technical Report Y-87-1. U.S. Army Engineer Waterways Experiment Station. Vicksburg, Mississippi.
- Fenneman, 1938 Fenneman, NM. 1938. Physiography of the Eastern United States. McGraw-Hill Company, New York, New York.
- Gravatt et al., 1999 Gravatt, D, D Martel, M Bishop, A Bishop, S McAnally, S Sutton, M Mauney. 1999. Delineation of Wetlands and Other Regulated Waters, Eastern Kentucky (Hidden Valley) Training Site, KY. U.S. Army Engineer Research and Development Center, Waterways Experiment Station, CEERD-ER-W.
- Harker et al., 1993 Harker, D, S Evans, M Evans, and K Harker. 1993. Landscape Restoration Handbook. Lewis Publishers, Boca Raton, Florida.
- Harvey et al., 1999 Harvey, MJ, JS Altenbach, and TL Best. 1999. Bats of the United States. Arkansas Game and Fish Commission in Cooperation with the Asheville Field Office, U.S. Fish and Wildlife Service.
- Hoffard et al., 1995. Hoffard, WH, DH Marx, and HD Brown. 1995. The Health of Southern Forests. United States Department of Agriculture Forest Service Southern Region Publication R-8 PR 27. Atlanta, Georgia.
- IUCN, 2008 Red List of Threatened Species website:
<http://www.iucnredlist.org/search/details.php/50988/all>.
- INPC, 2007 Illinois Nature Preserve Commission (INPC). 2007. Vegetation Management Guidelines (No. 6, No. 10 and No. 23) *revised* from original 1990 version.
<http://www.inhs.uiuc.edu/chf/outreach/VMG/VMG.html>
- Johnston and Nava, 1984 Johnston, AC and SJ Nava. 1984. Recurrence Rates and Probability Estimates for the New Madrid Seismic Zone, in Proceedings of the Symposium on "The New Madrid Seismic Zone," U.S. Geol. Survey Open File Report 84-770, 279-329.
- Kentucky Bat Kentucky Bat Working Group, Eastern Kentucky University. Working Group, 2007 accessed 18 May 2007,
<http://www.biology.eku.edu/bats/vabigearbat.htm>
- KDFWR, 2007 Kentucky Department of Fish and Wildlife Resources. Species Information, Accessed 4 March, 2007.
<http://www.kdfwr.state.ky.us/kfwis/speciesInfo/speciesInfo.asp>

- KDFWR, 2006 Kentucky Department of Fish and Wildlife Resources. Accessed 6 Dec., 2006. Kentucky 2006-2007 Hunting and KDMA, 2001 Kentucky Department of Military Affairs. 2001. Bi-Annual Report for Fiscal Years 1999 and 2000. Frankfort, Kentucky.
- KDOF, 1984 Kentucky Division of Forestry. 1984. Preliminary Woodland Examination of the Eastern Kentucky Training Site. Kentucky
- KDOW, 1993 Kentucky Division of Water. 1993. Methods for Assessing Biological Integrity of Surface Waters. Commonwealth of Kentucky, Natural Resources and Environmental Protection Cabinet, Department for Environmental Protection, Water Quality Branch, Ecological Support Section. Frankfort, Kentucky. Trapping Guide. <http://www.kdfwr.state.ky.us/navigation.asp?cid=527&NavPath=C151>.
- KDOW 1998 303d Report
- KDMA, 2001 Kentucky Department of Military Affairs. 2001. Bi-annual Report for Fiscal Years 1999 and 2000. Frankfort, Kentucky.
- Kentucky Bat Working Group, 2008 [website:http://www.biology.eku.edu/bats/eveningbat.html](http://www.biology.eku.edu/bats/eveningbat.html).
- KY-EPPC, 2006 Kentucky Exotic Pest Plant Council. Accessed 27 Nov., 2006. Invasive Exotic Plant List. <http://www.se-eppc.org/ky/list.htm>.
- Keystone Center, 1996 Keystone Center, The, 1996, Keystone Center policy dialogue on a Department of Defense biodiversity management strategy: final report. The Keystone Center, Keystone, Colorado.
- KSNPC, 2002 Kentucky State Nature Preserves Commission. 2002. Biological Inventory. Wendell H. Ford Regional Training center, Muhlenberg County, Kentucky. Kentucky State Nature Preserves Commission, Frankfort, KY.
- Laudermilk et al., 1993 Laudermilk, E.L., B.A. Winters, S McMurray, and R.R. Cicerello. 1993. Field Notes/Sorting Sheets from Lubegrud Creek at Eastern Kentucky Training Site. Kentucky State Nature Preserves Commission. Frankfort, Kentucky.
- McClure, 1995 McClure, MS 1995. Managing Hemlock Woolly Adelgid in Ornamental Landscapes. Connecticut Agricultural Experiment Station Bulletin 925. Windsor, Connecticut.
- McDowell, 1978 McDowell, RC. 1978. Geologic Map of the Levee Quadrangle, East-central Kentucky. Map GQ-1478. United States Geological Survey, Reston, Virginia.
- MDC, 2006 Missouri Department of Conservation. Accessed 11 Dec., 2006. Missouri Vegetation Management Manual. Edited by T.E. Smith, Natural History Division, Missouri Department of Conservation, Jefferson City, Missouri. [updated 18 Sept., 2004]. <http://mdc.mo.gov/nathis/exotic/vegman/>
- Meffe & Carroll, 1994 Meffe, G.K. and C.R. Carroll, 1994, Principles of Conservation Biology, Sinauer Associates, Inc., Sunderland, MA.
- Michigan University, 2008 http://animaldiversity.ummz.umich.edu/site/accounts/information/Asio_otus.html

- MU Extension, 2007 University of Missouri Extension. Accessed 13 Feb., 2007. Giant foxtail. Last updated 24 May, 2006. <http://muextension.missouri.edu/explore/wildthing/giantfoxtail.htm>
- Nakata Planning Group, 2002 Nakata Planning Group. 2002. Real Property Development Plan, Kentucky Army National Guard, Submittal #2 (February 2002). Colorado Springs, Colorado.
- NGB, 1996a National Guard Bureau. 1996. Memorandum of Understanding Between Director Environmental Programs (NGB-ARE), Director Engineering (NGB-AEN), and Operations, Training and Readiness Directorate (NGB-ARO) to implement the Integrated Training Area Management (ITAM) Program.
- NGB, 1996b National Guard Bureau. 1996. Integrated Training Area Management (ITAM) Policy and Implementation Guidance.
- NGB, 2000 National Guard Bureau. 2000. All States (Log Number P00-0039) Integrated Natural Resources Management Plans. 15 June 2000. Arlington, Virginia.
- NatureServe, 2007 NatureServe, website accessed 04 March 2007. <http://www.natureserve.org/explorer/>.
- Palmer-Ball, 1996. Palmer-Ball, Brainard L. , Jr. The Kentucky breeding bird atlas. The University Press of Kentucky, Lexington. 1996
- PCA, 2007 Plant Conservation Alliance. Alien Plant Working Group. Alien Plant Invader Fact Sheets. Accessed 10 August 2007. <http://www.nps.gov/plants/alien/factmain.htm>
- Quarterman and Powell, 1978 Quarterman E. and R.L. Powell. 1978. Potential ecological/geological natural landmarks on the Interior Low Plateaus. National Park Service, United States Department of the Interior, Washington, District of Columbia.
- Reese and Ratti, 1988 Reese, K.P. and J.T. Ratti. 1988. Edge Effect: A Concept Under Scrutiny. Transactions of the North American Wildlife and Natural Resources Conference 53: 127-136.
- SERCC, 2007 Southeast Regional Climate Center (SERCC). Historical Climate Summaries For Kentucky: Madisonville, KY (155067) – 6/1/1948 to 12/31/2005. Accessed 03 March 2007. http://www.dnr.sc.gov/climate/sercc/climateinfo/historical/historical_ky.html
- UMN Extension, 2007 University of Minnesota Extension. Accessed 13 Feb., 2007. Wild cucumber and bur cucumber. Last updated October, 1998. <http://www.extension.umn.edu/yardandgarden/ygbriefs/h524cuke-wild-bur.html>
- USA-CERL, no date U.S. Army Corps of Engineers Research Laboratory. V.E. Diersing, R.B. Shaw, S.D. Warren, and D.J. Tazik. No date. Criteria for Siting an Army Maneuver Installation: Natural Resource Considerations for Optimum Use. Champaign, Illinois.
- USCHPPM, 1999 U.S. Army Center for Health Promotion and Preventive Medicine-North. 1999. Integrated Pest Management Plan for Kentucky Army National Guard. Entomological Sciences Division. USCHPPM, Fort George G. Meade, Maryland.

- USDA-NRCS, 1994 USDA-Natural Resources Conservation Service. 1994. Resource Inventory and Conservation Plan, Kentucky Army National Guard, Wendell H. Ford Regional Training center, Muhlenberg, Kentucky. U.S. Department of Agriculture, Lexington, Kentucky.
- USEPA, 1994 U.S. Environmental Protection Agency. 1994. Integrated ecosystem protection research program: A conceptual plan, Working Draft, Washington, D.C.
- USFS, 2007 Hemlock Woolly Adelgid. Accessed 2 Jan., 2006. USDA Forest Service, Northeastern Area [updated 1 Dec., 2006]. <http://www.na.fs.fed.us/fhp/hwa/>.
- USFS, 2006 U.S. Forest Service. 2006. Weed of the week: Japanese Bristlegrass. USDA Forest Service, Forest Health Staff, Newtown Square, PA. WOW 06-05-06.
- USFWS, 2008 United States Fish and Wildlife Service, Kentucky Ecological Services Field Office, Federally Threatened and Endangered Species by County, Muhlenberg County, Kentucky. Updated July, 30, 2008.
- UK, 2006 Townsend, L. and L. Rieske-Kinney. Accessed 7 Dec., 2006. Southern Pine Beetle. University of Kentucky Department of Entomology. <http://www.uky.edu/Agriculture/Entomology/entfacts/trees/ef443.htm>.
- Weedscience.org, 1999 Weedscience.org. Accessed 13 Feb., 2007. Group B/2 Resistant Eastern Black Nightshade (*Solanum ptycanthum*). Published 1999. <http://www.weedscience.org/Case/Case.asp?ResistID=5184>
- White and Yahn, 2006 White, D. L., and B. D. Yahn. 2006. Biological Inventory: Wendell H. Ford Regional Training center, Muhlenberg County, Kentucky - 2006 update. Kentucky State Nature Preserves Commission.
- White et al., 1995 White, D, B Palmer-Ball, Jr., and E.L. Laudermilk. 1995. Biological Inventory: Wendell H. Ford Regional Training center, Muhlenberg County, Kentucky. Kentucky State Nature Preserves Commission. Frankfort, Kentucky.

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**INTEGRATED CULTURAL RESOURCES
MANAGEMENT PLAN UPDATE
FOR
SITES AND TRAINING INSTALLATIONS OF THE
KENTUCKY ARMY NATIONAL GUARD
FISCAL YEARS 2013-2018**

Prepared for



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February 2012



ABBREVIATIONS AND ACRONYMS

AASF	Army Aviation Support Facility	JAG	Judge Advocate General
ACHP	Advisory Council on Historic Preservation	KAS	Kentucky Archaeological Survey
ACSIM	Assistant Chief of Staff for Installation Management	KHC	Kentucky Heritage Council
AEDB-EQ	Army Environmental Database – Environmental Quality	KYARNG	Kentucky Army National Guard
AHPA	Archaeological and Historic Preservation Act of 1974	MACOM	Major Army Command
AIRFA	American Indian Religious Freedom Act of 1978	MATES	Maneuver Area Training Equipment Site
AR	Army Regulation	MFR	Memorandum for Record
ARE	Army-Environmental	MILCON	Military Construction
ARNG	Army National Guard	MOA	Memorandum of Agreement
ARPA	Archaeological Resources Protection Act	MOU	Memorandum of Understanding
APE	Area of Potential Effect	NAC	Native American Consultation
BIA	Bureau of Indian Affairs	NAGPRA	Native American Graves Protection and Repatriation Act of 1990
BLM	Bureau of Land Management	NBC	Nuclear, Biological, Chemical
CA	Comprehensive Agreement	NEPA	National Environmental Policy Act of 1969, as amended
CEQ	Council on Environmental Quality	NGB	National Guard Bureau
CFR	Code of Federal Regulations	NHPA	National Historic Preservation Act
CFMO	Construction and Facility Management Office	NPS	National Park Service
CRM	Cultural Resources Manager	NRHP	National Register of Historic Places
CSMS	Combined Support Maintenance Shop	ODEP	Office of Director of Environmental Programs
CX	Categorical Exclusion	PA	Programmatic Agreement
DA	Department of the Army	PAO	Public Affairs Office
DCA	Departmental Consulting Archaeologist	PL	Public Law
DoD	U.S. Department of Defense	POC	Point of Contact
DoDI	Department of Defense Instruction	POTO	Planning Operations and Training Office
DOI	Department of the Interior	PRIDE	Planning Resources for Infrastructure Development and Evaluation
DSCOPS	Operations Manager in the Directorate of Operations	RC	Readiness Center
EA	Environmental Assessment	REC	Record of Environmental Consideration
EIS	Environmental Impact Statement	RMDA	Records Management and Declassification Agency
EO	Executive Order	RPI	Real Property Inventory
EPAS	Environmental Performance Assessment System	RTLA	Range Training Land Assessment
EQCC	Environmental Quality Control Committee	SDS	Spatial Data Standards
ESOH	Environmental Safety and Occupational Health	SHPO	State Historic Preservation Officer
FGDC	Federal Geographic Data Standards	SJA	Staff Judge Advocate
FMS	Field Maintenance Shop	SOP	Standard Operating Procedure
FNSI	Finding of No Significant Impact	SOW	Scope of Work
FY	Fiscal Year	SPIRS	State Performance Indicator Reporting System
GIS	Geographic Information System	STEP	Status Tool for the Environmental Program
HABS	Historic American Building Survey	TAG	The Adjutant General
HAER	Historic American Engineering Record	TDA	Table of Distribution and Allowance
HQDA	Headquarters, Department of the Army	THPO	Tribal Historic Preservation Officer
ICRMP	Integrated Cultural Resources Management Plan	TOE	Table of Organization and Equipment
IFS	Integrated Facilities System	UFC	Unified Facilities Criteria
INRMP	Integrated Natural Resources Management Plan	UPH	Unaccompanied Personnel Housing
IPAS	Internal Performance Assessment System	USC	United States Code
IPR	In-progress review	USACE	U.S. Army Corps of Engineers
ISR	Installation Status Report	USACERL	U.S. Army Construction Engineering Research Laboratory
ITAM	Integrated Training Area Management	USAEC	U.S. Army Environmental Center
		WHFRTC	Wendell H. Ford Regional Training Center

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ENVIRONMENTAL OFFICE
KENTUCKY DEPARTMENT OF MILITARY AFFAIRS
KENTUCKY ARMY NATIONAL GUARD
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**INTEGRATED CULTURAL RESOURCES MANAGEMENT PLAN UPDATE
FOR
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SIGNATURE PAGE

This Integrated Cultural Resources Management Plan (ICRMP) Update meets the requirements for ICRMPs set forth in Department of Defense Instruction 4715.3 Environmental Conservation Program, Army Regulation 200-4 *Environmental Protection and Enhancement*, and Army Pamphlet 200-4.

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Executive Summary

The KYARNG has been managing cultural resources for several years under a previously developed Integrated Cultural Resources Management Plan (ICRMP). This updated ICRMP builds upon the original ICRMP in terms of including those elements identified as significant issues by internal and external stakeholders during the review process for the previous ICRMP, but differs from the previous ICRMP in several respects. First, this ICRMP update includes the following:

- *The addition of new policies and regulations such as AR 200-1, Executive Orders (EO) 13287 (Preserve America), EO 13327 (Federal Real Property Asset Management), and EO 13423 (Strengthening Federal Environmental, Energy, and Transportation Management), Department of Defense Instruction (DoDI) 4710.02, the Department of the Army's (DA) Program Comments on Unaccompanied Housing Structures and Ammunition Storage Facilities, and recent amendments to the National Historic Preservation Act (NHPA) and the Native American Graves Protection and Repatriation Act (NAGPRA)*
- *New guidance on the NGB Status Tool for the Environmental Program (STEP) for project funding and data calls for the Army Environmental Database – Environmental Quality (AEDB-EQ) report, EO 13327, the Planning Resources for Infrastructure Development and Evaluation (PRIDE), the DoD Minimum Antiterrorism Standards for Buildings (Unified Facilities Criteria [UFC] 4-010-01), sustainability, and tribal consultation*
- *Introduction of new terminology for ARNG infrastructure: virtual installation, training installation, site, lot, and facility*
- *A focus on the results of the KYARNG cultural resources program over the past 5 years and how various successes and challenges have informed the goals and projects proposed for the program over the next 5 years.*
- *Streamlining of the Standard Operating Procedures (SOPs) such that guidance specific to the responsibilities of the KYARNG Cultural Resources Manager (CRM) is minimized (this guidance is now included in a CRM's Toolbox in Appendix J of the ICRMP Revision) and instructions for non-environmental personnel are emphasized. Flow charts have been added to each SOP to make them more comprehensible to the non-specialist.*

Secondly, this ICRMP update was developed from a template. The template was developed to standardize ICRMP format and content throughout the country and territories. Elements included within this updated ICRMP include the input provided by internal and external stakeholders during development of the previous ICRMP, additional input from stakeholders obtained through the review process for the ICRMP update, and information provided by the KYARNG CRM. Internal and external stakeholders who participated in the development of both the original ICRMP and this ICRMP Revision include KYARNG and NGB personnel, the State Historic Preservation Office (SHPO), and representatives of Native American Indian tribes with ancestral ties to the Commonwealth of Kentucky.

Department of Defense Instruction 4715.3 and Army Regulation (AR) 200-1, require installations to develop an ICRMP as an internal compliance and management tool that integrates the entirety of the cultural resources program with ongoing mission activities. As a component of the installation master plan, the ICRMP is the Kentucky Army National Guard (ARNG) commander's decision document for conduct of cultural resources management actions and specific compliance procedures. This ICRMP is an internal ARNG compliance and management plan that integrates the entirety of the state's cultural resources program requirements with ongoing mission activities. It also allows for ready identification of potential conflicts between the Kentucky Army National Guard (KYARNG) mission and cultural

resources, and identifies compliance actions necessary to maintain the availability of mission-essential properties and acreage.

This ICRMP Update for the KYARNG is designed to support the military mission and assist individual installations in meeting the legal compliance requirements of federal historic preservation laws and regulations in a manner consistent with the sound principles of cultural resources stewardship. This ICRMP update establishes priorities for the identification and standards for the evaluation of cultural resources within the KYARNG virtual installation, and provides a schedule to accomplish program objectives during a 5-year program. The ICRMP also provides a brief description of the KYARNG virtual installation, an overview of all known cultural resources across all KYARNG sites, the status of inventory and evaluation of resources at each site and training installation, and appropriate compliance and management activities for the next 5 years. The sites and training installations that comprise the KYARNG virtual installation are listed in Chapter 2 and Appendix D.

Cultural resources under the stewardship of the KYARNG can consist of archaeological sites, cultural landscapes, documents, buildings, and structures; American Indian sacred sites and properties of traditional, religious, and cultural significance; and previously collected artifacts. An inventory of cultural resources at the KYARNG sites listed above has been compiled based on the results of archaeological surveys, historic architectural evaluations, and archival and site record searches that have been completed. To date, 23 buildings, 3 structures (stone fences), 5 cemeteries, and 12 archaeological National Register Listed or eligible sites and no resources of traditional, cultural, or religious significance to Native American Indian tribes have been recorded on KYARNG sites and training installations.

KYARNG operational and training activities have the potential to impact cultural resources. Management actions proposed by the KYARNG under the original ICRMP to avoid or minimize impacts to cultural resources included:

Administrative Actions:

- Employment of Statewide Cultural Resources Manager
- Development of procedures for in-house review of repair and maintenance of National Register eligible and listed buildings
- Provide training for facilities managers and training staff
- Identify and consolidate historic records to a central location
- Development Programmatic Agreement (PA) with Kentucky SHPO for National Register eligible and listed sites and buildings
- Obtain and digitize all relevant technical and historic documents
- Establish A GIS Database for Cultural Resources
- Revise ICRMP as needed

Archaeological Actions:

- Conduct Statewide Archaeological Survey of all Armories

- Conduct Cultural Resource Surveys for all new land acquisitions
- Survey, inventory and map all cemeteries on Department of Military Affairs Property
- Phase II Archaeological investigations at Artemus (CSM Harold L. Disney Training Site)

Architectural Actions:

- Conduct Architectural Survey for Boone National Guard Center
- Conduct Statewide Cold War Survey
- Conduct Architectural Resources Surveys of all new land acquisitions
- Document and map stone fences at Boone National Guard Center
- Conduct Engineering Evaluation of 1850 State Arsenal Building (Museum)
- Install cap over old hand dug well at Artemus (CSM Harold L. Disney Training Site)

Native American Tribal Actions:

- Consult with federally recognized Native American Indian Tribes
- Designate a Native American tribal liaison
- Conduct inventory of Traditional Cultural Properties

All of these, with the exception of the Inventory of Traditional Cultural Properties and Capping or Closure of the 19th Century well at the CSM Harold L. Disney Training Site were successfully implemented. The two remaining management actions were not implemented but the KYARNG CRM did participate in Native American Consultation Workshops where identification of TCPs were discussed and it was determined that the KYARNG would extend an invitation to interested tribes to visit and evaluate KYARNG properties for potential TCPs. The primary site of interest was determined to be the CSM Harold L. Disney Training Site in eastern Kentucky but no specific dates for this evaluation have yet been determined. The 19th Century well at the Disney Training site has a wooden cover or cap but we are still awaiting a determination and guidelines for plugging or closing of the well from the Kentucky Heritage Council. A full discussion of the successes and challenges of the KYARNG cultural resources program over the past 5 years is provided in Chapter 2 of this ICRMP Revision.

Review of these successes and challenges with internal and external stakeholders has led to the development of the following goals and proposed management actions for the KYARNG cultural resources program over the next 5 years:

- Support the KYARNG military mission through sustained cultural resources management at all sites through expansion of CRM training for FMO & State Facilities Division staff.
- Insure Section 106 & 110 compliance for all proposed actions and database updates.
- Expand integration of cultural resources management into all planning processes.

- Develop/Expand Geographic Information System (GIS) program to assist ENV & FMO staff with proposed actions and research for impacts to Cultural and Natural resources.
- Implement the Nationwide Programmatic Agreement for Army National Guard Readiness Centers Maintenance & Repair with the Kentucky SHPO.
- Conduct archaeological and historic buildings surveys for additional leased or purchased properties to insure KYARNG compliance with Section 106 and ECOP requirements as needed.
- Coordinate collections management with the Webb Museum of Cultural Anthropology at the University of Kentucky.
- Develop consultation process or workshop for development of agreements with federally recognized Native American tribes regarding implementation of the updated ICRMP.

Implementation of these actions over the next 5 years will allow the KYARNG to efficiently meet their obligations of compliance with cultural resources legislation, while supporting the vital military mission at each of its sites and training installations. By implementing the management actions in this plan, the KYARNG goes beyond minimal compliance to accept the leadership role that the National Historic Preservation Act envisions for federal agencies to manage cultural resources in a spirit of stewardship for the inspiration and benefit of present and future generations.

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1. Introduction

The KYARNG has been managing their cultural resource program under a previously developed Integrated Cultural Resources Management Plan (ICRMP). This ICRMP is an update of the plan prepared for the KYARNG for Fiscal Years (FY) 2003-2008, and represents an instruction manual for the cultural resources management program for FY 2013-2018. It differs from the previous ICRMP primarily in two areas. First, this ICRMP Revision includes

- *The addition of new policies and regulations such as Executive Orders (EO) 13287 (Preserve America), EO 13327 (Federal Real Property Asset Management), and EO 13423 (Strengthening Federal Environmental, Energy, and Transportation Management), Department of Defense Instruction (DoDI) 4710.02, the Department of the Army's (DA) Program Comments on Unaccompanied Housing Structures and Ammunition Storage Facilities, and recent amendments to the National Historic Preservation Act (NHPA) and the Native American Graves Protection and Repatriation Act (NAGPRA)*
- *New guidance on the NGB Status Tool for the Environmental Program (STEP) program for project funding and data calls for the Army Environmental Database – Environmental Quality (AEDB-EQ) report, EO 13327, the Planning Resources for Infrastructure Development and Evaluation (PRIDE), the DoD Minimum Antiterrorism Standards for Buildings (Unified Facilities Criteria [UFC] 4-010-01), sustainability, and tribal consultation*
- *Introduction of new terminology for ARNG infrastructure: virtual installation, training installation, site, lot, and facility*
- *A focus on the results of the KYARNG cultural resource program over the past 5 years and how various successes and challenges have informed the goals and projects proposed for the program over the next 5 years.*
- *Streamlining of the Standard Operating Procedures (SOPs) such that guidance specific to the responsibilities of the KYARNG Cultural Resources Manager (CRM) is minimized (this guidance is now included in a CRM's Toolbox in Appendix J of the ICRMP Revision) and instructions for non-environmental personnel are emphasized. Flow charts have been added to each SOP to make them more comprehensible to the nonspecialist.*

Secondly, this updated ICRMP was developed from a template. The template was developed to standardize ICRMP format and content throughout the country and territories. Elements included within this ICRMP Revision include the input provided by internal and external stakeholders during development of the previous ICRMP, additional input from stakeholders obtained through the review process for the ICRMP Revision, and information provided by the KYARNG Cultural Resources Manager (CRM). Internal and external stakeholders who participated in the development of both the original ICRMP and this ICRMP Revision include KYARNG and NGB personnel, the State Historic Preservation Office (SHPO), and representatives of Native American Indian tribes. The KYARNG CRM provided state-specific information for the development of the ICRMP Revision including text describing cultural resources projects completed over the past 5 years, a review of program goals from the previous ICRMP and a summary of how those goals were or were not met, goals and projects developed for the next 5 years, and information on any new state regulations and requirements.

ICRMPs are required by internal military statutes and regulations, which include Army Regulation (AR) 200-1: *Cultural Resources Management, Department of Defense (DoD) Instruction 4715.3: Environmental Conservation Program*, and DoD Measures of Merit. The ICRMP is a 5-year plan that

supports the military training mission through identification of compliance actions required by applicable federal laws and regulations concerning cultural resources management.

The KYARNG has both federal and state missions. The KYARNG federal mission, outlined in statutes and Regulations, is to maintain properly trained and equipped units available for prompt mobilization for war, national emergency, or as otherwise needed. The state mission is to provide trained and disciplined forces for domestic emergencies or as otherwise required by state laws. The Army also has an environmental mission to sustain the environment to enable the Army mission and secure the future.

This introductory chapter describes the purpose of the ICRMP, the goals of the KYARNG cultural resource program, the organization of the ICRMP, and outlines roles and responsibilities of both military and nonmilitary stakeholders.

1.1 Mission and Goals for the KYARNG Cultural Resource Program

The mission of the KYARNG cultural resource program is to support the KYARNG mission, achieve regulatory compliance, and ensure that KYARNG stewardship responsibilities are met. Fundamental to this mission is the identification of cultural resources and evaluation of their eligibility for listing in the National Register of Historic Places (NRHP). A successful cultural resources management program requires projects to identify and evaluate resources, implement protection and compliance actions (such as review of proposed undertakings under Section 106 of the NHPA), and collaborate with internal and external stakeholders to advance awareness and preservation.

Accordingly, the goals for the KYARNG cultural resource program are as follows:

- *Support Sustainable Training (I)*
- *Reduction / Elimination of Landscape Access Restrictions (II)*
- *Protect Resources from Damage (III)*
- *Conserve Resources and their Information for Future Generations (IV)*
- *Increase Cultural Resource Appreciation (V)*
- *Contribute to Local, National and International knowledge base (VI)*
- *Enhance KYARNG personnel awareness of and appreciation for, cultural resources preservation and improve the effectiveness of their decision making process. (VII)*
- *Enhance working relationships with the Kentucky State Historic Preservation Office to identify and protect cultural resources that might exist at KYARNG facilities. (VIII)*
- *Promote outreach with Native American Tribes who are stakeholders in local natural and cultural resources and ensure their access to these resources. (IX)*
- *Adopt an approach for the protection of archaeological resources that is consistent with the Department of the Interior's National Strategy for Federal Archaeology. (X)*
- *Ensure continued compliance with the requirements of the National Historic Preservation Act, especially Sections 106 and 110. (XI)*
- *Establish long-term working relationships with stakeholders and Native American Tribes to identify and protect cultural resources that might exist at KYARNG facilities. (XII)*

- *Ensure that scientific and historical data recovered from cultural resources at KYARNG facilities are made available with due regard to confidentiality and security to researchers, Native Americans and other interested parties. (XIII)*

To support these goals, the KYARNG has established measurable objectives to accomplish over the 5-year period covered by this ICRMP Revision; these are discussed in greater detail in Chapter 2:

1.2 Revised Real Property Definitions

All federally owned or controlled Army, ARNG, and Army Reserves installations having statutory and regulatory cultural resources management responsibilities must prepare and implement an ICRMP per AR 200-1. Further, NGB guidance requires that all KYARNG holdings be included in the plan, regardless of whether they are state or federally owned because federal actions or funding might be implemented, which, in turn, triggers compliance with federal regulations.

Per the NGB-ARI Memorandum dated 20 January 2006 regarding New Real Property Inventory Definitions of Installations and Sites, this ICRMP Update uses the following new terminology for KYARNG infrastructure, as follows:

- **Parcel:** a parcel is a contiguous piece or pieces of land described in a single real estate instrument. A parcel can also be described as a specific area of land whose perimeter is delineated by metes and bounds or other survey methods. A parcel represents each individual land acquisition by deed or grant (i.e., each separate real estate transaction). A single real estate transaction may acquire multiple parcels. Each parcel is shown by a single lot record in the Real Property Inventory (RPI). Parcels are, therefore, the building blocks of land for a site. A parcel is created by a real estate transaction whereby a Military Department or the State acquires an interest in land, and a legal instrument evidences the interest so acquired.
- **Site:** in the broadest terms a site is a geographic location. In more focused terms, a site is a specific area of land consisting of a single parcel or several contiguous parcels. Each site must be able to produce a closed cadastral survey. A site can be any physical location that is or was owned by, leased to, or otherwise possessed by one Military Service or State (for National Guard purposes), to include locations under the jurisdiction of the Army National Guard (ARNG) where a hazardous substance has been deposited, stored, disposed of, placed, or otherwise came to be located. Do not combine Federal parcels with state parcels in a single site, even if contiguous. There will be no sites that contain both Federal and state owned property; create separate sites. A site may exist in one of three forms:
 - Land only, where there are no facilities present and where the land consists of either a single parcel or two or more contiguous parcels.
 - Facility or facilities only, where the underlying land is neither owned nor controlled by the Federal or State government. A stand-alone facility can be a site. If a facility is not a stand-alone facility, it must be assigned to a site.
 - Land and all the facilities thereon, where the land consists of either a single parcel or two or more contiguous parcels.

Example of rule applied - a state or municipal owned road that traverses an area (i.e., the road only is granted by the easement, not the property underneath). The rule defines such an area as a single site if the military retains controls or ownership of the land under the road. However, if the road and the right-of-way along the road are owned by a party other than the Military Department

(i.e., the road and the right-of-way [including property under the road] is granted in the easement), than this would be two sites since contiguous ownership does not exist.

- **Installation:** For real property purposes, an installation is a single site or a grouping of two or more sites for inventory reporting. Each State represents a single virtual installation consisting of all sites the State controls except sites designated as training installations. Training installations can be their own installations if they have their own command structure and if NGB-ARI and NGB-ART have jointly agreed that they may be listed as their own ARNG training installation. One or more sites may be assigned to any one installation but each can only be assigned to a single installation. An installation can exist in three possible forms:
 - A single site designated as an installation, (e.g., Camp Roberts, CA);
 - Several non-contiguous or contiguous sites grouped together as a single ARNG training installation (e.g., Camp Shelby, MS).
 - Several contiguous or non-contiguous sites grouped together as a single virtual installation, (e.g., ARNG manages all the sites in a single state as a virtual installation).

1.3 Organization of the ICRMP Revision Template

The ICRMP Update Template has been organized to facilitate cultural resource management and compliance with AR 200-1 and federal and state cultural resources management regulations and requirements. The ICRMP Revision Template is organized into the following sections:

Chapter 1: Introduction to the ICRMP Update. This chapter introduces the ICRMP Revision, purpose and goals for the cultural resources management program, document organization, and stakeholder reviews during development of the ICRMP Revision. This chapter also identifies the roles and responsibilities of KYARNG personnel, jurisdictional agencies, and stakeholders that are involved in the cultural resources compliance process.

Chapter 2: Cultural Resources Management Strategy. This chapter provides a summary of the goals and management actions proposed in the original ICRMP, and a discussion of how those goals were met and which management actions were completed. Challenges faced during implementation of the original ICRMP are also discussed. The data provided in this review are then used to inform the development of goals and management actions for the KYARNG cultural resources program over the next 5 years. This chapter also identifies stakeholder planned projects that could have an effect on cultural resources and recommendations for completing these projects in compliance with cultural resources management laws and regulations. Finally, this chapter provides discussions of the KYARNG's tribal consultation program and curation status of any collections under KYARNG control.

Chapter 3: Standard Operating Procedures (SOPs). KYARNG personnel, whose mission and responsibility is NOT the management of cultural resources, come into contact and could affect cultural resources in the course of their work. This chapter provides SOPs to aid such personnel in identifying those situations and guiding their actions to ensure compliance and protect cultural resources.

Chapter 4: References and Resources. This chapter includes references and resources supporting the development of the ICRMP and the implementation of the cultural resources program.

Appendices: In contrast to the previous ICRMP, most of the guidance and reference materials have been moved to the appendices. **Appendix A** provides a glossary of important terms used in the ICRMP Revision. The remaining appendices are separated into two main categories: **Appendices B** through **H**

include information completed by the KYARNG in support of the Updated ICRMP, such as the Record of Environmental Consideration (REC) and ICRMP Update review correspondence, planning level survey information (historic contexts, predictive models) and summaries of cultural resources investigations completed at various sites and training installations, lists of identified archaeological sites and historic buildings and structures printed from the ICRMP database, copies of agreement documents negotiated by the KYARNG with other stakeholders, copies of annual ICRMP Revision reports submitted to NGB over the past 5 years, the ICRMP Revision distribution list and contact information for stakeholders, and an appendix for internal use containing ICRMP and cultural resources management project funding requirements. **Appendices I** through **K** are primarily boilerplate text outlining current laws, regulations, and policies for cultural resources management, tools and guidance for the CRM, and sample documents (STEP project catalog, Memorandum of Agreement template, AEDB-EQ questionnaire, sample training brief, flyer regarding salvage of historic materials during construction projects).

The 12 required elements of an Army/ARNG ICRMP are listed in **Table 1-1**, along with information regarding where the element is found in the ICRMP Update Template.

Table 1-1. Twelve Elements of an Army ICRMP

ICRMP Element	Location in ICRMP Update
Identification of all applicable legal requirements and procedures for integrating compliance between the various independent cultural resources legal requirements	Appendices I–J
Identification, to the extent possible, of specific actions, projects, and undertakings projected over a 5-year period that may require cultural resources legal compliance actions	Chapter 2
Development and implementation, as appropriate, of a cultural landscape approach to installations cultural resources management and planning	Chapter 2, Appendix J
A planning level survey that includes existing information on cultural resources, development of or references to existing historic contexts, an archaeological sensitivity assessment or archaeological predictive model, and a listing of any federally recognized American Indian tribes or Native Hawaiian organizations associated with the installation	Appendices C–D (planning level survey and description of known resources) Appendix F – tribal contacts
A plan for the actual field inventory and evaluation of cultural resources that is prioritized according to the inventory and evaluation requirements associated with specific installation compliance requirements, such as NHPA Section 106 undertakings, that could affect cultural resources. Any electronic spatial data produced by inventories shall conform to the Federal Information Processing Standards and spatial data standards for DoD to ensure that the spatial data are useable in various spatial data systems	Chapter 2
Internal procedures for consultation, survey inventory evaluations, treatment, recordation, monitoring, emergency or inadvertent discovery, reporting, etc., tailored for the particular conditions and specific requirements at the KYARNG virtual installation. Interface requirements between the cultural resource management program and other program areas (including but not limited to natural resources management, ITAM, master planning, facilities and housing, and mission-related training and testing activities) should be identified. The coordination processes within the installation and between the installation; Department of the Army (HQDA); regulatory agencies; and the interested public should be defined	Appendix J – Procedures Chapter 2 – Coordination Chapter 3 - SOPs
Provisions for curation of collections and records (36 CFR 79) that are associated with NHPA undertakings, and procedures to reduce the amount of materials that are accessioned and permanently curated by the KYARNG virtual installation	Chapter 2
Provisions for limiting the availability of cultural resources locational information for the purposes of protecting resources from damage	Chapter 2

ICRMP Element	Location in ICRMP Update
Provisions and procedures for conducting an economic analysis and alternative use analysis on historic properties that are being considered for demolition and replacement	Appendix J
Procedures to ensure federally recognized tribes and Native Hawaiian organizations are provided access to sacred sites and are consulted when future access may be restricted, or when effects to the physical integrity of the sacred site may occur	Chapter 2, Appendix J
Development of standard treatment measures for cultural resources	Chapter 3
An estimate of resources required to execute the plan must have restricted access and be “For Official Use Only” due to the protection of government cost estimates	Appendix H

1.4 Information Gathering, Input, and Review for the Preparation of the ICRMP Update

The Updated ICRMP is the KYARNG commander’s decision document for cultural resources management and specific compliance procedures. This Updated ICRMP is an internal KYARNG compliance and management plan that integrates the entirety of the state’s cultural resources program requirements with ongoing mission activities. It also allows for ready identification of potential conflicts between the KYARNG mission and cultural resources management through analysis of impacts from currently known mission actions and activities, and identifies compliance actions necessary to maintain the availability of mission-essential properties and acreage.

All cultural resources will be viewed as having the potential to contribute information of value to various groups, including the academic community, Tribes, local historical societies, people whose ancestors settled the area, and many others. Under the NHPA, it is the responsibility of the KYARNG to take into account the effects of its actions on cultural resources and to avoid, minimize, or mitigate any impacts that might result from its actions. The KYARNG also has the responsibility to identify and evaluate cultural resources present within the virtual installation, both as a proactive measure for planning purposes and to better assess the needs of the resources. In addition, the SHPO and Tribes must have an opportunity to participate in the identification and management of the cultural resources at each KYARNG site and training installation, and the general public and other stakeholders should be offered the opportunity to participate as well. A NEPA review will be implemented for this ICRMP Revision. The appropriate NEPA analysis document (EA or REC) is included in Appendix B.

For these reasons, during the preparation of both the original ICRMP and this ICRMP Update, information and input was gathered from KYARNG personnel, agencies, and stakeholders to determine and resolve issues related to the management of cultural resources within the KYARNG virtual installation. This phase also included participation by any agency with jurisdiction by law or expertise (including the SHPO) and Tribes to obtain input early in the development process.

This ICRMP Update builds upon the comments provided during development of the original ICRMP for the KYARNG, providing internal and external stakeholders with the opportunity to reexamine issues and

procedures now that the first 5-year ICRMP cycle has been completed. **Tables 1-2** and **1-3** provide summaries of the topics on which various internal and external stakeholders provided input during the ICRMP implementation review process, and where these topics are addressed within this updated ICRMP. **Appendix B** provides copies of all review correspondence, as well as the implemented REC for this ICRMP Update. **Appendix F** includes a distribution list for the draft and final versions of this ICRMP Update. **Appendix G** provides copies of the annual updates (which includes comments received from stakeholders as part of the annual update process) completed since the implementation of the original ICRMP.

The ICRMP Update Template from which this ICRMP Revision was developed is the second template provided by NGB. The first template, published in 2004, was subject to a number of internal and external reviews. Reviewers of the original template included a number of SHPOs, THPOs and Tribal representatives, the ACHP, the National Council of SHPOs, State ARNG CRMs and Internal Stakeholders, the Office of Director of Environmental Programs (ODEP) / U.S. Army Environmental Command (USAEC), NGB Conservation Staff (CRM, NEPA, Geographic Information System [GIS]), the NGB Judge Advocate General (JAG), the ARNG Cultural Resources Subcommittee, NGB Installation Staff, and NGB Training Staff.

The 2007 ICRMP Revision Template was reviewed by a subset of this same pool of reviewers, including selected Tribal representatives, State ARNG CRMs (including the Cultural Resources subcommittee), NGB Conservation Staff, NGB Installation Staff, NGB, Training Staff, and the NGB JAG.

Table 1-2. Internal Stakeholder Information and Input Comments

Title/Area of Responsibility	Topics	Sections of ICRMP
Leadership-TAG, ATAG, Chief of Staff	Overall Mission & Stewardship	
FMO, SMO, CFMO	Construction & Maintenance	
POTO, Master and Strategic Planning	Training Sites	
Range Control	Training Sites	
Environmental Quality Control Committee (EQCC)	Mission & Overall Stewardship	
Others to Consider: (Unit Commander, Environmental Liaison, Facilities Division Manager, Command Historian, Environmental Unit Command Officer, Environmental Program Manager, Environmental M-DAY staff, Public Affairs)	Mission, PR & Overall Stewardship	

Table 1-3. External Stakeholder Information and Input Comments

Title/Area of Responsibility	Topics	Sections of ICRMP
SHPO	Section 106 & 110	
THPO / Tribes: The Cherokee Nation Eastern Band of the Cherokee Nation	Section 106, Consultation, Archaeological/Prehistoric sites, Human remains.	

United Keetoowah Band of Cherokee Indians Chickasaw Nation The Shawnee Tribe Absentee Shawnee Tribe Eastern Shawnee Tribe Miami Tribe Peoria Tribe Choctaw Nation		
Kentucky Archaeological Survey	Section 106, State Laws & Regulations	
Kentucky Historical Society	NGR-870-20	
NGB	Legal Review & Overall Management	

1.5 Roles and Responsibilities

This section contains a list of KYARNG staff responsible for the implementation of the cultural resources management program and nonmilitary agencies and stakeholders that also have responsibilities to the program. Electronic links are created to AR 200-1 for a listing of the individual KYARNG staff responsibilities. **Appendix F** contains the POCs for the Tribes and all other stakeholders.

Once the roles and responsibilities are established, there are opportunities to tailor the compliance process to operations and minimize impacts on the mission. PAs, under Section 106 of the NHPA, are a good tool that can be used to tailor NHPA compliance to installation-specific situations. CAs under NAGPRA can help minimize or avoid mandatory 30-day shutdown periods where human remains might be discovered. The critical key to managing an effective cultural resources program is consulting early in project planning and maintaining open lines of communication with other involved entities.

1.5.1 Military Personnel Responsibilities

The Army, NGB, and KYARNG personnel have important responsibilities for the implementation and success of the cultural resources management program. Participants in the management of cultural resources include the following:

- **ODEP:** Carries out the Assistant Chief of Staff for Installation Management (ACSIM) Army staff function for the Army's Cultural Resources Management Program.
- **NGB:** NGB provides funding for cultural resources program projects and compliance actions, and is the primary POC for installation requirements. The NGB reviews the ICRMP for legal sufficiency and works with the state ARNG to respond to comments from stakeholders (SHPOs, Tribes, and interested parties). The commanding officer of NGB-ARE must sign the FNSI after the ICRMP and EA have been through public review and comment periods under the NEPA, in order for the ICRMP and EA to be considered complete. NGB-ARE reviews all other legal documents (PAs, MOAs, comprehensive agreements [CAs]) for legal sufficiency, provides for review of such documents by the ODEP/ACSIM, and is the primary signatory in addition to The Adjutant General (TAG).
- **KYARNG Virtual Installation:**

- **CRM:** As appointed in accordance with AR 200-1 d(1)(a), provides day-to-day management for cultural resources, helps ensure that all KYARNG virtual installation activities are in compliance with applicable cultural resources requirements, serves as a liaison between all persons involved in the ICRMP, writes the ICRMP or develops its statement of work, and implements the ICRMP.
- CFMO – Facilities Division, including
 - **Master Planner:** Should have the ICRMP as a component plan within the KYARNG virtual installation Master Plan and Design Guide.
 - **Engineers:** Should include time schedules for cultural resources consultation in their project design and delivery schedules.
 - **Facilities Maintenance:** Are responsible for doing minor maintenance and repairs to installation property. Both the maintenance and work order section should have the current inventory of cultural resources, and should use the appropriate standards and techniques established for maintenance and repair of historic properties.
 - **Utilities:** Might have a permitting system established for anyone who wants to dig on the installation. The CRM can review digging plans submitted to them or provide them with an inventory and map of all known archaeological sites.
- **Resource Management Office:** Is responsible for the financial management and accounting for the KYARNG virtual installation's funds. They will track any cultural resources funds and are a source of information on funding.
- **Contracting Office:** Will give advice on spending funds to accomplish the cultural resources program. The contract office should be made aware of any legal requirements or agreements for cultural resources to ensure that contracts are consistent with those requirements.
- **Staff Judge Advocate (SJA):** Will review MOAs, PAs, CAs, Plans of Action, and any other legally binding cultural resources documents for legal sufficiency. They can also interpret the various laws and regulations related to cultural resources management.
- **Land and Natural Resource Managers:** Can provide background information concerning sites, environmental and geographic factors, surface disturbance, access, vegetation, wildlife, endangered species, wetlands, and other resources.
- **Directorate of Plans and Training, and Range Control:** Allocate and schedule the use of training lands to units for field exercises. They should have the current inventory of cultural resources found on the training lands and should be provided information on any agreement documents, the ICRMP, CAs, and pertinent regulations that could impact training.
- **Real property office:** Primary source of data needed to determine if a building or group of buildings is eligible for the NRHP and should be coordinated with to track historic properties.
- **Command Historian & Unit Historical Officers:** Can assist in locating background information on military activities.
- **Public Affairs Office (PAO):** Can help find historic information concerning sites or activities and can assist in developing interpretive programs. The PAO can also assist in promoting the ICRMP to the public and the installation. The PAO can promote Historic Preservation Week (May) activities to increase public awareness.

1.5.2 Nonmilitary Participants

This section summarizes the roles of the following nonmilitary participants:

Advisory Council on Historic Preservation: The ACHP issues regulations to implement Section 106 of the NHPA; provides guidance and advice on the application of its regulations, 36 CFR Part 800; oversees the operation of the Section 106 process; and approves federal agency procedures for substitution of ACHP regulations.

Kentucky Heritage Council and the State Historic Preservation Officer: The SHPO reflects the interests of the state or territory and its citizens in the preservation of their cultural heritage. In accordance with Section 101(b)(3) of the NHPA, the SHPO advises and assists the ARNG in carrying out its Section 106 responsibilities. The SHPO also advises and consults in the development of an ICRMP (see **Appendix I**). If a Tribe has assumed the responsibilities of the SHPO for section 106 on tribal lands under Section 101(d)(2) of the NHPA, TAG shall consult with the THPO, in lieu of the SHPO, regarding undertakings occurring on or affecting historic properties on tribal lands. The SHPO may participate as a consulting party if the Tribe agrees to include the SHPO.

Tribal Historic Preservation Officer: A THPO appointed or designated in accordance with the NHPA is the official representative of a Tribe for the purposes of section 106. If a Tribe has not assumed the responsibilities of the SHPO for Section 106 on tribal lands under Section 101(d)(2) of the NHPA, TAG shall consult with the Tribe in addition to the SHPO regarding undertakings occurring on or affecting historic properties on tribal lands (see **Appendix I**).

Tribes¹ Section 101(d)(6)(B) of the NHPA requires the ARNG commander to consult with any Tribe that attaches religious and cultural significance to historic properties that could be affected by an undertaking. Such consultation shall be on a government-to-government basis, and shall occur through the provisions of the NHPA and 36 CFR Part 800. It is the responsibility of TAG to seek to identify federally recognized tribes and Native Hawaiian organizations that shall be consulted pursuant to Section 106 of the NHPA (see Chapter 2 and **Appendices I and J**).

Interested Parties and the Public: The installation shall seek and consider the views of the general public and any other interested parties regarding the development and implementation of the ICRMP (see **Appendix B**), including historic preservation organizations.

Kentucky Archaeological Survey: Administered by the Kentucky Heritage Council and the Department of Anthropology at the University of Kentucky, The State Archaeologist oversees the Archaeology Program of the Department of Anthropology which contains three service units that provide information and archaeological services to governmental organizations and private entities. It also operates the William S. Webb Museum of Anthropology, which is charged with several responsibilities: to serve a diverse audience, from the layperson to professionals; to preserve significant, irreplaceable objects; and to contribute to our understanding of past and present cultures, especially those of prehistoric Kentucky. The archaeological collections of the KYARNG are curated and stored at the Webb Museum.

Kentucky Historical Society: An agency of State Government, the Society collects, preserves, conserves, interprets, and shares information, memories, and materials from Kentucky's past to assist those interested in exploring and preserving that heritage. This mission is served through Museum collections, Oral History collections and Libraries and Special Collections located in three separate

¹ The word "Tribes" (with a capital T) is used inclusively throughout this ICRMP to include American Indian tribes, Alaska Natives and organizations, Native Americans, and Native Hawaiians, and organizations as defined in the National Historic Preservation Act and the Native American Graves Protection and Repatriation Act.

facilities. One of which is the KYARNG's 1850 State Arsenal, known as the Kentucky Military History Museum. This facility is operated jointly by the KYARNG and the Kentucky Historical Society under a Memorandum of Agreement which outlines the duties of both agencies. The non-archaeological state and federal collections of the KYARNG are curated and stored at the Kentucky History Center, the Headquarters of the Kentucky Historical Society. Federal historic property held by the Kentucky Historical Society is accounted for through the USP&FO under NGB 870-20.

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2. Cultural Resource Management Strategy

This chapter provides an overview of the KYARNG cultural resources program, its successes and challenges over the past 5 years related to the implementation of the previous ICRMP, the status of Section 110 investigations at each site and training installation, and appropriate compliance and management activities for the next 5 years. In addition, KYARNG projects planned for the next 5 years that require cultural resources compliance and management activities are identified.

2.1 KYARNG Cultural Resources within the Virtual Installation

The KYARNG virtual installation includes 413 total permanent/semi-permanent buildings/structures. Many of these are prefabricated FLAM/HAZ MAT storage buildings that need to be reclassified as portable and 13,898 acres within 69 sites and 3 training installations (see **Appendix D**). All of the sites and training installations discussed in this ICRMP Update are either federally owned or supported with federal funds. These include readiness centers (RC), combined support maintenance shops (CSMS), aviation support facilities (AASF), and field maintenance shops (FMS).

The inventory of cultural resources managed by the KYARNG includes historic buildings, archaeological sites, cemeteries and nineteenth century stone walls. **Table 2-1** provides a list of the KYARNG sites and training installations with notes concerning the status of inventories and evaluations as stipulated under Section 110 of the NHPA. All of the buildings and structures aged 50 years or older within the KYARNG real property inventory have been evaluated for National Register eligibility; projects to inventory buildings and structures that will turn 50 years of age by 2018 have been programmed for funding. Archaeological surveys have been completed for all of the 69 KYARNG sites. Archaeological surveys of the Wendell H. Ford Regional Training Center, the CSM Harold L. Disney Training Center and the Eastern Kentucky Training Site at Hidden Valley are also 100% complete. Together, approximately 13,100 of the total 13,898 acres within the KYARNG virtual installation that are accessible for archaeological survey (excludes acreage beneath buildings and pavement) have been surveyed. Of the surveyed acreage, 519 of 13,100 accessible acres are federal lands while approximately 12,581 of the 13,100 accessible acres being state lands. To date no resources of traditional, religious, or cultural significance to Native American tribes have been recorded on KYARNG lands; however, the KYARNG maintains an ongoing consulting relationship with interested Native American tribes to ensure that KYARNG actions do not adversely affect significant tribal resources.

Table 2-1. Status of NHPA Section 110 Inventory and Evaluation

Site/Installation	Total # of buildings or Structures	# of buildings or structures 50 years or older	# of buildings or structures evaluated	# of eligible or listed structures or buildings	Total Acreage/total accessible acreage	Total acreage surveyed	# of identified archaeological sites	# of archaeological sites evaluated	## of eligible archaeological sites
Ashland Armory	1	1	1	1	1.8	1.8	0	0	0
Ashland FMS#1	1	0	1	0	7.4	0	0	0	0
Barbourville Armory	1	1	1	1	5	5	0	0	0
Bardstown Armory	1	0	1	0	2.2	2.2	1	1	0
Benton Armory	1	0	1	0	7.1	7.1	1	1	0

Bluegrass Army Depot AFRC & FMS#4	118	67	118	12	780	400	1	1	1
License facility	2	0	2	0	10	10	0	0	0
Bowling Green Reserve Center	1	0	1	0	6.8	5	0	0	0
Bowling Green FMS#10	1	1	1	1	1.3	0	0	0	0
Bluegrass Station (Leased facility)	94	62	94	12	780	780	1	1	1
Boone National Guard Center	29	2	10	5 *Includes EOC & Stone Fences	380.1	380.1	1	1	0
Brandenberg Armory	1	0	1	0	10	2	0	0	0
Buechel Armory & FMS#8(a)	2	2	2	1	13	13	1	1	0
Burlington Readiness Center (under construction)	1	0	0	0	34.7	34.7	0	0	0
Burlington FMS #7 Lease	1	0	1	0	3	0	0	0	0
Campbellsville Armory	1	0	1	0	5	5	0	0	0
Carlisle Armory	1	0	1	0	6.5	0	0	0	0
Carrolton Armory	1	0	1	0	8.4	8.4	0	0	0
Central City Armory	1	0	1	0	6.6	6.6	0	0	0
Cynthiana Armory	1	0	1	0	5.3	5.3	0	0	0
Danville Armory	1	1	1	1	3.4	2	0	0	0
SM Harold L. Disney Training Center	6	0	6	0	519	519	25	25	11
Elizabethtown Armory	1	1	1	1	1.8	1.8	0	0	0
Florence Leased Recruiting Office	1	0	0	0	0	0	0	0	0
Fort Knox Armory Leased Building #2371	1	1	0	0	N/A	0	0	0	0
Fort Knox MATES	2	0	2	0	30.7	0	0	0	0
Frankfort Fountain Plaza Leased Space	1	0	1	0	0	0	0	0	0
Frankfort NGAKY & R/R Leased facility	1	0	1	0	0	0	0	0	0
1850 State Arsenal/State Military Museum	1	1	1	1	0.5	0	0	0	0
Glasgow Armory	1	1	0	0	9.3	9.3	0	0	0
Glasgow FMS 9	1	1	1	1	6.9	6.9	0	0	0
Harlan Armory	1	0	1	0	4.2	4.2	0	0	0
Harrodsburg Armory	1	0	1	0	5.5	5.5	0	0	0
Hazard Armory	1	0	1	0	9	9	0	0	0
Henderson Armory	1	0	1	1	1.7	1.7	0	0	0

Hopkinsville Reserve Center	1	0	1	0	8.6	8.6	0	0	0
Independence Readiness Center (Lease)	1	0	1	0	27	27	0	0	0
Jackson Armory & FMS#6	2	0	1	0	6.48	6.48	0	0	0
Leitchfield Armory	1	0	1	0	13.58	13.58	0	0	0
Lexington Armory & FMS#3	2	0	2	0	18.14	18.14	0	0	0
Lexington Recruiting Office Lease	1	0	1	0	N/A	0	0	0	0
London FMS#2	2	2	2	2	2.1	2.1	0	0	0
London Armory	1	0	1	0	2.3	2.3	0	0	0
London Joint Operations Readiness Center	2	0	2	0	14.3	14.3	0	0	0
Louisville Armory & FMS#8	2	2	2	1	8.8	8.8	0	0	0
Louisville Air Guard Leased Facilities	4	1	0	0	N/A	0	0	0	0
Louisville Recruiting Leased Space	1	0	0	0	N/A	0	0	0	0
Madisonville Armory	1	1	1	1	4.4	4.4	0	0	0
Marion Armory	1	1	1	0	6.34	6.34	0	0	0
Maysville Leased Armory	1	0	0	0	3.0	0	0	0	0
Middlesboro Armory	2	1	2	1	5.05	5.05	1	1	0
Monticello Armory	1	0	1	0	4.9	4.9	0	0	0
Murray Armory	1	0	1	0	6.12	6.12	0	0	0
Morehead Readiness Center	1	0	1	0	10	0	0	0	0
MAT Eastern KY WETS Training Site	0	0	0	0	523	523	0	0	0
Olive Hill Armory	1	1	1	1	5.4	5.4	0	0	0
Owensboro Readiness Center	1	0	0	0	20	20	1	1	0
Paducah Storefront Recruiting Leased Space	1	0	0	0	N/A	0	0	0	0
Paducah Joint Readiness Center & FMS	2	0	2	0	20.6	20.6	0	0	0
Pikeville Readiness Center Community College Leased space	2	0	2	0	N/A	N/A	0	0	0
Prestonsburg Armory	1	0	1	0	4.7	4.7	0	0	0
Ravenna Armory	1	0	1	0	5.13	5.13	0	0	0
Richmond Armory	1	0	1	0	5	0	0	0	0
Russellville Armory	1	0	1	0	5.2	5.2	1	1	0

Shelbyville Armory	1	0	1	0	7	0	0	0	0
Somerset Armory	1	1	1	1	1.7	1.7	0	0	0
Springfield Armory	1	0	1	0	7.09	7.09	0	0	0
Standiford Field KYANG Facility	14	0	0	0	85.18	0	0	0	0
Tompkinsville MVSB	1	1	1	1	0.9	0.9	0	0	0
Tompkinsville Armory	1	1	1	1	5.1	5.1	0	0	0
Walton Armory	1	0	1	0	5	0	0	0	0
Wendell H. Ford Regional Training Center	52	0	52	0	11,261	11,261	1	1	0
Williamsburg Armory	1	0	1	0	5	5	0	0	0

2.2 Management Actions

This section summarizes the specific actions required to manage the cultural resources under the stewardship of the KYARNG for the next 5 years, as well as summarizing the actions taken over the past 5 years.

2.1.1 Summary and Results of the Previous ICRMP

Actions proposed in support of the KYARNG cultural resources management program in the original ICRMP included:

Administrative Actions:

- *Employment of a Statewide Cultural Resources Manager*
- *Development of procedures for in-house review or repair and maintenance of National Register eligible and listed buildings.*
- *Provide training for facilities managers and training staff.*
- *Identify and consolidate historic records to a central location.*
- *Develop Programmatic Agreement (PA) with the Kentucky SHPO for National Register eligible and listed sites and buildings.*
- *Obtain and digitize all relevant technical and historic documents.*
- *Establish a GIS Database for Cultural Resources.*
- *Revise ICRMP*

Archaeological Actions:

- *Conduct Statewide Archaeological Surveys of all Armories.*
- *Conduct Cultural Resources Surveys for all new land acquisitions.*
- *Survey, inventory and map all cemeteries on Department of Military Affairs property.*
- *Phase II Archaeological investigations at Artemus (CSM Harold L. Disney Training Site).*

Architectural Resources:

- *Conduct Architectural Survey for Boone National Guard Center*
- *Conduct Statewide Cold War Survey*
- *Architectural Resources Survey of all new lands acquisitions*
- *Document and map rock fences at Boone National Guard Center*
- *Engineering Evaluation of Old Arsenal (KY Military Museum)*
- *Install cap over old hand dug well at Artemus Training Site*
- *Native American Tribal Actions:*
 - *Consult with federally recognized Native American Indian Tribes.*
 - *Designate a Native American tribal liaison.*
- *Conduct inventory of Traditional Cultural Properties.*

An assessment of the success of the KYARNG in implementing the previous plan reveals that 20 of these 21 actions have been initiated and 18 have been completed. However, several of these goals are on-going and may require periodic updating or review.

The primary goal of the initial ICRMP was the hiring of a full-time Cultural Resources Manager (CRM). This recommendation was implemented on 1 August 2005 and at that time a comprehensive pro-active approach to CRM was implemented and combined with the NEPA and ECOP programs, which gave us the broadest possible oversight of proposed KYARNG actions. The first step in this approach was to develop procedures for in-house review of repair and maintenance of all existing National Register eligible or listed structures. This was accomplished through the utilization of the KYARNG's existing internal facilities Work Order system and the NEPA Record of Environmental Consideration and Checklist. This, coupled with the relocation of the Environmental Office to the new FMO annex to the State Facilities building, enabled direct access to both the FMO and State Facilities staff and thus access to all planning meetings and project documents. This allowed us to better identify actions that might impact NR properties and enabled us to coordinate these actions with the SHPO insuring early review and thus avoidance of adverse affect.

We then approached the goal to provide statewide CRM training. This was intended to be a basic level program to teach facilities and training site managers the concepts of the *Secretary of the Interior's Standards for the Rehabilitation and Restoration of Historic Properties*. To accomplish this directive the KYARNG's Environmental Office developed an on-line Cultural Resources Management Program that consists of (3) video training modules that introduce the basic guidelines and standard operating procedures for managing cultural resources, which included both buildings and archeological sites.

It was during this period that we truly identified the need to locate and consolidate our historic records. To accomplish this objective, the Environmental Office implemented a facilities specific electronic and hard copy filing system that enables the CRM and other staff to gather, store and easily access historic records and surveys related to all KYARNG properties. This system was also linked to the FMO and the State Facilities Division through electronic servers. As a component of this, commencing also in 2005, the KYARNG's CRM established a limited library of Preservation Briefs and other NPS/SHPO historic preservation publications which are available through the Environmental Office. In 2007, the CRM also began working with the KYARNG's Command Historian and the KYARNG's Military Records and Research Library to identify relevant historic data to be copied and placed on file within the Environmental Office. This assisted us greatly when conducting research for NGB Non-Department of Defense Owned, Non-Operational Defense Sites Inventory that was conducted in 2008-09.

At that time we took the initial steps to establish a GIS database for CRM and efforts were undertaken to employ appropriate staff, which was first accomplished in 2008. The goal was to identify the spatial locations of cultural resources on KYARNG/DMA property. This data was imported into a Geographical Information System to facilitate the coordination and integration of CRM activities with installation training and construction activities, master planning, NEPA impact analyses, and natural resources planning. However, before we could fully integrate CRM with GIS we needed to conduct a series of surveys and investigations to insure that we had as complete an inventory as possible.

To that end, we met with the Kentucky Archaeological Survey (KAS) and the office of State Archaeology at the University of Kentucky, which is jointly administered by the Kentucky Heritage Council, the State Historic Preservation Office (SHPO) and reviewed previous architectural surveys that had been conducted prior to the establishment of the original ICRMP. This review indicated that several armories might be situated on tracts of land that appear to have undisturbed areas for which a Phase I archaeological survey and determinations of eligibility should be completed. To fully understand the extent of possible archaeological resources at each of our armories/readiness centers, we requested that KAS conduct a Phase I survey of all National Guard Armories in the state of Kentucky. This survey was completed in 2007 and resulted in the documentation of five (5) previously unrecorded archaeological sites: 15Ne93 (Bardstown), 15M1453 (Benton), 15Jf712 (Buechel), 15B1116 (Middlesboro), and 15 Lo228 (Russellville), and five isolated finds, IF-1, (Danville); IF-2, (Lexington); IF-3, (Owensboro); IF-4 (Tompkinsville); IF-5, (Louisville). The final report concludes that “due to their recent age, history of significant soil disturbance, and low artifact densities these sites and isolated finds are not considered eligible for listing in the National Register of Historic Places. In the event that soil disturbing activities related to management or development of the facilities threaten these sites, no special measures should be taken to protect them. In addition, all KYARNG properties investigated during this project do not require any further archaeological studies in advance of any ground disturbing activities.”

This accomplished, between 2006 and 2010 we also requested that KAS/SHPO conduct several additional archaeological surveys associated with ECOP evaluations for new land acquisitions or leases associated with MILCON projects. These included a Phase I Assessment of the 20 acre site adjacent to the Barkley Regional Airport in McCracken County that consisted of 53 negative shovel probes with no cultural materials recovered; A Phase I Assessment of a 20 acre area at the Owensboro Airport, Daviess County that identified one prehistoric site (15Da247) in the southern portion of the project area. Site 15 Da427 consisted of a light lithic scatter confined to the surface and the plowzone. Because the site contained a very low density of cultural materials and lacked intact subsurface deposits, it was considered to not be eligible for listing in the National Register of Historic Places. The SHPO concurred with this determination on 29 July 2008; A Phase I investigation of an 8.78 ha property in Laurel County for the proposed construction of a JSO Readiness Center. The goal of this survey was to identify any prehistoric or historic sites present in the proposed project area. The final report concluded that “the tract exhibited significant soil disturbance due to previous clearing activities. Neither surface reconnaissance nor excavated shovel probes resulted in the documentation of any archaeological sites. No further archaeological evaluation was recommended for the property. As planned the proposed project will have no effect on any property eligible for or listed in the National Register of Historic Places.” On January 5, 2007 archaeologists from the KAS examined the Old Twenhofel Junior High School property in Northern Kentucky that the KYARNG was proposing to lease for use as a temporary Readiness Center. During the course of their examination of that property they determined that it had been severely disturbed by earlier construction activities. The SHPO concurred with this determination and thus the Section 106 review was fulfilled.

A 2007 Phase I reconnaissance of additions to the Wendell H. Ford Regional Training Center (WHFRTC) encompassed approximately 950 ha, and one historic archaeological site (15Mu255), one historic cemetery (15Muw56), and three non-site localities were identified during the course of this survey. The

report concluded that due to their recent age and significant soil disturbance caused by strip-mining and/or logging activities, the two archaeological sites are not eligible for listing on the National Register and in the event that these sites are disturbed or threatened by management practices, the KYARNG does not need to contact the Kentucky Heritage Council/SHPO and no measures to protect these sites are required. However, because the cemetery contains nineteenth century burials of descendants of some of the earliest settlers in Muhlenberg County, Kentucky it is significant to the historical development of the area and is eligible for listing in the NRHP. A second reconnaissance conducted in 2010 encompassed approximately 350 acres that consisted of 16 tracts. Most of these tracts consist of wetlands adjacent to an abandoned rail line. Three areas contained in Tracts 4, 5, 15, 17, 18, 134, and 135 were at higher elevations. All of the tracts had experienced previous disturbance from the construction of the rail line, a barge loading facility, and from logging activities, which resulted in no archaeological site being found during the current survey. The planned use of the project area will have no effects on archaeological sites that might be eligible for inclusion in the NRHP. No further archaeological work is recommended for the project area.

In 2008 an archaeological assessment of 14.9 Ha for the proposed future Northern Kentucky (Burlington Readiness Center) site was conducted by the KAS as part of the ECOP evaluation. This survey failed to find any evidence of prehistoric or early historic occupation in the project area and the SHPO concurred with a determination of no effect.

To better understand the number and condition of the active and historic cemeteries located on KYARNG controlled properties, we requested that the KAS conduct a series of investigations to document and evaluate these resources that were known to exist at our Headquarters facility and training sites.

KAS Report No. 95, which documented three cemeteries on the Artemus (H.L. Disney) Training Site, was completed in 2005. The three cemeteries are known as the Mills/Pursifull, Campbell, and Durham cemeteries. The Mills/Pursifull Cemetery has seen recent use and the majority of the known dates of death fall within the twentieth century and consequently the cemetery is not eligible for listing in the National Register. Although the Campbell Cemetery contains only burials marked with rough field stones, the cemetery possibly dates to the early nineteenth century and is eligible for listing. The Durham Cemetery contains burials of many of the local families, attesting to the interconnectedness of the people in this rural community and is also considered eligible.

KAS Report No. 96, also completed in 2005, documented three cemeteries at the WHFRTC. These cemeteries are locally known as the Reno, Vincent, and Coleman cemeteries, and interments date from the mid-nineteenth to twentieth centuries. With nineteenth century burials of a prominent Muhlenberg County family, the Reno Cemetery is considered eligible for listing in the National Register. The Vincent Cemetery is associated with some of earliest settlers in the county and is also considered eligible. However, because the Coleman Cemetery is an active cemetery and there is no separation between historic and modern burials, it is not eligible.

KAS Report No. 140 was completed in 2007 and documented two additional cemeteries located at the WHFRTC. These cemeteries are known as the Old Bethel and Cedar Grove Cemeteries. Interments at the Old Bethel Cemetery date from 1803 to 2006, and interments at the Cedar Grove Cemetery date from 1896 to 2006. Since both cemeteries are active and there is no separation between historic and modern burials, neither was assigned a site number nor is considered eligible for listing in the National Register.

In May of 2010, the KAS conducted a geophysical survey at the Cedar Grove Cemetery. The purpose of this survey was to attempt to locate any burials within the "Hilltop" area of the cemetery. Oral histories suggested that this area contains unmarked African American burials. For this survey GPR and resistivity were used to provide the best geophysical analysis. Four grids were investigated using both techniques

and based on the results of the GPR and resistivity survey, and aided by physical ground Truthing, there were no anomalies detected that are consistent with graves in the areas of the investigations. This data will be used to assist in future land use planning within the cemetery.

KAS Report No. 142 was conducted in 2007 as part of additional land acquisitions at the WHFRTC. This assessment identified one historic archaeological site and three historic non-site localities, none of which are eligible for listing to the NRHP. However, a late-nineteenth century family cemetery was documented that contains burials of some of the earliest settlers in Muhlenberg County. For this reason, this cemetery was deemed eligible for listing in the NRHP.

It was determined that an archeological investigation of the Boone National Guard Center by the U.S. Army Corps of Engineers in 1988 had identified the suspected location of the historic “Baxter” Cemetery. This cemetery was thought to have been moved in the 1950s as an aspect of the construction of the Capital City Airport. However, no records of this relocation could be found. Therefore, in early 2006 archaeologists from the KAS monitored the removal of the plowzone/topsoil from the area where the Baxter Cemetery was believed to have been located. Though a geophysical survey of the area, using ground penetrating radar, had failed to locate any grave shafts in this area, based on the presence of displaced headstones in the area, it was recommended that the removal of the plowzone/topsoil be monitored to ensure that no graves were disturbed during a proposed airport improvement project. (At that time the Capital City Airport was under the management of the KYARNG.) Monitoring of the removal of the plowzone/topsoil did not result in the identification of any grave shafts. Thus, it was the determination of the KAS and the SHPO that if a cemetery was once present in this area, it had been destroyed by previous construction activities and there was no objection to the project continuing as proposed.

In addition to these actions, the previous ICRMP outlined a number of training installations-and site-specific inventory and evaluation projects to be completed (**Table 2-2**). Most of these projects have been completed as planned; the KYARNG will strive to complete the remaining projects during the period covered by this ICRMP (FY2013-2018).

Table 2-2. Status of Training Installation- and Site-specific Projects from Previous ICRMP

Site/Installation	Project #	Description	Status
Boone National Guard Center, Frankfort, KY	KYA8500020	A historic architectural survey of the Boone National Guard Center.	KAS Report No. 109, Completed in November 2005. (1 building the EOC was determined eligible for significance in the area of the Cold War.)
Boone National Guard Center, Frankfort, KY	KYA8500021	A GIS and GPS survey of 3 Stone Fences.	KAS Report No. 99, Completed in October 2005. (Conclusion is that all portions of the fences are eligible for listing in the NR and should be protected.)
1850 State Arsenal, Frankfort, KY	N/A	Engineering Evaluation to guide renovations	Feasibility Study completed in 2008 (Renovations are on-going)

Artemus, KY (Disney Training Site)	KYA0300005	Cap old hand dug well	On-going, resource currently has a wooden cover, awaiting guidelines for plugging or closing from KAS/SHPO
Statewide	KY00000013	Cold War Survey	KAS Report Completed in 2005 (1 building the EOC located in Frankfort was determined to be eligible.)
Statewide	KY00000012	PA for NR sites with SHPO	Completed in 2005 and replaced by implementation of Nationwide PA for treatment of historic resources.
Boone Center, Frankfort, KY	KY00096004	GIS Database for Cultural Resources	On-going
Artemus, KY (Disney Training Site)	KYA000002	Phase II Archaeological Surveys	None have been required
Statewide	KY00098005	Revise ICRMP	On-going
Statewide	KY00000011	Inventory of Traditional Cultural Properties	On-going (KYARNG to extend invitation to interested tribes.
Statewide	N/A	Designate Native American Tribal Liaison	Ms. Faith Fiene, KYARNG EPM was appointed by TAG in 2005.

2.1.2 Goals and Objectives for the 2013-2018 ICRMP Revision

Based on the analysis of successes and challenges associated with the implementation of the previous ICRMP, the KYARNG has prepared the following updated list of installation wide management actions to be completed over the next 5 years:

- *Support the KYARNG military mission through sustained cultural resources management at all sites through expansion of CRM training for FMO & State Facilities Division staff.*
- *Insure Section 106 & 110 compliance for all proposed actions and database updates.*
- *Expand integration of cultural resources management into all KYARNG planning processes.*
- *Expand Geographic Information System (GIS) program to assist ENV & FMO staff with proposed actions research for impacts to Cultural and Natural resources.*
- *Implement the Nationwide Programmatic Agreement for Army National Guard Readiness Centers Maintenance & Repair with the Kentucky SHPO.*
- *Conduct archaeological and historic buildings surveys for additional leased or purchased properties to insure KYARNG compliance with Section 106,110 & ECOP requirements.*
- *Coordinate collections management with the Webb Museum of Cultural Anthropology at the University of Kentucky.*
- *Enhance consultation process for development of agreements with federally recognized Native American tribes regarding implementation of the ICRMP.*
- *Update the ICRMP as needed.*

To aid in implementing these management actions, the KYARNG has programmed a number of site and training installation-specific projects between FY 2012-2017. New projects identified as part of the development of this ICRMP Revision are shown in **Table 2-3**.

Table 2-3. Cultural Resources Management Projects for FY 2013-2018

Site/Installation	Project #	Description	Proposed Fiscal Year for Completion
Environmental	N/A	Revise ICRMP	5-year cycle
Environmental	N/A	Submit ICRMP Updates/Reports	Annually
Environmental	N/A	Submit Nationwide PA for ARNG Readiness Centers Maintenance & Repair Report	Annually
Louisville Fair Grounds Armory & Barbourville Armories	KY000060030	NHPA, Section 110 survey & PRIDE Up-date	2012
Hopkinsville & Marion Armories	KY000060030	NHPA, Section 110 survey & PRIDE Up-date	2013
Campbellsville, Glasgow & Monticello Armories	KY000060030	NHPA, Section 110 survey & PRIDE Up-date	2014
Bowling Green Armory	KY000060030	NHPA, Section 110 survey & PRIDE Up-date	2015
Environmental	N/A	Continue consultation with federally recognized Native American Tribes	Ongoing; Review Annually
Statewide	N/A	Update/maintain GIS database for cultural resources	Ongoing; Review Annually
Statewide	N/A	Conduct Phase I Environmental Surveys (ECOP) for new leases or property acquisitions.	As required, Review Annually

Guidance for programming projects is provided in **Appendices J** and **K**. Government estimates for these projects are included in **Appendix H**.

2.1.3 Cultural Resources Compliance Actions, FY 20013-2018 Undertakings

In addition to the management actions and site-or training installation-specific projects noted in section 2.2.2, this section outlines Section 106 compliance actions to be completed in support of projects initiated by other directorates within the KYARNG over the next 5 years (see **Table 2-4**), in order of current military construction (MILCON) funding priority. The CRM must develop projects and plans for the

identification and protection of cultural resources and compliance actions needed when resources could be affected. Cultural resources compliance actions can include archaeological or historic building surveys, consultation with the SHPO, impacts mitigation, arranging for and agreements with curation facilities, initiation of Tribal consultation related to a specific project, or development of agreement documents for a specific project. These projects might be necessary due to mission changes or master planning initiatives, or might be a part of ITAM projects; natural resource management plans; major maintenance programs; changes in equipment, assets, mission, or training; and consolidating or relocating units.

Table 2-4. Cultural Resources Compliance Actions Planned for FY 2013-2018

MILCON Project	Description of Undertaking	Proposed Compliance Action
210001	Construction and operation of an Army Aviation Support Facility At Boone National Guard Center	EA/FNSI complete as of 13 August 2009 & ESA/ECOP complete as of 17 September 2009. No additional NEPA requirements are anticipated for this action.
210034	Construction and operation of the Field Maintenance Shop (FMS) #7 in Burlington, KY	NEPA/ESA-ECOP evaluation complete 20 April 2011. An update to these documents may be required.
210054	Construction of Joint Forces Headquarters Building at Boone National Guard Center	There are no known data gaps for the Boone National Guard Center. Proposed project will require ECOP evaluation and a Record of Environmental Consideration or EA for NEPA.
210293A & 210294A	Construction of a Qualification Training Range & Tactical Training Base/Urban Assault Course at the Wendell H. Ford Regional Training Center	ESA/ECOP evaluation complete 1 February 2010 & EA/FNSI complete 26 August 2011. A REC may be required by NGB-ILE as a NEPA update to the existing EA/FNSI.

As noted above, guidance for developing and implementing the projects and protecting resources is included in **Appendix J**. An internal cost estimate for the projects listed in section 2.2.3, for NGB review only, is provided in **Appendix H**.

2.2 Cultural Landscape Approach

Cultural resources constitute significant elements of the ecosystems in which Army installations and their component activities exist and function. Planning and management of cultural resources should occur within the context of a comprehensive and integrated land, resource, and infrastructure approach that adapts and applies principles of ecosystem management. This involves planning and management of cultural resources by reference to the landscape.

The development and implementation, as appropriate, of a cultural landscape approach to KYARNG installation management is required by AR 200-1. A cultural landscape approach:

1. Analyzes the spatial relationships among all cultural resources within their natural setting. Installation cultural resources management planning occurs through installation ICRMPs, and can be facilitated by installation GIS if available.
2. Serves as an organizing principle to record the landscape in a manner that incorporates the complexity of human cultural interaction with the natural terrain through time. Military

installations are treated as an integral entity with interrelationships existing among the natural and cultural resources present. Military operations are treated as one, albeit one of the most significant, of a number of human cultural activities that have influenced the installation cultural landscape. The intent of this approach is to fully integrate cultural resources management with military training, testing and infrastructure operations.

3. Recognizes that cultural resources may be present on installations because of, or may even be a result of, continuous military occupation and use of the land. Landscapes on any Army installation have all been affected to some degree by human activity. Prehistoric and historic archeological resources, historic buildings, structures and districts, sacred sites, endangered species habitat, wetlands, riparian areas, and other components of the ecosystem have been influenced, maintained, or created by prehistoric and historic human occupants, and modern military use of the land. All of these natural and man-made features, including those related to military operations, are viewed as a series of surface and subsurface features that make up the installation's cultural landscape.
4. The cultural landscapes on military installations are unique because there are no other landscapes in this nation that have evolved from a continued use for defense-related purposes. Therefore, there must be functional continuity, military training and testing and other defense related activities must continue to occur to maintain, and to allow the military cultural landscape to continue to evolve. As a resource category, a "cultural landscape" (see Appendix J) can be determined eligible for inclusion in the NRHP.

The larger "Cultural Landscape" concept has also been adopted in Kentucky by the Kentucky Heritage Council, the SHPO, as part of their statewide historic preservation plan. The KHC has developed a cultural landscape model for the state that has been in use for more than fifteen years. Although specific contexts for all of the various landscapes have not yet been written, the five major cultural landscapes, Western Kentucky, Pennyryle, Ohio Valley Urban Centers, Bluegrass and Appalachia, are utilized on a regular basis for survey and National Register projects. Within these five regions, or cultural landscapes, common themes based on settlement, land use, access to transportation, economic history, and shared events effectively define a "typical" cultural landscape. The cities and counties in each cultural landscape share numerous historic, architectural and cultural resources and are historical and visually different in many, but not all, ways from communities in adjoining cultural landscapes.

The KYARNG cultural resources program has implemented the cultural landscape approach by:

- *Use of GIS to create cultural resources data layers that are integrated within the geodatabase for each site and training area; these layers allow planners to view cultural resources as integrated with natural resources and infrastructure elements within the landscape.*
- *Coordination with the Kentucky Heritage Council, the SHPO on utilization of statewide/regional models.*
- *Develop historic contexts for rural KYARNG properties to inform planners of past and present land use patterns to ensure that KYARNG contexts are taken into consideration during planning for all training and construction activities.*

2.2.1 GIS

In 2008 the KYARNG employed a GIS specialist who was assigned to the Environmental office and data from the above mentioned plans and surveys was utilized to build the following SDSFIE compliant data layers:

1. Terrest_archaeological_area: This dataset is an inventory of archaeological sites located within Kentucky on record with the Office of State Archaeology (OSA).
2. Structure_existing_area: This dataset shows the date of building construction that allows us to determine its historical status. (This is not complete or up-to-date as of 2012)
3. Cemetery_Area: This dataset shows the location of cemeteries on the training sites.

These layers reside on the installation's database which is referred to when building or landscape changes are proposed.

The majority of the KYARNG training site property is situated on former coal strip mines. The process of strip-mining tends to remove any historic or cultural artifacts from the area. Other cultural data layers, Historic Districts and Sacred or Traditional Cultural sites, do not have any features in the area of interest or have not as yet been surveyed.

2.2.2 Sustainability Initiatives

The KYARNG CRM has been working closely with the Kentucky Historical Society, the FMO and the SHPO to insure that on-going renovations to the 1850 State Arsenal (Kentucky Military History Museum) are in keeping with the Secretary of the Interior's Standards and Guidelines. This joint KYARNG/KHS adaptive re-use initiative will insure that this National Register listed facility will remain open to the public as the State's Military Museum. It will also house sections of the KYARNG Military Records and Research Library and will make existing nineteenth-century records available to the general public for research projects.

The KYARNG CRM has also worked closely with the Kentucky Division of Emergency Management and the SHPO to insure that a FEMA/OHS funded extension to the existing Cold War eligible EOC building at the Boone National Guard Center in Frankfort was compatible in design to the historic structure. To accomplish this, members of the SHPO's staff were invited to attend all design level planning meetings, thus insuring their concerns were addressed in a timely manner and their concurrence with the overall project was gained early in the process.

We also work closely with the SHPO to insure that when maintenance activities or renovations do take place at armories or other facilities that any historic elements such as doors and windows are reserved and stored for potential use at other facilities of similar design.

2.3 Coordination and Staffing

Cultural resources compliance requirements must be completed prior to implementation of mission-essential programs, projects, and training.

Integration and coordination among KYARNG offices can be very challenging. Installation program managers (including cultural resources, natural resources, training, housing, landscape maintenance) manage multiple programs and it can be difficult to communicate with other offices on a regular basis. To effectively manage a cultural resources program, coordination is absolutely essential. Other offices need to be aware of the cultural resources program's responsibilities. The CRM also must be aware of the activities of other installation offices that could potentially impact cultural resources. Lack of proponents for cultural resources could ultimately result in insufficient funding for the program.

An effective CRM should

1. Understand the military mission.
2. Have or acquire an inventory of archaeological resources with locations and maps. This must be closely controlled and discussed on a case-by-case manner.
3. Have a clear understanding of how their job supports the military mission.
4. Review proposed programs and projects to determine necessary compliance.
5. Align cultural resources compliance with NEPA/ECOP requirements.
6. Work on gaining proponents for cultural resources management up the chain of command.
7. Know what other installation offices are doing, explain cultural resources responsibilities, and discuss potential impacts on cultural resources.
8. Coordinate and consult with outside entities including the SHPO, federally recognized Tribes, and local interest groups, as mandated in the NEPA, NHPA, DoDI 4710.02, AR 200-1, and other laws and regulations summarized in **Appendix I**. Neglecting to consult with these interested parties early in the planning process could result in unnecessary tension, which will cause delays that translate into government time and cost. **Recent legislation (36 CFR 800, NAGPRA) has strengthened responsibilities to consult with federally recognized tribes and Native Hawaiian organizations.**

2.3.1 Internal KYARNG Coordination and Staffing Overview

Coordination and staffing procedures are critical for activities such as construction; long-range planning; building repair, maintenance, or renovation; and planning and execution of mission training or other mission-essential activities. Coordination is also critical for cultural resources stewardship and compliance. Actions that typically trigger internal coordination and compliance include, but are not limited to

- *Building maintenance and repair*
- *Landscape and grounds repair or replacement*
- *New construction – buildings or additions, infrastructure, roads, and trails*
- *Major renovations to buildings*
- *Major changes in use of buildings*
- *Major changes in training locations or type*
- *Master planning*
- *Divesting of property*
- *Demolishing building or structures*
- *Leasing or using private or public property*
- *Emergency operations*
- *Compliance with Anti-Terrorism Force Protection requirements.*

Chapter 1 introduced the internal stakeholders and review requirements for development of the ICRMP.

Table 2-5 lists internal stakeholders and their responsibilities and involvement in the cultural resources program.

Table 2-5. Internal Stakeholder Coordination

Internal Stakeholder	Interface with Cultural Resource Program and CRM
Leadership – TAG, Chief of Staff	<ul style="list-style-type: none"> ▪ Provide leadership support to the cultural resources program. Through review and signing of ICRMP, determines the cultural resources policy and procedures for the KYARNG. ▪ Participate in cultural resources awareness training.
CFMO	<ul style="list-style-type: none"> ▪ Have the ICRMP as a component plan within the installation Master Plan and Design Guide. ▪ Provide project and program information to the CRM for review during planning stages. ▪ Include time schedules for cultural resources compliance. ▪ Have the current inventory of cultural resources. ▪ Invite CRM to planning and project meetings. ▪ Have a permitting system established for anyone who plans to dig on the installation. The CRM shall review digging plans submitted to them, or provide them with an inventory and map of all known archaeological sites. ▪ Provide background information concerning facilities, environmental, and geographic factors, surface disturbance, threatened and endangered species, wetlands, and other sensitive natural resources to the CRM.
State Facilities Division	<ul style="list-style-type: none"> ▪ Should have the ICRMP as a component plan within the installation Master Plan and Design Guide. ▪ Should have the current inventory of cultural resources, and discuss upcoming project with the CRM to ensure timely compliance. ▪ Invite CRM to planning and project meetings. ▪ Participate in cultural resources awareness training.
Master and Strategic Planning	<ul style="list-style-type: none"> ▪ Should have the ICRMP as a component plan within the installation Master Plan and Design Guide. ▪ Should have the CRM review master / strategic plans and training plans. ▪ Should include time schedules for cultural resources compliance and any necessary tribal consultation in implementation of plans and training. ▪ Invite CRM to planning and project meetings. ▪ Participate in cultural resources awareness training.
Training Site Managers	<ul style="list-style-type: none"> ▪ Shall have the current inventory of significant cultural resources found on properties, as well as information on lands that have or have not been surveyed, and should be provided information on any agreement documents pertinent to their facilities and SOPs. ▪ Participate in cultural resources awareness training.

Internal Stakeholder	Interface with Cultural Resource Program and CRM
Facility Managers, Readiness Centers (armories)	<ul style="list-style-type: none"> ▪ Shall have the current inventory of significant cultural resources found on properties, as well as information on lands that have or have not been surveyed, and should be provided information on any agreement documents pertinent to their facilities and SOPs. ▪ Participate in cultural resources awareness training.
Environmental Program Manager (M-DAY)	<ul style="list-style-type: none"> ▪ Shall have the current inventory of significant cultural resources found on properties, as well as information on lands that have or have not been surveyed, and should be provided information on any agreement documents pertinent to their facilities and SOPs. ▪ Participate in cultural resources awareness training.
Range Control	<ul style="list-style-type: none"> ▪ Shall have the current inventory of significant cultural resources found on properties, as well as information on lands that have or have not been surveyed, and should be provided information on any agreement documents pertinent to their facilities and SOPs. ▪ Shall provide background information concerning facilities, environmental and geographic factors, surface disturbance, threatened and endangered species, wetlands, and other sensitive natural resources to the CRM. ▪ Participate in cultural resources awareness training.
Unit Commander, Environmental Liaison, Environmental Unit Command Officer	<ul style="list-style-type: none"> ▪ Shall have the current inventory of significant cultural resources found on properties, as well as information on lands that have or have not been surveyed and SOPs. ▪ Participate in cultural resources awareness training.
Environmental Quality Control Committee	<ul style="list-style-type: none"> ▪ Have the ICRMP as a component of quality control and planning. ▪ Have an understanding of cultural resource compliance requirements. ▪ Include time schedules for cultural resources compliance. ▪ Invite CRM to committee meetings. ▪ Have the current inventory of cultural resources. ▪ Participate in cultural resources awareness training.
Historian	<ul style="list-style-type: none"> ▪ Review historic context and provide historic information to CRM and public affairs office.
ITAM	<ul style="list-style-type: none"> ▪ Shall have the current inventory of significant cultural resources found on properties, as well as information on lands that have or have not been surveyed and SOPs. ▪ Participate in cultural resources awareness training.
Public Affairs	<ul style="list-style-type: none"> ▪ Shall act as a liaison between the CRM and the public, facilitate public meetings, and arrange and conduct meetings or information dissemination with the media, as appropriate. ▪ Shall promote National Historic Preservation Week. ▪ Provide news stories to internal newsletters, newspapers (<i>On Guard</i>), NGB publications, and local media.

Construction or military mission activities can adversely affect cultural resources. Each KYARNG staff member involved with planning, construction, building repair, or maintenance; or management of training or other mission activities should coordinate with the CRM in the planning process. Analysis of affect should be done prior to NEPA implementation or, at the latest, during the scoping phase for the appropriate NEPA document; this analysis can be coordinated with the Section 106 review process to help streamline the process but requires early and constant coordination. Analysis should commence with the submission of a MILCON request for funding (DD Form 1390/91) or initial identification of a need for a project/training exercise. If the action qualifies for a NEPA Categorical Exclusion (CX), be sure that all NHPA requirements have been resolved or these are no historic properties affected by the proposed action. If properties are affected by the project or training exercise, and the affects have not been mitigated through an MOA, then an EA and MOA are required. For more detailed guidance, refer to the NGB NEPA Handbook or contact NGB-ARE Cultural Resource Specialists or NEPA Program Managers.

To facilitate integration of planning and analysis of effects between stakeholders, the CRM will

- *Distribute the ICRMP Revision to and solicit input from internal stakeholders*
- *Discuss the compliance actions proposed in response to MILCON and other projects listed in chapter 2 (and **Appendix H**) and emphasize time requirements to complete these actions in advance of the undertakings*
- *Distribute SOPs to applicable parties (see **Appendix F**)*
- *Distribute list of historic structure and archaeological sensitivity maps*
- *Develop and conduct cultural resource awareness training*
- *Meet, at a minimum, once a year. but preferably once a month, with CFMO and POTO to discuss upcoming projects and plans*
- *Attend the EQCC meetings*
- *Participate in staff meetings, as appropriate.*

The CRM should contact the above personnel to determine if they understand the cultural resources management program, and periodically interface with these individuals on updates and as new KYARNG mission-essential plans and programs are developed. The Key is to establish relationships so that internal stakeholders will notify the CRM of project changes and upcoming projects.

Timing: Coordination should be ongoing. The sooner the CRM is involved in the planning and project process, the more likely the process will continue without interruption and delays. Projects involving tribal consultation and stakeholder involvement should be identified as early as possible.

2.3.2 External Coordination (agencies and stakeholders) Overview

Coordination with non-KYARNG entities is required under several federal laws and regulations and AR 200-1. The NHPA, NEPA, and NAGPRA require coordination with interested parties and other government agencies, depending on the action involved.

External agencies and stakeholders that might be involved in cultural resources management include

- *SHPO*
- *THPOs/Tribes*

- *ACHP*
- *Departmental Consulting Archaeologist, National Park Service*
- *Keeper of the National Register, Department of the Interior*
- *Interested members of the public, including ethnographic groups, historic organizations, and others.*

The KYARNG will comply with all pertinent laws and regulations concerning the management and preservation of cultural resources and will, where appropriate, consult with the SHPO, THPO/Tribes, the ACHP, and interested persons, as required:

- *To comply with NHPA Section 106.*
- *To comply with NEPA, when the NHPA Section 106 requirements are integrated into the NEPA process.*
- *In accordance with the NHPA, if the KYARNG and the SHPO come to a disagreement regarding NRHP eligibility recommendations the Keeper of the National Register can be consulted. Guidance on preparing a determination of eligibility can be found at 36 CFR Part 62.3 (d).*
- *In accordance with the NHPA, if the KYARNG and the SHPO come to a disagreement regarding the Section 106 process, the ACHP may assist. The KYARNG must also invite the ACHP to participate in consultations regarding the resolution of adverse effects to historic properties.*
- *In accordance with the NHPA, NAGPRA, ARPA, and NEPA, the CRM shall coordinate with interested Tribes (see **Appendices F and J**).*
- *In accordance with the NHPA, the CRM will consult with the National Park Service for all Section 106 undertakings that have the potential to affect a National Historic Landmark.*

Timing: SHPO and public reviews will generally require a minimum of 30 days for Section 106 reviews of determination of effects. THPO and Tribe reviews require additional diligence. At a minimum, concurrent with the 30-day review, follow up with THPOs/Tribes by sending a certified letter to receive input. A thorough memorandum for record (MFR) of contact with THPOs/Tribes must be kept for these conversations.

2.4 Tribal Consultation Program

On 27 October 1999, the DoD promulgated its annotated American Indian and Alaska Native Policy, which emphasizes the importance of respecting and consulting with tribal governments on a government-to-government basis. The policy requires an assessment, through consultation, of the effect of proposed DoD actions that might have the potential to significantly affect protected American Indian tribal resources, American Indian tribal rights, and American Indian lands before decisions are made by the services. *DoDI 4710.02* provides additional guidance for this policy. If it appears that there might be an effect, the appropriate federally recognized tribes, Alaskan Native villages and corporations, and Native Hawaiian organizations would be contacted. **Appendix F** provides POC information for Tribes that have known affiliations with lands under KYARNG control.

2.4.1 Status of Consultation

Government to Government consultation was initiated between the KYARNG and Native American Tribes on 11 February 2002 during the development of the original ICRMP which was implemented in

June 2003. Through this process Ms. Faith Fiene, the Environmental Program Manager for the KYARNG was designated as the Adjutant General's representative and 8 Tribes were initially identified as having possible ancestral ties to the Commonwealth of Kentucky. These tribes included the Absentee-Shawnee, the Chickasaw Nation, the Cherokee Nation, the Eastern Band of Cherokee Indians, the Shawnee Tribe, the Eastern Shawnee Tribe, the United Keetoowah Band of Cherokee Indians, and the Quapaw Tribe. Through personal consultations and communications in Cherokee, North Carolina in 2006 and during Native American Consultation Workshops conducted in Oklahoma City, Oklahoma in 2007 Joplin, Missouri in 2008 the list was amended to include the Choctaw Nation and the Peoria and Miami Tribes. In October 2010 the KYARNG worked closely with the Native Affairs Liaison Committee of the Southeastern Archaeological Conference, held in Lexington, Kentucky, to develop a panel discussion on the Role of Tribal Consultation in Kentucky. Following this public forum a private roundtable discussion was held between representatives of the KYARNG and other state and federal agencies with tribal representatives from the Cherokee Nation, The Eastern Band of Cherokee Indians, The Peoria and the Choctaw. At that time the Update to the KYARNG ICRMP was discussed and a draft Tribal Areas of Interest Map was distributed for discussion. Each tribal representative was pleased with the map and requested that a final draft in CD format of the Updated ICRMP be forwarded to them for review and comment. In April 2012, the KYARNG Cultural Resources Manager also attended the Pennsylvania Army National Guard's Native American Consultation Workshop, where copies of the draft Updated Tribal Areas of Interest Map were reviewed by Ms. Henryetta Ellis of the Absentee Shawnee and Ms. Robin Dushane of the Eastern Shawnee Tribes prior to final inclusion in the draft Updated ICRMP.

In addition to this, the KYARNG has established a good working relationship with tribes that have ancestral ties to KYARNG owned or leased properties through the University of Kentucky's Archeological Survey. This consultation process and personal or written communications with the tribal cultural resources contacts concerning individual proposed construction projects have shown that the greatest interest by the tribes is the possible inadvertent discovery of human remains or NAGPRA related artifacts. To minimize this possibility, an archaeological survey of each of our statewide facilities has been conducted by the Kentucky Archeological Survey. The Kentucky State Historic Preservation Office has reviewed each of these associated reports and concurred with their findings. Results of these surveys were forwarded to the interested tribes and can be found on file in the Environmental Office of the KYARNG.

2.4.2 Development of the ICRMP and ICRMP Revisions

The KYARNG must consult with affected THPOs and tribal representatives (on a government-to-government basis) in the development of the ICRMP and subsequent ICRMP Revisions. The KYARNG must take into account the views of Tribes in reaching a final decision. At a minimum, KYARNG should send a letter to each affected Tribe to request input into the development of the ICRMP Revision. Unless protocols have been established between the KYARNG and a specific Tribe allowing direct contact between the CRM and THPO or other designated Tribal representative, all correspondence from the KYARNG to a Tribe should be sent from the TAG or Chief of Staff to the Tribal Chair or Chief. Depending on the response received from each Tribe, the KYARNG will provide copies of the draft and final ICRMP or ICRMP Revision to the Tribes for review and comment. Again, a cover letter from the TAG or Chief of Staff addressed to the Tribal Chair or Chief should be included with all such review requests.

2.4.3 Ongoing CRM Responsibilities

CRMs should maintain a file or binder containing the following information relating to the KYARNG's consultation program to date. The file should include

- *A state map with tribal lands overlain*
- *Summary of past consultation activities (meetings)*
- *Letters and memorandums for record*
- *Planned future consultation*
- *Point of contact list*
- *Any agreement documents.*

The file should be updated as necessary to include MFRs, meeting agendas and summaries, updated POC lists, and agreement documents.

- *The POC list in the file and in the ICRMP (**Appendix F**) should be updated whenever new information becomes available. At a minimum, the list should be checked annually. Updates can be entered into the POC table of the ICRMP database, and a report printed for inclusion in the appendix. The CRM can call/access the following resources for update information:*
- *SHPO*
- *THPOs*
- *Bureau of Indian Affairs Web page*
- *Other federal or state agencies*

Native American Tribes Areas of Interest

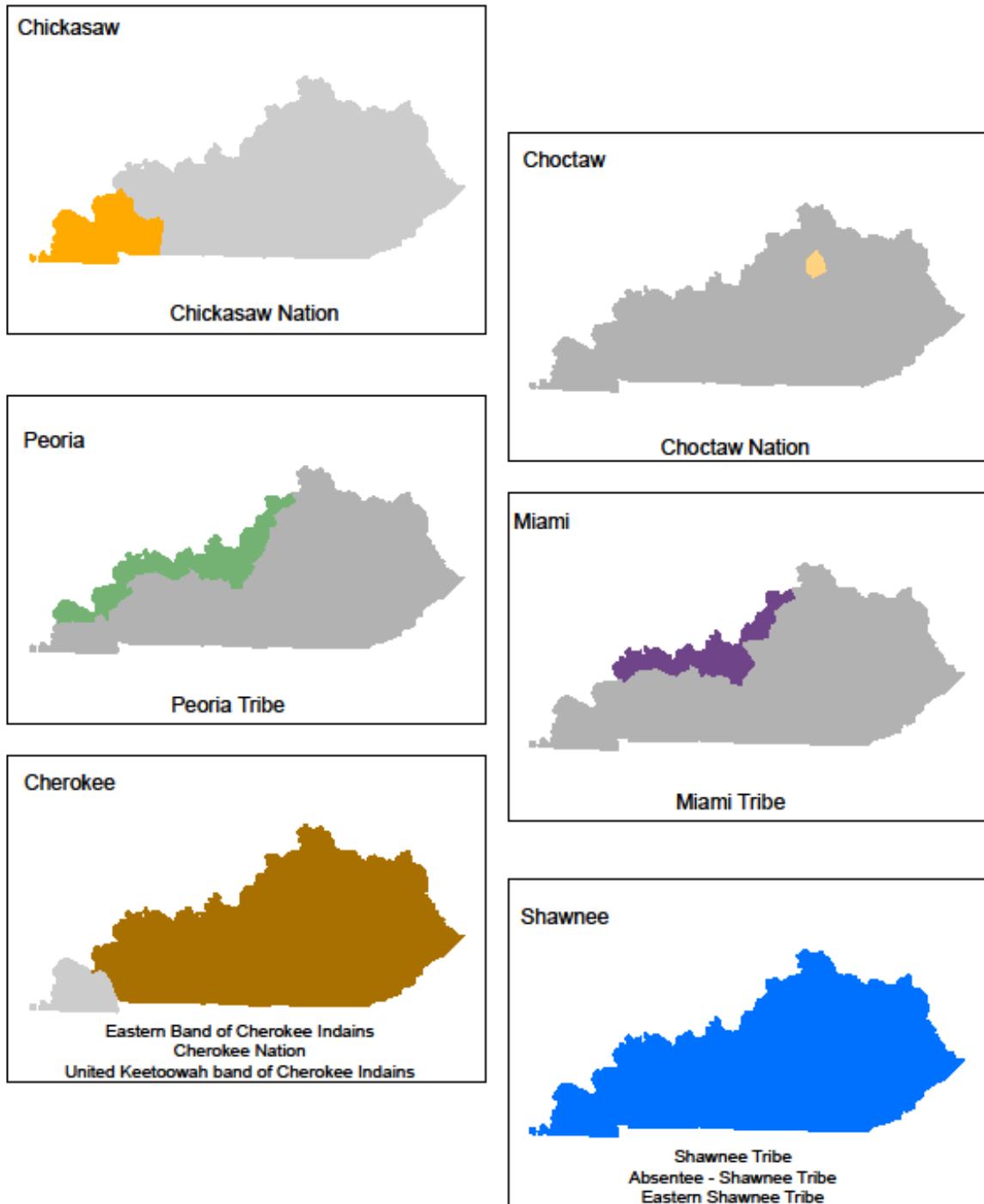


Figure 2-1 Native American Areas of interest in Kentucky.

2.5 Curation

Materials or artifacts collected as a result of archaeological investigations on KYARNG installations are curated at:

The William S. Webb Museum of Anthropology

Office of State Archaeology

College of Arts and Sciences

211 Lafferty Hall

Lexington, KY 40506-0024

859-257-8208

Fax: 859-323-1968

www.uky.edu

This facility meets the standards outlined in 36 CFR 79. Requirements for curating items at this facility, as well as the current curation agreement between the facility and the KYARNG are included in **Appendix E**. Also see **Appendix J** for curation facility requirements.

In general, artifacts from archaeological contexts recovered from KYARNG lands are treated as federal or state property, depending on land ownership and whether federal funding was involved for the investigation that recovered the artifacts. Where human remains and grave associated artifacts are involved, however, CRMs must follow the procedures outlined in NAGPRA to repatriate such remains and objects to the appropriate Tribes or living descendants, if they can be identified.

The KYARNG owns approximately 25 cubic feet of archeological collections and associated records, that are perpetuity curated at the Webb Museum, from the following sites 15B11 16, 15Da247, 15Jf712, 15Lo228, 15M1453, 15 Mu255, 15Mu256, and 15Ne93.

The KYARNG has no items on loan from this or any other facility. Also, we hold no human remains or artifacts that fall under NAGPRA. Nor have we repatriated any human remains or artifacts to any tribes under NAGPRA.

In contrast, records, memorabilia, recent or historic artifacts (e.g., tanks, guns, cannon, and other weaponry), and donated private collections that are associated with the KYARNG's military history are stored at:

The Kentucky History Center & Kentucky Military History Museum

C/O The Kentucky Historical Society

100 W. Broadway

Frankfort, KY 40601

502-564-1792

The current agreements between this facility and the KYARNG are also included in **Appendix E**.

In general, items relating to the KYARNG's military history are the responsibility of the KYARNG's historian or History Detachment rather than the CRM. National Guard Regulation (NGR) 870-20 "Army National Guard Museums, Museum Activities, and Historical Property" and its associated regulation AR 870-20 "Military History: Responsibilities, Policies, and Procedures" outline the policies applied to these types of items. AR 870-20 and NGR 870-20 can be found online at:

http://www.army.mil/usapa/epubs/CMH_1.html (AR 870-20)

http://www.ngbpdn.ngb.army.mil/pubs/870/ngr870_20.pdf (NGR 870-20)

Under NGR 870-20, a historical collection is defined as:

- (1) A collection of artifacts displayed in a regimental room, trophy room, armory, visitor's center, exhibit area or other type of display, not recognized by the U.S. Center for Military History as a museum or museum activity.
- (2) A collection of historical artifacts (including archaeological artifacts) secured, preserved, accounted for, and stored on an installation.
- (3) A collection of historical artifacts in an officers' club, non-commissioned officers club, chapel, lobby, headquarters building, or armory.
- (4) A collection of artifacts such as tanks, artillery, vehicles, aircraft or other items that are displayed in front of buildings (including armories), on a parade ground, at an airfield, in parks, or at other locations around the State.

NGR 870-20 also specifies the roles of CRMs and historians in regards to collections:

The State/installation Environmental Program Manager will advise the museum director/curator regarding archaeological artifacts and other items relating to Native Americans. IAW provisions of AR 200-1, the Environmental Program Manager, in turn, will consult with the installation's Cultural Resources Manager and the Coordinator of Native American Affairs on the applicability of cultural resources laws and regulations.

NGR 870-20 also provides the following guidance regarding archaeological collections:

Archaeological remains or artifacts related to Native Americans will not be accepted into Federal collections without prior approval of the Army National Guard Environmental Program Manager, after consultation with the State/installation Cultural Resources Manager and Coordinator of Native American Affairs. Acceptance of archaeological material may be subject to additional Federal laws and regulations, and the Environmental Program Manager will advise the museum director/curator regarding any specific cultural resources requirements. Such requirements include, but are not limited to, the National Historic Preservation Act (16 U.S.C. 470a-w) and the Native American Graves Protection and Repatriation Act (25 U.S.C. 3001 et seq.)

2.6 Information Restrictions

Section 304 of the NHPA [16 U.S.C. 470w-3(a) — Confidentiality of the location of sensitive historic resources] states that

- “(a) The head of a Federal agency or other public official receiving grant assistance pursuant to this Act, after consultation with the Secretary, shall withhold from disclosure to the

public, information about the location, character, or ownership of a historic resource if the Secretary and the agency determine that disclosure may —

- (1) cause a significant invasion of privacy;
- (2) risk harm to the historic resources; or
- (3) impede the use of a traditional religious site by practitioners.”

On federal property, ARPA also provides provisions for restriction of information on archaeological site locations. Tribes have an interest in restricting this information and are not expected to divulge such location information unless they can be reassured of restrictions for access. Therefore, it is extremely important that persons using this document and other cultural resources reports and maps understand that access to all archaeological resource descriptions and locations is restricted to the CRM for internal use only. For this reason, no maps delineating the locations of archaeological resources are included in this ICRMP, nor will any be released to the public.

To insure this, the KYARNG has restricted all access to archaeological surveys or reports to the EPM and the CRM only. Hard copies of these reports are maintained on file only in the KYARNG Environmental Office and at the State Historic Preservation Office. Electronic copies located on the FMO and ENV servers are also blocked. Any internal or external request to access this information must be submitted in writing to the EPM with full justification and any such access will be conducted under the supervision of the CRM and reported to the Kentucky Archeological Survey at the University of Kentucky.

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3. Standard Operating Procedures

The SOPs provided in this ICRMP Update have been streamlined for use by KYARNG nonenvironmental personnel. Accordingly, they provide basic guidance for the most common situations that have the potential to impact cultural resources. The SOPs should be one of several tools distributed to KYARNG personnel to help them identify those actions that can impact cultural resources, demonstrate the consequences of conducting actions without appropriate review by the CRM, and highlight the appropriate process for coordination. Guidance for the CRM is provided throughout this ICRMP Revision, particularly in Appendix J.

SOPs should be made available to all personnel including any tenants, contractors, and occasional users. Include an overview in the orientation packet for tenants and occasional users, and include appropriate SOPs in contracts. SOPs can also be featured on the facility web site. Flow charts and procedures for inadvertent discovery can also be included in Trainers' Guides and Soldiers' Cards.

Cultural Resources Manager: AR 200-1 requires the designation of a CRM to coordinate the virtual installation's cultural resources management program. The CRM is, therefore, responsible for the oversight of activities that might affect cultural resources on KYARNG land, or KYARNG activities that might have an effect on cultural resources on non-KYARNG lands. CRMs should be provided with adequate training to ensure that they have a full understanding of their position duties and can provide adequate guidance on compliance with cultural laws and regulations to other stakeholders.

Annual Cultural Resources Training: To enhance integration of cultural resources issues into the planning process and to improve the manner in which cultural resources supports the KYARNG mission, the CRM should provide access to awareness training for training site managers, field commanders and their troops, maintenance staff, and others who may encounter cultural resources. Training subjects can include understanding SOPs, introduction to cultural resources regulations and management, and identification of cultural resources. Training for non-environmental personnel is crucial to ensure a successful cultural resources management program, compliance with environmental laws and policies, and protection of cultural resources.

Timing of SOPs:

SOP	Timing
SOP No. 1: Maintenance and Repair Activities	For exempt actions, no additional time is required. For nonexempt actions, anticipate a minimum of 4 months.
SOP No. 2: Disposal or Demolition of Excess Property	Anticipate a minimum of 4 to 6 months for historic structures.
SOP No. 3: Mission Training of Military and Tenant Personnel	Clearing lands for training requires approximately 4 to 6 months for archaeological surveys. Personnel should be familiar with the contents of SOP 5; can be done as part of annual training and unit in-briefings.
SOP No. 4: Emergency Actions	A minimum of 7 days.
SOP No. 5: Inadvertent Discovery	Personnel should be familiar with the contents of the SOP; can be done as part of annual training and unit in-briefings.

SOP	Timing
	Inadvertent discoveries will take a minimum of 30 days.
SOP No 6: Tribal Consultation	Ongoing consultation is required to ensure the success of the KYARNG mission.

STANDARD OPERATING PROCEDURE NO. 1
for
Maintenance and Repair Activities

Contact: Thomas W. Fugate

Cultural Resources Manager

Boone National Guard Center

100 Minuteman Pkwy.

Building #162

Frankfort, KY 40601

502-607-6054

Tom.fugate@us.army.mil

Scope: This Standard Operating Procedure (SOP) outlines the steps to be taken prior to maintenance and repair activities on KYARNG properties. It is intended for all personnel other than the Cultural Resources Manager (CRM). Examples of applicable personnel are:

- *Leadership*
- *Facilities Maintenance Office, Directorate of Public Works*
- *U.S. Property and Fiscal Officer (USPFO)*
- *Master and strategic planning*
- *Reservation maintenance*
- *Facility managers and armorers*
- *Range control*
- *Environmental Quality Control Committee (EQCC)*
- *Personnel assigned to historic facilities.*

All personnel above are referred to as “manager.”

These procedures are intended to ensure that no disturbance or destruction of significant architectural resources (or their character-defining features) and archaeological resources take place.

Affected Site or Training Installation(s): All KYARNG facilities.

Statutory Reference(s) and Guidance:

- *National Historic Preservation Act (NHPA) and its implementing regulations (36 CFR 800)*
- *Secretary of the Interior’s Standards and Guidelines for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings*
- *Secretary of the Interior’s Standards and Guidelines for the Treatment of Historic Properties with Guidelines for the Treatment of Cultural Landscapes*
- *National Park Service Preservation Briefs*

- *DoD Minimum Antiterrorism Standards for Buildings (Unified Facilities Code [UFC] 04-010-01)*
- *Programmatic Memorandum of Agreement for the Demolition of World War II Temporary Buildings, 07 June 1986*
- *Executive Order 13423 – Strengthening Federal Environmental, Energy, and Transportation Management*
- *AR Engineering Technical Letter 1110-3-491 – Sustainable Design for Military Facilities (2001)*
- *American Disability Act Accessibility Guidelines for Buildings and Facilities as amended in 2002.*

Applicability:

Typical actions that trigger this SOP:

- *Building maintenance and repair (Form 420R, Form 1391, or work order)*
- *Landscape and grounds replacement*
- *Clearing and grubbing*
- *Road clearing and repair*
- *Trail clearing.*

Specific events that trigger this SOP:

- *Window, roof, and siding repair or replacement*
- *Interior modifications and/or renovations*
- *Exterior modifications and/or renovations*
- *Clearing and vegetation replacement*
- *Road, trail, and curb repair or replacement.*

Coordination (see Figure 3-1):

- *Consult the CRM to determine if the building, structure, or landscape element affected by proposed maintenance activity or use is either a historic property, or has not been evaluated for National Register eligibility.*
- *The CRM will determine whether the proposed activity has the potential to impact cultural resources. If so, it is the CRM's responsibility to activate the NHPA Section 110/106 process and coordinate with the State Historic Preservation Office (SHPO) or other stakeholders.*
- *The CRM will advise the Manager of any project modifications of treatment plans or appropriate treatments that have been defined in consultation with the SHPO and other stakeholders.*

When the proposed activity involves ground-disturbing activities, proponents must

- *Check with the CRM to determine if the activity location has been previously surveyed for archaeological resources.*
- *The CRM will advise on clearances or needed surveys. No ground-disturbing activity may occur until authorized by the CRM.*
- *Refer to SOP 4 for inadvertent discoveries during ground-disturbing activities.*

STANDARD OPERATING PROCEDURE 1
Maintenance and Repair Activities

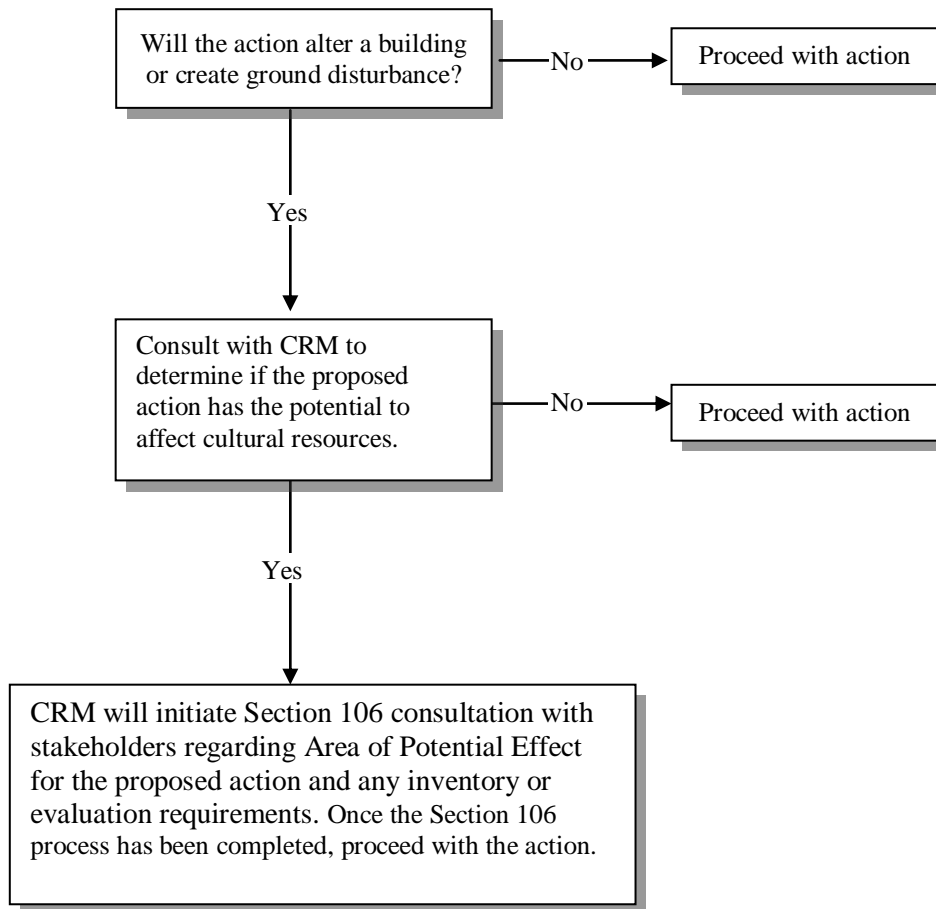


Figure 3-1. Flow Chart for Maintenance and Repair Activities

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STANDARD OPERATING PROCEDURE NO. 2
for
Disposal or Demolition of Excess Property

Contact: Mr. Thomas W. Fugate

Cultural Resources Manager

Boone National Guard Center

100 Minuteman Pkwy.

Building #162

Frankfort, KY 40601

502-607-6054

Tom.fugate@us.army.mil

Scope: This Standard Operating Procedure (SOP) outlines the steps to be taken prior to disposal or demolition of federally owned or controlled property that is eligible for listing on the National Register of Historic Places or that needs further evaluation to determine eligibility. It is intended for all personnel. Examples of applicable personnel are

- *Leadership*
- *Facilities Maintenance Office, Directorate of Public Works*
- *U.S. Properties and Fiscal Officer (USPFO)*
- *Master and strategic planning*
- *Reservation maintenance*
- *Facility managers and armorers*
- *Range control*
- *Environmental Quality Control Committee (EQCC)*
- *Personnel assigned to historic facilities.*

Affected Site(s) or Training installation(s): All KYARNG Facilities

Statutory Reference(s) and Guidance:

- *National Historic Preservation Act (NHPA) and its implementing regulations (36 CFR 800)*
- *Programmatic Memorandum of Agreement for the Demolition of World War II Temporary Buildings, 07 June 1986*
- *Executive Order 13327 – Federal Real Property Asset Management.*
- *Program Comment: DoD World War II- and Cold War-Era Ammunition Storage Facilities*
- *Program Comment: DoD Cold War-Era Unaccompanied Personnel Housing*

Typical situations: Building or structure demolition or replacement.

Typical triggering event: Mission requirement change causing the removal or replacement of historic buildings and structures (see **Figure 3-2**).

Procedures: If mission requirements cause the demolition or excess of a building or structure that is either eligible for listing on the National Register of Historic Places or that has not been evaluated for eligibility, the project proponent should contact the Cultural Resources Manager (CRM) to initiate the Section 106 process. The CRM will request information on alternatives to the demolition or disposal action such as the potential for using the building for another mission purpose (including potential renovation or rehabilitation), or the potential to relocate or lease the building.

If mission requirements cause the demolition and replacement of historic buildings or structures onsite, the replacement design should be compatible with other buildings in the same area. Changes to the landscape should convey the historic pattern of land use, topography, transportation patterns, and spatial relationships.

An Economic Analysis should be conducted prior to making a decision to demolish or excess a historic building and replace it with new construction. Often, rehabilitation or renovation can be more cost-effective. Consult the CRM for guidance. The CRM will also need to initiate compliance with federal regulations.

Compliance procedures can require a minimum of 4 to 6 months to complete.

STANDARD OPERATING PROCEDURE 2 Disposal or Demolition of Excess Property

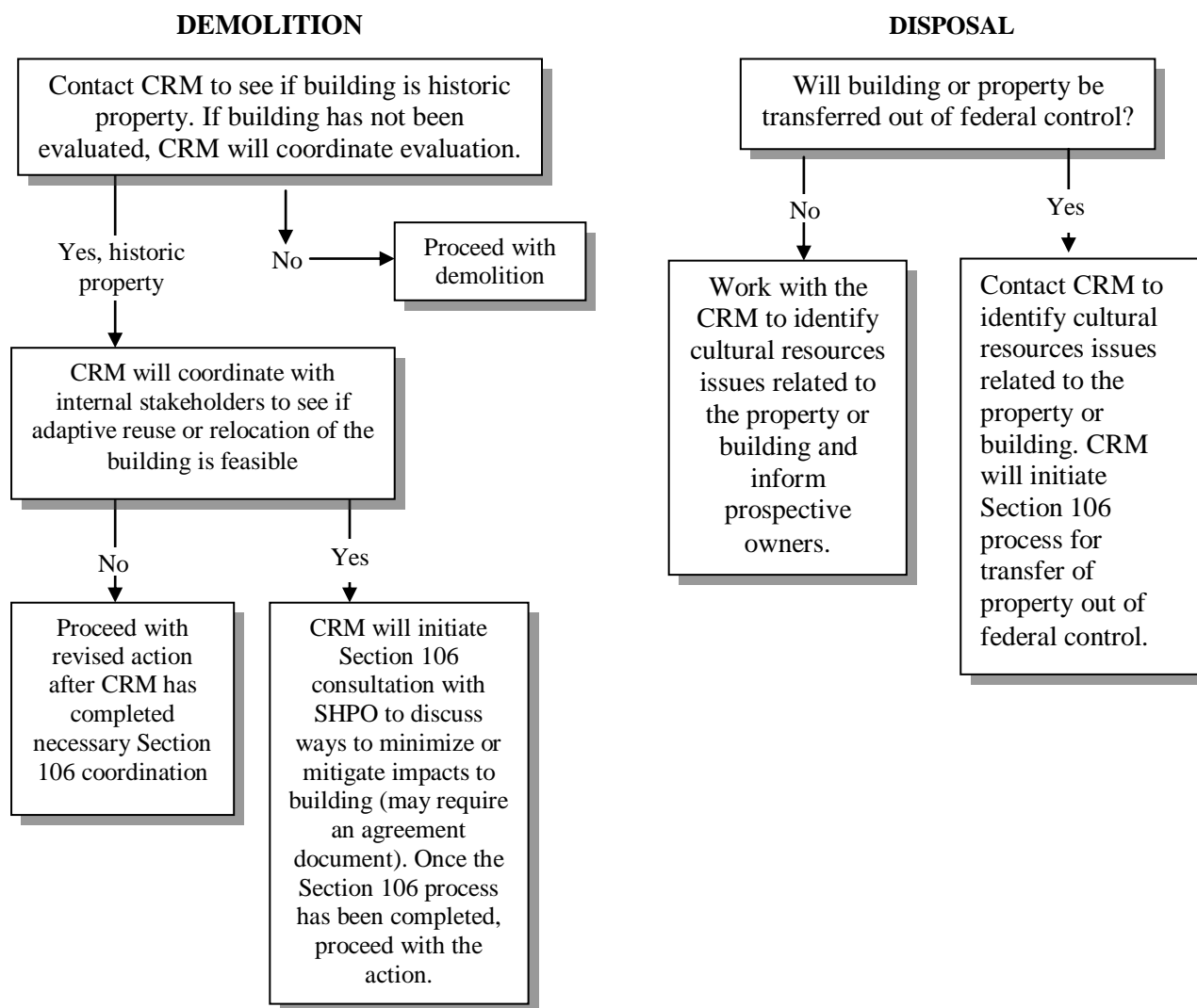


Figure 3-2. Flow Chart for Disposal or Demolition of Excess Property

STANDARD OPERATING PROCEDURE NO. 3
for
Mission Training of Military and Tenant Personnel

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Scope: This Standard Operating Procedure (SOP) outlines the steps to be taken prior to conducting mission training exercises on KYARNG and non-KYARNG property. It is intended for all personnel. Examples of applicable personnel are

- *Plans, Operations, and Training Officer (POTO)*
- *Reservation maintenance*
- *Environmental program manager (M-Day)*
- *Range control*
- *Unit commander and environmental liaison*
- *Integrated Training Area Management (ITAM)*
- *Environmental unit command officer*
- *Public affairs*
- *Joint forces*
- *Unit / activity personnel.*

Nonmilitary units or tenants using KYARNG lands will also be instructed on responding to inadvertent discovery situations (see SOP No. 5).

Statutory Reference(s):

- *Native American Graves Protection and Repatriation Act (NAGPRA) and its implementing regulations (43 CFR 10)*
- *Archaeological Resources Protection Act (ARPA)*
- *National Historic Preservation Act (NHPA) and its implementing regulations (36 CFR 800)*
- *National Environmental Policy Act (NEPA) (on federal and tribal lands).*

Applicability:

Typical actions that could trigger these requirements:

- *Outside field training exercises on KYARNG and non-KYARNG property.*

Specific events that could trigger these requirements:

- *Planning, scheduling, and implementation of field training exercises*
- *Expansions of training areas*
- *Major changes in types and locations of training exercises.*

Affected Site(s) or Training Installation(s): All KYARNG Facilities.

Actions: This section describes specific actions to be taken before and during training to protect cultural resources (see **Figure 3-3**):

Planning Operations and Training Office (POTO), Reservation Maintenance, Unit Commanders and Environmental Liaison, Environmental Unit Command Officer – planning and scheduling of training

- *When planning field training, contact the CRM at least 4 months in advance for archaeological clearances. If planning will involve expansions at training areas or major changes in types and locations of training exercises, a longer period will be required for review and coordination.*
- *Check with CRM to determine archaeological sensitivity of training areas. If possible, avoid areas of high sensitivity.*
- *Coordinate with CRM for archaeological clearances for mission-essential areas.*

Range Control: At the initiation of and during training of an KYARNG training installation

- *Ensure units using the site(s) or training installation(s) have been provided with proper information on protection of cultural resources including SOP 4 on inadvertent discovery and maps illustrating closed areas prior to conducting mission training*
- *Monitor compliance with SOPs and closures by units training at the site(s) or training installation(s)*
- *Report violations of closures and SOPs to the CRM*
- *Provide feedback to CRM on effectiveness of orientation materials.*

Unit Commander

- *Ensure field troops understand applicable cultural resources policies and SOPs*
- *Direct questions clarifying cultural resources policies and procedures to the CRM*
- *Ensure training does not occur in areas that are closed and training restrictions are observed*
- *Report violations of policies, SOPs, and closures to training installation manager*
- *Provide feedback to CRM on effectiveness of orientation materials.*

Field Troops/Tenants

- *Review cultural resources information regarding the proposed training area prior to conducting training exercises*
- *Follow applicable SOPs for the training area*
- *Comply with all closures of locations within training areas and any restrictions on training activities in locations of resource sensitivity*
- *Report any discoveries to unit commander.*

STANDARD OPERATING PROCEDURE 3 Mission Training of Military and Tenant Personnel

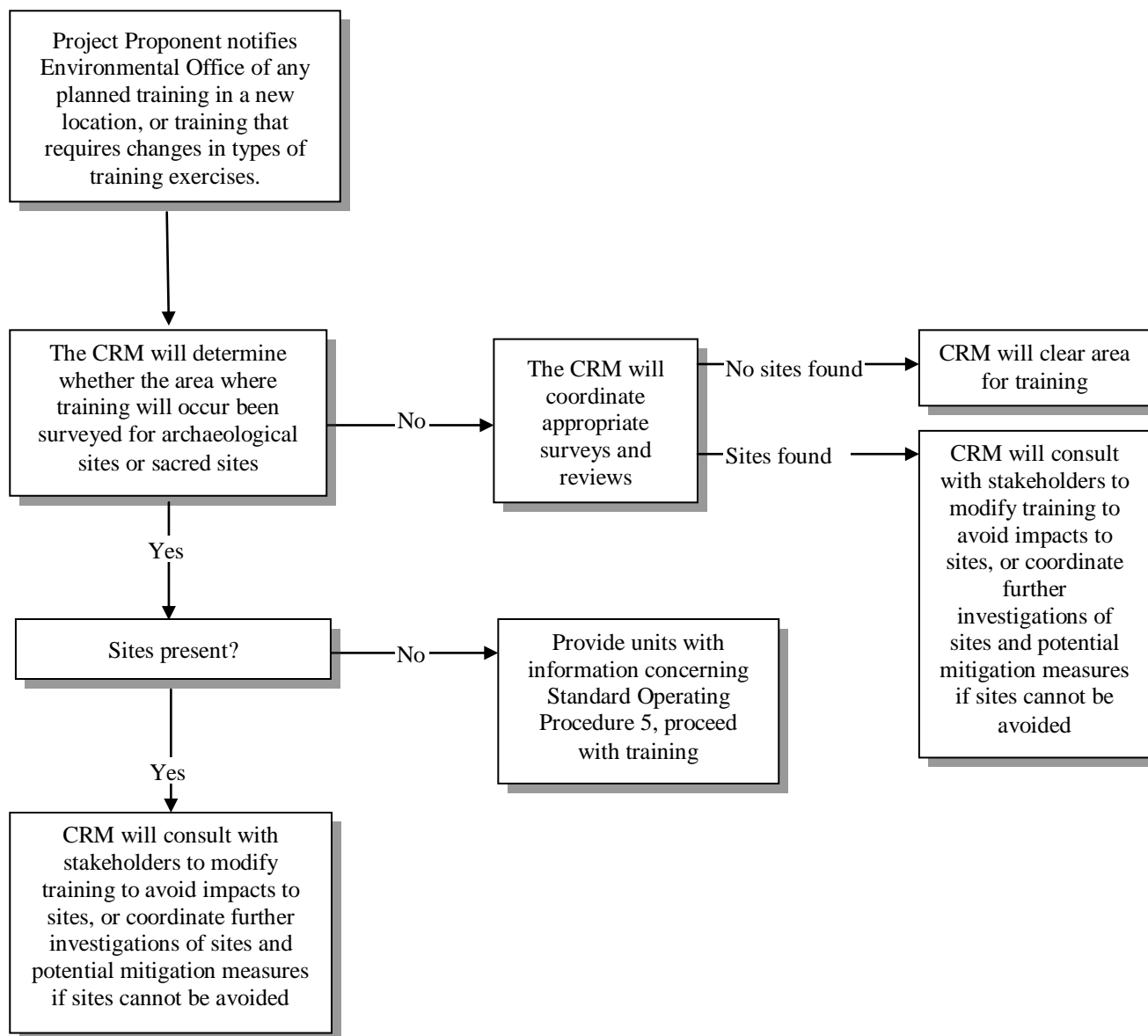


Figure 3-3. Flow Chart for Mission Training of Military and Tenant Personnel

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STANDARD OPERATING PROCEDURE NO. 4
for
Emergency Operations

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Scope: This Standard Operating Procedure (SOP) outlines the steps to be taken prior to conducting emergency operations on KYARNG and non-KYARNG property. It is intended for all personnel. Examples of applicable personnel are

- *Plans, Operations, and Training Officer (POTO)*
- *Reservation maintenance*
- *Environmental program manager (M-Day)*
- *Range control*
- *Unit commander and environmental liaison*
- *Integrated Training Area Management (ITAM)*
- *Environmental unit command officer*
- *Public affairs*
- *Joint forces*
- *Unit / activity personnel*

Non-military units or tenants using KYARNG facilities will also be instructed on responding to inadvertent discovery situations (see SOP No. 5).

Policy: Responses to emergencies and all planning for emergency response actions at KYARNG site(s) and training installation(s) will be carried out in accordance with the statutory applications contained in

- *Native American Graves Protection and Repatriation Act (NAGPRA), Archaeological Resources Protection Act (ARPA), and National Historic Preservation Act (NHPA), and their respective implementing regulations (36 CFR 800; 43 CFR 10) on federal lands*
- *National Historic Preservation Act (NHPA) and its implementing regulations (36 CFR 800) for federally supported actions on nonfederal public lands and private lands*
- *National Environmental Policy Act (NEPA) for federally supported actions that require it.*

It should be noted that immediate rescue and salvage operations conducted to preserve life or property are exempt from the provisions of Section 106 (36 CFR 800.12[d]). However, once the emergency response action has been completed, the CRM is responsible for completing any further Section 106 coordination to mitigate any impacts to cultural resources resulting from the action.

Procedure (Figure 3-4): All reasonable efforts are made to avoid or minimize disturbance of significant cultural resources during emergency operations. Planners will communicate with applicable CRM regarding potential effects on significant cultural resources that might occur in association with such activities.

Upon notification of a proposed emergency operation, the CRM will notify and consult with the appropriate agencies and parties, regarding the known or likely presence of cultural resources in the area of the proposed operation. The agencies and parties are expected to reply in 7 days or less. Notification may be verbal, followed by written communication. This applies only to undertakings that will be implemented within 30 days after the need for disaster relief or emergency action has been formally declared by the appropriate authority. An agency may request an extension of the period of applicability prior to expiration of the 30 days. The CRM will ensure that all KYARNG personnel and units involved in the project are briefed regarding the protocol to be followed in the case of the inadvertent discovery of cultural resources during emergency operations (SOP No. 5).

STANDARD OPERATING PROCEDURE 4 Emergency Operations

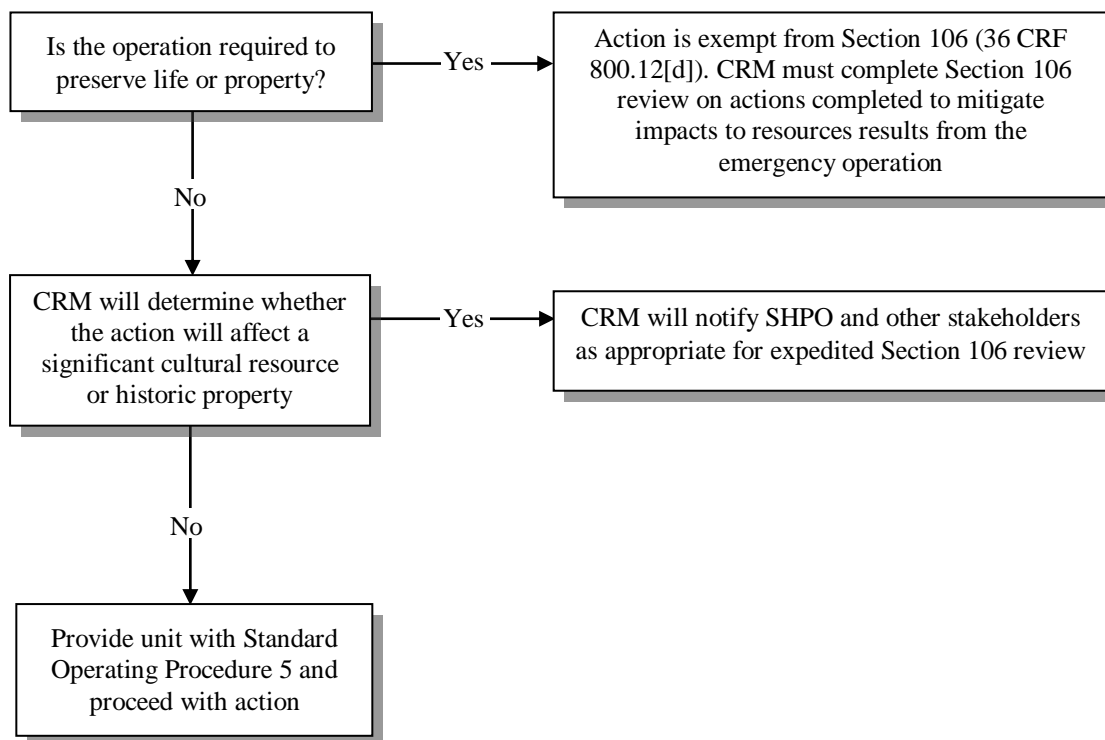


Figure 3-4. Flow Chart for Emergency Operations

STANDARD OPERATING PROCEDURE NO. 5
for
Inadvertent Discovery of Cultural Materials

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Scope: This Standard Operating Procedure (SOP) outlines the steps to be taken upon inadvertent discovery of cultural resources. It is intended for all personnel. Examples of applicable personnel are

- *Plans, Operations, and Training Officer (POTO)*
- *Reservation maintenance*
- *Environmental program manager (M-Day)*
- *Range control*
- *Unit commander and environmental liaison*
- *Integrated Training Area Management (ITAM)*
- *Environmental unit command officer*
- *Public affairs*
- *Joint forces*
- *Unit/activity personnel and tenants.*

Statutory Reference(s):

- *Native American Graves Protection and Repatriation Act (NAGPRA) and its implementing regulation (43 CFR 10)*
- *Archaeological Resources Protection Act (ARPA)*
- *National Historic Preservation Act (NHPA) and its implementing regulation (36 CFR 800).*

Applicability:

Typical actions that trigger this SOP:

- *Field training exercises*
- *Construction and maintenance*
- *Activities such as digging, bulldozing, clearing or grubbing*
- *Off-road traffic*
- *General observations (i.e., eroded areas, gullies, trails).*

Discovery of the following will trigger this SOP:

- *Discovery of known or likely human remains*
- *Unmarked graves*
- *Indian or historical artifacts*
- *Archaeological features*
- *Paleontological remains.*

Actions: This section describes specific actions to be taken for inadvertent discovery. The flowchart is intended to be used by unit/activity level personnel, unit commanders, and similar personnel, as a decision making guide when inadvertent discoveries are made as described under the applicability section of this SOP (**Figure 3-5**).

Unit personnel, contractor, field crews, other tenants

- *Cease ground-disturbing activity when possible historical artifacts and features, human remains, or burials are observed or encountered*
- *Report any observations or discoveries of historical artifacts and features, human remains, burials, or features immediately to the unit commander or facility manager*
- *Secure the discovery location(s).*

Unit Commander or Training Installation Manager

- *Immediately notify Range Control.*
- *Await further instructions from the range control officer.*
- *Examine the location of the discovery to ensure that it has been properly secured. Take appropriate measures to further secure location if needed.*
- *Coordinate with range control officer on where activities can resume.*
- *Give direction to the field troops, construction crew, or non-ARNG user regarding locations where training exercises or activity may continue.*

Range Control Officer

- *Examine the location of the discovery to ensure that it has been properly secured. Take appropriate measures to further secure location (from vandalism and weather) if needed.*
- *Give direction to the unit commander, construction crew, or non-ARNG user regarding locations where training exercises or activity may continue.*
- *Immediately notify the CRM.*
- *If human remains are known or suspected to be present, also promptly notify the state police.*

Activity may not resume in area of discovery until cleared by the CRM. Anticipate a minimum of 30 days.

Cultural Resources Manager

The CRM has a number of specific procedures to follow in the event of an inadvertent discovery, with procedures varying dependent on whether the discovery occurs on federal, state, or privately owned land, and whether human remains or funerary items are discovered. Guidance for this topic is included in Appendix J of the Integrated Cultural Resources Management Plan.

STANDARD OPERATING PROCEDURE 5 Inadvertent Discovery of Potential Cultural Resource

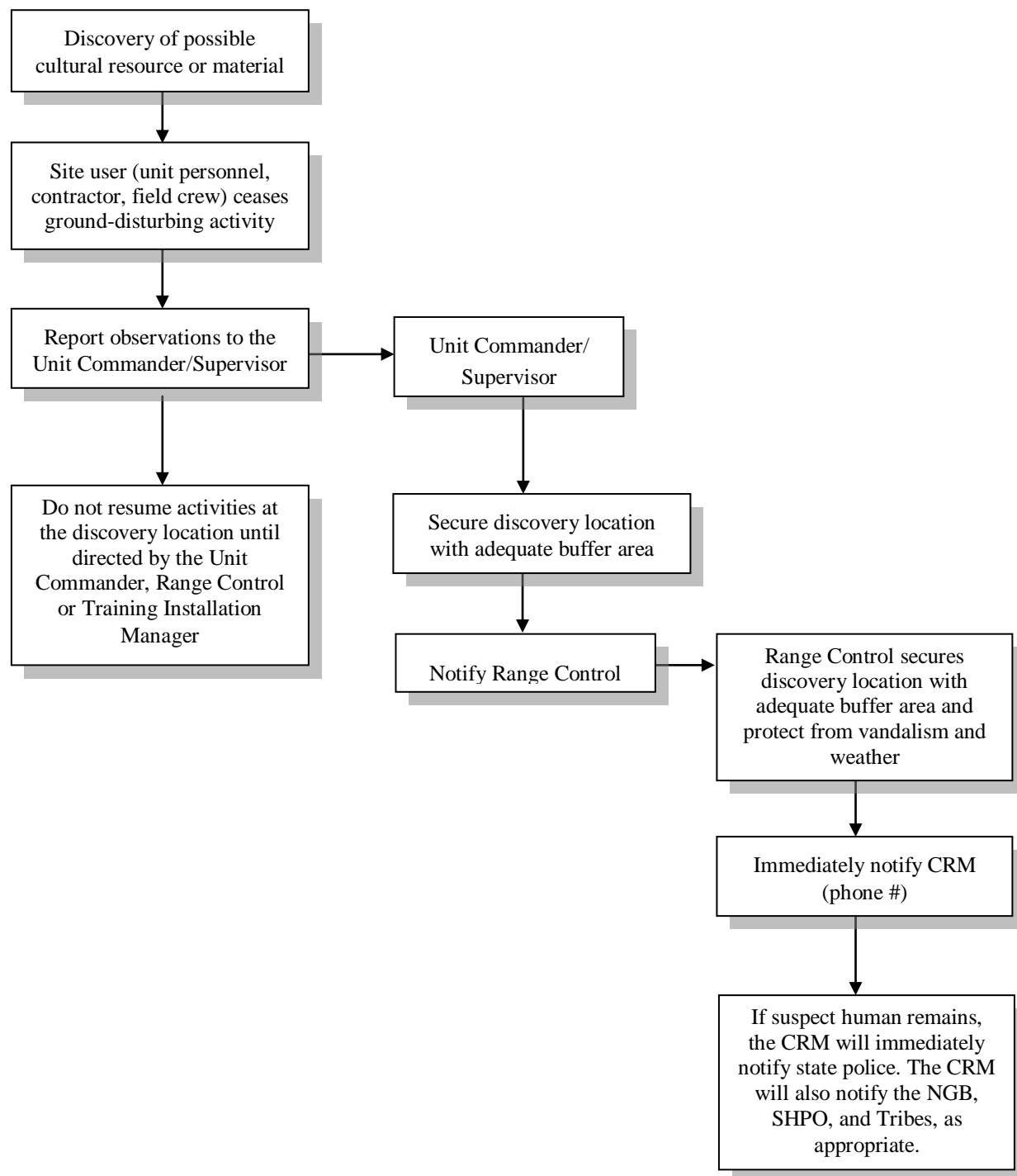


Figure 3-5. Flow Chart for the Inadvertent Discovery of Potential Cultural Resource

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STANDARD OPERATING PROCEDURE No. 6
For
Native American Consultation

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Scope: Federal law requires consultation with affected Native American tribes, Native Hawaiian organizations, Native American religious leaders and representatives, lineal descendants of affected Native American tribes, and the interested public. See **Appendix I** for more information on legal and regulatory standards. Consultation is a dialog between two individuals or groups in which one has expertise, knowledge, or experience that can inform a decision. It must be noted that consultation is not merely notification or the obtaining of consent.

This Standard Operating Procedure (SOP) outlines the steps to be taken upon inadvertent discovery of cultural resources. It is intended for all personnel. Examples of applicable personnel are

- *Leadership*
- *Facilities Maintenance Office, Directorate of Public Works*
- *U.S. Properties and Fiscal Officer (USPFO)*
- *Master and strategic planning*
- *Reservation maintenance*
- *Facility managers and armorers*
- *Range control*
- *Environmental Quality Control Committee (EQCC)*
- *Public affairs*
- *Joint forces*
- *Unit/activity personnel and tenants.*

Statutory Applications:

- *National Historic Preservation Act (NHPA) and its implementing regulations (36 CFR 800)*
- *Native American Graves Protection and Repatriation Act (NAGPRA) and its implementing regulations (43 CFR 10)*
- *Archaeological Resources Protection Act (ARPA)*
- *Army Regulation (AR) 200-1*

- *Presidential Memorandum for Heads of Executive Departments and Agencies, dated 29 April 1994: Government-To-Government Relations With Native American Tribal Governments*
- *Department of Defense Instruction 4710.02: DoD Interactions with Federally-Recognized Tribes.*

Affected Sites or Training Installations: KYARNG virtual installation

Typical triggering events: Issuance of ARPA permit, historic preservation and section 106 activities, matters that significantly or uniquely affect tribal communities or other interested parties, access, use, and protection of ethnographic sites.

Policy

- *The KYARNG TAG shall consult with Native American tribes and other interested parties in the development and implementation of KYARNG cultural resources management plans. The KYARNG TAG may enter into contracts with said groups for the purpose of facilitating consultation obligations and assessment services.*
- *The KYARNG, in consultation with Native American tribes and other interested parties, shall establish procedures for consultation.*
- *The KYARNG shall consult with Native American tribes and other interested parties in the development of the KYARNG's cultural resource management plans and have the opportunity for input at all phases of plan development, including suggested levels and locations for surveys.*

Government-to-Government Consultation

The KYARNG will designate and recognize specific points of contact for purposes of carrying out any communication and consultation with federally recognized Native American tribes necessary for implementation of the principles and processes affecting traditional cultural properties; properties of traditional, religious, and cultural importance; sacred sites; human remains; or associated cultural items.

1. The points of contact shall refer matters arising under this SOP to higher KYARNG authority as the occasion or protocol demands.
2. Should the KYARNG point of contact change, the KYARNG will contact the SHPO/THPO regarding the appointment of a new point of contact.
3. The point of contact will review this SOP on an annual basis.

General Consultation Procedures

1. The CRM will work with National Guard Bureau and the Department of Defense (DoD) Tribal Liaison Office to identify federally recognized Native American tribes, Alaskan Native or Hawaiian Native organizations with ancestral affiliations to KYARNG lands.
2. The TAG should invite a representative of the tribal governing body(s), or interested party(s) who may inform decisions from each tribe or organization, to be a consulting party. (Tribes whose traditional land could be affected must be notified.)
3. Consultation should address potential effects of proposed activity on properties of traditional, religious, or cultural significance to each tribe or organization.
4. Terms, conditions, and mitigation determined through consultation may be incorporated into planning and permitting.

5. The KYARNG will provide an annual report to the involved Native American tribes and other interested parties, complete with site locations and all other pertinent information including dispositions, treatment, and curation. The report will be developed from the present and ongoing survey(s) conducted by current or future contractors.
6. The Native American tribes and other interested parties will make good faith efforts to respond within 30 days or less, when feasible, to requests for information, consultation, or concurrence in relation to issues of traditional cultural properties, sacred sites, burials, or human remains.
7. The KYARNG will limit access to site and resource area information to the greatest extent allowed by law.
8. All pertinent interested parties will be included as signatories on all agreement documents for undertakings affecting properties of traditional, religious, and cultural importance; sacred sites; human remains; and associated cultural items.

National Register of Historic Places nominations and eligibility (regarding sacred sites)

1. The only person delegated statutory authority to sign National Register of Historic Places nominations is the Deputy Assistant Secretary of the Army. Native American tribes and other interested parties do, however, reserve the right, as expressed in the NHPA and sections 60.11 and 60.12 of 36 CFR 60, to concur or not to concur in preparation of recommendations for nomination to the NRHP (in consultation with the KYARNG) when such is related to, or regards, those elements which are traditional cultural properties, sacred sites, or of traditional cultural value to the parties. Native American tribes and other interested parties have the right of appeal as referenced in 36 CFR 60.
2. Both the KYARNG and the State Historic Preservation Office (SHPO) Tribal Historic Preservation Officer (THPO) must agree on nominations to the NRHP regarding traditional cultural properties and sacred sites.
3. *EO 13007* expresses, in general, the parameters of sacred sites and general accommodations that must be made for their access, use, and protection.

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4. References

- Advisory Council on Historic Preservation Guidance.
- Curation of Federally Owned and Administered Archaeological Collections (36 CFR 79) Proposed Rule. Federal Register, Vol. 52, No. 167. August 28, 1987.
- Guidelines for Federal Agency Responsibilities under Section 110 of the National Historic Preservation Act. Federal Register, Vol. 53, No. 31. February 17, 1988.
- How to Apply the National Register Criteria for Evaluation. (Bulletin 15). National Park Service, U.S. Department of the Interior, Washington, DC. 1982.
- Identification of Historic Properties: A Decision-making Guide for Managers. Advisory Council on Historic Preservation, Washington, DC. 1988.
- National Historic Preservation Act of 1966. PL 89-665; STAT. 915; USC 470, as amended by PL 91-243, PL 94-458, PL 96-199, PL 96-244, and PL 96-515.
- National Register Bulletin Series. National Park Service, Department of the Interior, Washington, DC.
- National Register of Historic Properties (36 CFR Part 60).
- Preparing Agreement Documents. Advisory Council on Historic Preservation, Washington, DC. 1989.
- Protection of Historic Properties (36 CFR Part 800).
- Public Participation in Section 106 Review: A Guide for Agency Officials. Advisory Council on Historic Preservation, Washington, DC. 1989.
- Secretary of Interior's Standards and Guidelines for Archaeology and Historic Preservation. Federal Register, Vol. 48, No. 190. September 29, 1983.
- Section 110 Guidelines: Annotated Guidelines for Federal Agency Responsibilities under Section 110 of the National Historic Preservation Act. Jointly issued by the Advisory Council on Historic Preservation and the National Park Service, U.S. Department of the Interior, Washington, DC. 1989.
- Uniform Rules and Regulations: Archaeological Resources Protection Act of 1979 (43 CFR Part 7). Federal Register, Vol. 43, No. 4. January 6, 1984.
- Where to Look: A Guide to Preservation Information. Advisory Council on Historic Preservation, Washington, DC. 1983.
- U.S. Army Engineer, St Louis District. *U.S. Army National Guard Cultural Resources Planning Level Survey* Kentucky, St. Louis, MO: U.S. Army Engineer District, St Louis Mandatory Center For the Curation and Management of Archaeological Collections, 1998.
- U.S. Department of Interior. Standards and Guidelines for Archaeology and Historic Preservation. 1983.

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Appendices

- A – Glossary**
- B – National Environmental Policy Act Review and Correspondence**
- C – Planning Level Survey and Historic Contexts**
- D – Virtual Installation Overview**
- E – Agreement Documents**
- F – ICRMP Distribution List and Points of Contact**
- G– Annual Updates**
- H – Resource Estimate “For Official Use Only”**
- I – Cultural Resources Laws and Regulations**
- J– Cultural Resources Manager’s Guidance**
- K– Sample Documents and Training Brief**

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APPENDIX A

GLOSSARY

Glossary

Advisory Council on Historic Preservation (ACHP) – The ACHP was established by Title 11 of the National Historic Preservation Act to advise the president and Congress, to encourage private and public interest in historic preservation, and to comment on federal agency action under Section 106 of the National Historic Preservation Act.

Archaeological Artifacts – An object, a component of an object, a fragment or sherd of an object, that was made or used by humans; a soil, botanical or other sample of archaeological interest.

Archaeological Records – Notes, drawings, photographs, plans, computer databases, reports, and any other audio-visual records related to the archaeological investigation of a site.

Archaeological Resource – Any material of human life or activities that is at least 100 years of age and is of archaeological interest (32 CFR 229.3(a)).

Area of Potential Effect (APE) – The geographical area within which the undertaking may cause changes in the character of or use of historic properties, if any such properties exist. The APE may change according to the regulation under which it is being applied and should be established in coordination with consulting parties.

Categorical Exclusion (CX) – Under NEPA, a CX is a category of actions that a Federal agency has determined does not to have a significant effect on the environment, either individually or cumulatively. Every Federal agency has a list of CXs.

Code of Federal Regulations (CFR) – Includes the government-wide regulations that all federal agencies must follow and have the force of law.

Cultural Items – As defined by NAGPRA, human remains and associated funerary objects, unassociated funerary objects (at one time associated with human remains as part of a death rite or ceremony, but no longer in possession or control of the federal agency or museum), sacred objects (ceremonial objects needed by traditional Native American religious leaders for practicing traditional Native American religions), or objects of cultural patrimony (having ongoing historical, traditional, or cultural importance central to a federally recognized tribe or Native Hawaiian organization, rather than property owned by an individual Native American, and which, therefore, cannot be alienated, appropriated, or conveyed by any individual of the tribe or group).

Cultural Landscape – A cultural landscape is a geographic area, including both cultural and natural resources and the wildlife or domestic animals therein, associated with a historic event, activity, or person, or exhibiting other cultural or aesthetic values. A cultural landscape can be a historic site, historic designed landscape, historic vernacular landscape, or ethnographic landscape (Cultural Resource Management Guidelines, NPS-28).

Cultural Landscape Approach – To serve as an organizing principle for cultural and natural features in the same way that the idea of an ecosystem serves as an organizing principle for different parts of the natural environment.

Cultural Resources – Historic properties as defined by the NHPA; cultural items as defined by NAGPRA; archaeological resources as defined by ARPA; sites and sacred objects to which access is afforded under AIRFA; and collections and associated records as defined in 36 CFR 79.

Cultural Resources Management Program – Activities carried out under the authority of AR 200-1 to comply with federal statutes and regulations pertaining to cultural resources.

Dr. REAL – A real estate database.

Environmental Assessment (EA) – Under NEPA, an EA is prepared when an agency does not know if a proposed Federal action has potentially significant effects on the environment. EAs conclude either with a Finding of No Significant Impact (FNSI) or Notice of Intent (NOI) to prepare an Environmental Impact Statement.

Environmental Compliance Assessment System (ECAS) – Assists the Army in achieving, maintaining, and monitoring environmental compliance with federal, state, and local environmental regulations. ECAS identifies environmental compliance deficiencies and develops corrective actions and cost estimates to address these deficiencies.

Environmental Impact Statement (EIS) – Under NEPA, an EIS is prepared for major Federal actions that could have potentially significant effects on the environment.

Geographical Information System (GIS) – Electronic maps that can provide information regarding identified structures and archaeological sites that are potentially NRHP-eligible, or that have been determined to be NRHP-eligible.

Indian Tribe – Any tribe, band, nation, or other organized American Indian group or community of Indians, including any Alaska Native village or corporation as defined in or established by the Alaska Native Claims Settlement Act (43 USC 1601 *et seq.*) that is recognized as eligible for special programs and services provided by the United States to Indians because of their status as Indians. Such acknowledged or “federally recognized” Indian tribes exist as unique political entities in a government-to-government relationship with the United States. The Bureau of Indian Affairs maintains the listing of federally recognized Indian tribes.

Installation – For real property purposes, an installation is a single site or a grouping of two or more sites for inventory reporting. Each State represents a single virtual installation consisting of all sites the State controls except sites designated as training installations. Training installations can be their own installations if they have their own command structure and if NGB-ARI and NGB-ART have jointly agreed that they may be listed as their own ARNG training installation. One or more sites may be assigned to any one installation but each can only be assigned to a single installation. An installation can exist in three possible forms:

- *A single site designated as an installation, (e.g., Camp Roberts, CA);*
- *Several non-contiguous or contiguous sites grouped together as a single ARNG training installation (e.g., Camp Shelby, MS).*
- *Several contiguous or non-contiguous sites grouped together as a single virtual installation, (e.g., ARNG manages all the sites in a single state as a virtual installation).*

Integrated Cultural Resources Management Plan (ICRMP) – A 5-year plan developed and implemented by an installation commander to provide for the management of cultural resources in a way that maximizes beneficial effects on such resources and minimizes adverse effects and impacts without impeding the mission of the installation and its tenants.

Memorandum of Agreement (MOA) – A formal written agreement containing the results of discussions among the federal agency, the SHPO, and the ACHP, and can include other entities, state agencies, and/or interested public. The MOA documents mutual agreements upon statements of facts, intentions, procedures, and parameters for future actions and matter of coordination. It shows how the needs of the federal agency, the needs and desires of the public and the scientific / historical significance of the property have all been protected. An MOA is not required by law or regulation except to resolve adverse effects issues (see 36 CFR 800.6(c)). In all other circumstances, it is an optional tool that can be used to ensure compliance with NHPA. Typically, an MOA is used to spell out the roles of the signatories in mitigating the effects of an action on a historic property.

National Historic Landmark (NHL) – National Historic Landmarks are buildings, historic districts, structures, sites, and objects that possess exceptional value in commemorating or illustrating the history of the United States. They are so designated by the Secretary of the Interior after identification by National Park Service professionals and evaluation by the National Park System Advisory Board, a committee of scholars and other citizens.

National Park Service – The bureau of the Department of the Interior to which the Secretary of the Interior has delegated the authority and responsibility for administering the National Historic Preservation Program.

National Register Criteria – The criteria established by the Secretary of the Interior for use in evaluating the eligibility of properties for the NRHP (36 CFR 60).

National Register of Historic Places (NRHP) – A nationwide listing of districts, sites, buildings, structures, and objects of national, state, or local significance in American history, architecture, archaeology, or culture that is maintained by the Secretary of the Interior. NRHP listings must meet the criteria found in 36 CFR 60.4.

Paleontological Resources – Scientifically significant fossilized remains, specimens, deposits, and other such data from prehistoric, non-human life.

Parcel – a parcel is a contiguous piece or pieces of land described in a single real estate instrument. A parcel can also be described as a specific area of land whose perimeter is delineated by metes and bounds or other survey methods. A parcel represents each individual land acquisition by deed or grant (i.e., each separate real estate transaction). A single real estate transaction may acquire multiple parcels. Each parcel is shown by a single lot record in the Real Property Inventory (RPI). Parcels are, therefore, the building blocks of land for a site. A parcel is created by a real estate transaction whereby a Military Department or the State acquires an interest in land, and a legal instrument evidences the interest so acquired.

Planning Resource for Infrastructure Development and Evaluation (PRIDE) – The PRIDE database is the Planning Resource for Infrastructure Development and Evaluation (PRIDE). It is a centralized database to support the identification of assets within an installation at each state. It provides NGB with real property information from which to manage its real property assets. The PRIDE database includes information about facilities, equipment, and grounds at each installation, and information regarding whether the building has been evaluated for its eligibility to the NRHP and whether it is eligible for or listed on the NRHP. The PRIDE does not contain information regarding archaeological sites at installations.

Predictive Model – Modeling used to determine areas of high, medium, and low archaeological potential.

Programmatic Agreement (PA) – A formal agreement between agencies to modify and/or replace the Section 106 process for numerous undertakings in a program. A PA will outline modified Section 106 procedures that streamline an agency’s regulatory obligations.

Real Property Development Plans (RPDP) – A written resource prepared by the State ARNG, to be consulted and used during the preparation of an ICRMP, specifically in dealing with existing and planned structures at a virtual installation (the State).

Record of Environmental Consideration (REC) – A document that is used to explain how an action is covered in a CX.

Section 106 – Under the NHPA, Section 106 provides direction for federal agencies regarding undertakings that affect properties listed or those eligible for listing on the NRHP, and is implemented by regulations (36 CFR 800), issued by the ACHP.

Section 110 – Under the NHPA, Section 110 outlines agencies’ responsibilities with respect to historic properties and requires federal agencies to locate, inventory, and nominate all properties that may qualify for the NRHP.

Section 111 – Under the NHPA, Section 111 addresses leases and exchanges of historic properties. It allows the proceeds of any lease to be retained by the agency for use in defraying the costs of administration, maintenance, repair, and related expenses of historic properties.

Site – in the broadest terms a site is a geographic location. In more focused terms, a site is a specific area of land consisting of a single parcel or several contiguous parcels. Each site must be able to produce a closed cadastral survey. A site can be any physical location that is or was owned by, leased to, or otherwise possessed by one Military Service or State (for National Guard purposes), to include locations under the jurisdiction of the Army National Guard (ARNG) where a hazardous substance has been deposited, stored, disposed of, placed, or otherwise came to be located. Do not combine Federal parcels with state parcels in a single site, even if contiguous. There will be no sites that contain both Federal and state owned property; create separate sites. A site may exist in one of three forms:

- Land only, where there are no facilities present and where the land consists of either a single parcel or two or more contiguous parcels.
- Facility or facilities only, where the underlying land is neither owned nor controlled by the Federal or State government. A stand-alone facility can be a site. If a facility is not a stand-alone facility, it must be assigned to a site.
- Land and all the facilities thereon, where the land consists of either a single parcel or two or more contiguous parcels.

Example of rule applied - a state or municipal owned road that traverses an area. The rule defines such an area as a single site if the military retains controls or ownership of the land under the road. However, if the road and the right-of-way along the road are owned by a party other than the Military Department, than this would be two sites since contiguous ownership does not exist.

Site Locational Models – A model, through past examples, used to predict locations of archaeological sites.

State Historic Preservation Officer (SHPO) – The person who has been designated in each state to administer the State Historic Preservation Program, including identifying and nominating eligible properties to the NRHP and otherwise administering applications for listing historic properties in the NRHP.

Survey – A scientific sampling of the extent and nature of archaeological resources within a specific area.

Training Installation – Refers to one of the 45 training installations operated by the ARNG (see list in Handbook).

Tribal Historic Preservation Officer (THPO) – A THPO appointed or designated in accordance with the NHPA is the official representative of a Tribe for the purposes of Section 106.

Tribes – “Tribes” (with a capital T) is used inclusively throughout this ICRMP to include American Indian tribes, Alaska Natives and organizations, Native Americans, and Native Hawaiians, and organizations as defined in the National Historic Preservation Act and the Native American Graves Protection and Repatriation Act.

Undertaking – “An undertaking is a project, activity, or program funded in whole or in part under the direct or indirect jurisdiction of a federal agency, including those carried out by or on behalf of a federal agency; those carried out with federal financial assistance; those requiring a federal permit, license, or approval; and those subject to state or local regulation administered pursuant to a delegation or approval by a federal agency” (36 CFR 800.16{y}).

Virtual Installation – (Standard definitions according to DoDI 4165.14). A virtual installation refers to all holdings of a <State>ARNG within the boundaries of that <State>.

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APPENDIX B

NATIONAL ENVIRONMENTAL POLICY ACT REVIEW AND CORRESPONDENCE

[Preparer's Note: Users need to insert copies of SHPO and tribal correspondence regarding the review of the ICRMP Revision]



DEPARTMENT OF MILITARY AFFAIRS

STEVE BESHEAR
GOVERNOR

OFFICE OF THE ADJUTANT GENERAL
100 MINUTEMAN PARKWAY
BNGC - EOC BUILDING
FRANKFORT, KENTUCKY 40601-6168

EDWARD W. TONINI
MAJOR GENERAL, KYNG
THE ADJUTANT GENERAL

17 July 2012

Chad Smith, Principal Chief
Cherokee Nation
P.O. Box 948
Tahlequah, OK 74465

Dear Chief Smith:

I am writing to inform you that the Kentucky Army National Guard (KYARNG) is in the process of updating our Integrated Cultural Resources Management Plan (ICRMP). This ICRMP Update will be used to guide the KYARNG cultural resources management program from 2013 through 2018. In this document, see attached electronic copy the KYARNG reflects on the results of the original ICRMP, revises cultural resources management goals, identifies cultural resources compliance actions over the next five years and updates the cultural resources information available for each of our facilities.

We are notifying the Cherokee Nation because the KYARNG occupies lands in or near the area believed to be occupied aboriginally or historically by your tribe and to solicit any comments or concerns that you might have pertaining to this action.

The KYARNG has also contacted representatives of the following tribal organizations regarding this issue:

The Peoria Tribe
The United Keetoowah Band of Cherokee Indians
The Shawnee Tribe
The Eastern Shawnee Tribe
The Miami Tribe

The Eastern Band of Cherokee Indians
The Chickasaw Nation
The Absentee Shawnee Tribe
The Choctaw Nation

Please feel free to contact CPT Christopher Hettinger, KYARNG Environmental Program Manager, regarding this draft document at 502-607-1856 or by electronic mail at chris.p.hettinger@us.army.mil. We look forward to working with you to protect the architectural and archaeological resources in our care.

Sincerely,

Edward W. Tonini
Major General, KYNG
The Adjutant General

KENTUCKYUNBRIDLEDSPRIT.COM



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DEPARTMENT OF MILITARY AFFAIRS

STEVE BESHEAR
GOVERNOR

OFFICE OF THE ADJUTANT GENERAL
100 MINUTEMAN PARKWAY
BNGC - EOC BUILDING
FRANKFORT, KENTUCKY 40601-6168

EDWARD W. TONINI
MAJOR GENERAL, KYNG
THE ADJUTANT GENERAL

17 July 2012

Michell Hicks, Principal Chief
Eastern Band of the Cherokee Nation
P.O. Box 455
Cherokee, NC 28719

Dear Chief Hicks:

I am writing to inform you that the Kentucky Army National Guard (KYARNG) is in the process of updating our Integrated Cultural Resources Management Plan (ICRMP). This ICRMP Update will be used to guide the KYARNG cultural resources management program from 2013 through 2018. In this document, see attached electronic copy the KYARNG reflects on the results of the original ICRMP, revises cultural resources management goals, identifies cultural resources compliance actions over the next five years and updates the cultural resources information available for each of our facilities.

We are notifying the Eastern Band of the Cherokee Nation because the KYARNG occupies lands in or near the area believed to be occupied aboriginally or historically by your tribe and to solicit any comments or concerns that you might have pertaining to this action.

The KYARNG has also contacted representatives of the following tribal organizations regarding this issue:

The United Keetoowah Band of Cherokee Indians
The Chickasaw Nation
The Absentee Shawnee Tribe
The Choctaw Nation
The Peoria Tribe

The Cherokee Nation
The Shawnee Tribe
The Eastern Shawnee Tribe
The Miami Tribe

Please feel free to contact CPT Christopher Hettinger, KYARNG Environmental Program Manager, regarding this draft document at 502-607-1856 or by electronic mail at chris.p.hettinger@us.army.mil. We look forward to working with you to protect the architectural and archaeological resources in our care.

Sincerely,

Edward W. Tonini
Major General, KYNG
The Adjutant General

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DEPARTMENT OF MILITARY AFFAIRS

STEVE BESHEAR
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OFFICE OF THE ADJUTANT GENERAL
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FRANKFORT, KENTUCKY 40601-6168

EDWARD W. TONINI
MAJOR GENERAL, KYNG
THE ADJUTANT GENERAL

17 July 2012

George Wickliffe, Chief
United Keetoowah Band of Cherokee Indians
P.O. Box 746
Tahlequah, OK 74465

Dear Chief Wickliffe:

I am writing to inform you that the Kentucky Army National Guard (KYARNG) is in the process of updating our Integrated Cultural Resources Management Plan (ICRMP). This ICRMP Update will be used to guide the KYARNG cultural resources management program from 2013 through 2018. In this document, see attached electronic copy the KYARNG reflects on the results of the original ICRMP, revises cultural resources management goals, identifies cultural resources compliance actions over the next five years and updates the cultural resources information available for each of our facilities.

We are notifying the United Keetoowah Band of Cherokee Indians because the KYARNG occupies lands in or near the area believed to be occupied aboriginally or historically by your tribe and to solicit any comments or concerns that you might have pertaining to this action.

The KYARNG has also contacted representatives of the following tribal organizations regarding this issue:

The Cherokee Nation
The Chickasaw Nation
The Absentee Shawnee Tribe
The Choctaw Nation
The Peoria Tribe

The Eastern Band of Cherokee Indians
The Shawnee Tribe
The Eastern Shawnee Tribe
The Miami Tribe

Please feel free to contact CPT Christopher Hettinger, KYARNG Environmental Program Manager, regarding this draft document at 502-607-1860 or by electronic mail at chris.p.hettinger@us.army.mil. We look forward to working with you to protect the architectural and archaeological resources in our care.

Sincerely,

Edward W. Tonini
Major General, KYNG
The Adjutant General

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DEPARTMENT OF MILITARY AFFAIRS

STEVE BESHEAR
GOVERNOR

OFFICE OF THE ADJUTANT GENERAL
100 MINUTEMAN PARKWAY
BNGC - EOC BUILDING
FRANKFORT, KENTUCKY 40601-6168

EDWARD W. TONINI
MAJOR GENERAL, KYNG
THE ADJUTANT GENERAL

17 July 2012

Bill Anoatubby, Governor
Chickasaw Nation
P.O. Box 1548
Ada, OK 74821

Dear Governor Anoatubby:

I am writing to inform you that the Kentucky Army National Guard (KYARNG) is in the process of updating our Integrated Cultural Resources Management Plan (ICRMP). This ICRMP Update will be used to guide the KYARNG cultural resources management program from 2013 through 2018. In this document, see attached electronic copy the KYARNG reflects on the results of the original ICRMP, revises cultural resources management goals, identifies cultural resources compliance actions over the next five years and updates the cultural resources information available for each of our facilities.

We are notifying the Chickasaw Nation because the KYARNG occupies lands in or near the area believed to be occupied aboriginally or historically by your tribe and to solicit any comments or concerns that you might have pertaining to this action.

The KYARNG has also contacted representatives of the following tribal organizations regarding this issue:

The Cherokee Nation
The United Keetoowah Band of Cherokee Indians
The Absentee Shawnee Tribe
The Choctaw Nation
The Peoria Tribe

The Eastern Band of Cherokee Indians
The Shawnee Tribe
The Eastern Shawnee Tribe
The Miami Tribe

Please feel free to contact CPT Christopher Hettinger, KYARNG Environmental Program Manager, regarding this draft document at 502-607-1860 or by electronic mail at chris.p.hettinger@us.army.mil. We look forward to working with you to protect the architectural and archaeological resources in our care.

Sincerely,

Edward W. Tonini
Major General, KYNG
The Adjutant General

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DEPARTMENT OF MILITARY AFFAIRS

STEVE BESHEAR
GOVERNOR

OFFICE OF THE ADJUTANT GENERAL
100 MINUTEMAN PARKWAY
BNGC - EOC BUILDING
FRANKFORT, KENTUCKY 40601-6168

EDWARD W. TONINI
MAJOR GENERAL, KYNG
THE ADJUTANT GENERAL

17 July 2012

Ron Sparkman, Chairman
The Shawnee Tribe
P.O. Box 189
Miami, OK 74355

Dear Chairman Sparkman:

I am writing to inform you that the Kentucky Army National Guard (KYARNG) is in the process of updating our Integrated Cultural Resources Management Plan (ICRMP). This ICRMP Update will be used to guide the KYARNG cultural resources management program from 2013 through 2018. In this document, see attached electronic copy the KYARNG reflects on the results of the original ICRMP, revises cultural resources management goals, identifies cultural resources compliance actions over the next five years and updates the cultural resources information available for each of our facilities.

We are notifying the Shawnee Tribe because the KYARNG occupies lands in or near the area believed to be occupied aboriginally or historically by your tribe and to solicit any comments or concerns that you might have pertaining to this action.

The KYARNG has also contacted representatives of the following tribal organizations regarding this issue:

The Peoria Tribe
The United Keetoowah Band of Cherokee Indians
The Cherokee Nation
The Eastern Shawnee Tribe
The Miami Tribe

The Eastern Band of Cherokee Indians
The Chickasaw Nation
The Absentee Shawnee Tribe
The Choctaw Nation

Please feel free to contact CPT Christopher Hettinger, KYARNG Environmental Program Manager, regarding this draft document at 502-607-1856 or by electronic mail at chris.p.hettinger@us.army.mil. We look forward to working with you to protect the architectural and archaeological resources in our care.

Sincerely,

Edward W. Tonini
Major General, KYNG
The Adjutant General

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DEPARTMENT OF MILITARY AFFAIRS

STEVE BESHEAR
GOVERNOR

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100 MINUTEMAN PARKWAY
BNGC - EOC BUILDING
FRANKFORT, KENTUCKY 40601-6168

EDWARD W. TONINI
MAJOR GENERAL, KYNG
THE ADJUTANT GENERAL

17 July 2012

Glenna J. Wallace, Chief
Eastern Shawnee Tribe
P.O. Box 350
Seneca, MO 64865

Dear Chief Wallace:

I am writing to inform you that the Kentucky Army National Guard (KYARNG) is in the process of updating our Integrated Cultural Resources Management Plan (ICRMP). This ICRMP Update will be used to guide the KYARNG cultural resources management program from 2013 through 2018. In this document, see attached electronic copy the KYARNG reflects on the results of the original ICRMP, revises cultural resources management goals, identifies cultural resources compliance actions over the next five years and updates the cultural resources information available for each of our facilities.

We are notifying the Eastern Shawnee Tribe because the KYARNG occupies lands in or near the area believed to be occupied aboriginally or historically by your tribe and to solicit any comments or concerns that you might have pertaining to this action.

The KYARNG has also contacted representatives of the following tribal organizations regarding this issue:

The Cherokee Nation
The United Keetoowah Band of Cherokee Indians
The Shawnee Tribe
The Choctaw Nation
The Peoria Tribe

The Eastern Band of Cherokee Indians
The Chickasaw Nation
The Absentee Shawnee Tribe
The Miami Tribe

Please feel free to contact CPT Christopher Hettinger, KYARNG Environmental Program Manager, regarding this draft document at 502-607-1856 or by electronic mail at chris.p.hettinger@us.army.mil. We look forward to working with you to protect the architectural and archaeological resources in our care.

Sincerely,

Edward W. Tonini
Major General, KYNG
The Adjutant General

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DEPARTMENT OF MILITARY AFFAIRS

STEVE BESHEAR
GOVERNOR

OFFICE OF THE ADJUTANT GENERAL
100 MINUTEMAN PARKWAY
BNGC - EOC BUILDING
FRANKFORT, KENTUCKY 40601-6168

EDWARD W. TONINI
MAJOR GENERAL, KYNG
THE ADJUTANT GENERAL

17 July 2012

George Blanchard, Governor
Absentee Shawnee Tribe
2025 S. Gordon Cooper Dr.
Shawnee, OK 74801

Dear Governor Blanchard:

I am writing to inform you that the Kentucky Army National Guard (KYARNG) is in the process of updating our Integrated Cultural Resources Management Plan (ICRMP). This ICRMP Update will be used to guide the KYARNG cultural resources management program from 2013 through 2018. In this document, see attached electronic copy the KYARNG reflects on the results of the original ICRMP, revises cultural resources management goals, identifies cultural resources compliance actions over the next five years and updates the cultural resources information available for each of our facilities.

We are notifying the Absentee Shawnee Tribe because the KYARNG occupies lands in or near the area believed to be occupied aboriginally or historically by your tribe and to solicit any comments or concerns that you might have pertaining to this action.

The KYARNG has also contacted representatives of the following tribal organizations regarding this issue:

The Cherokee Nation
The United Keetoowah Band of Cherokee Indians
The Shawnee Tribe
The Choctaw Nation
The Peoria Tribe

The Eastern Band of Cherokee Indians
The Chickasaw Nation
The Eastern Shawnee Tribe
The Miami Tribe

Please feel free to contact CPT Christopher Hettinger, KYARNG Environmental Program Manager, regarding this draft document at 502-607-1860 or by electronic mail at chris.p.hettinger@us.army.mil. We look forward to working with you to protect the architectural and archaeological resources in our care.

Sincerely,

Edward W. Tonini
Major General, KYNG
The Adjutant General

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DEPARTMENT OF MILITARY AFFAIRS

STEVE BESHEAR
GOVERNOR

OFFICE OF THE ADJUTANT GENERAL
100 MINUTEMAN PARKWAY
BNGC - EOC BUILDING
FRANKFORT, KENTUCKY 40601-6168

EDWARD W. TONINI
MAJOR GENERAL, KYNG
THE ADJUTANT GENERAL

17 July 2012

Thomas E. Gamble, Chief
Miami Tribe
P.O. Box 1326
Miami, OK 74355

Dear Chief Gamble:

I am writing to inform you that the Kentucky Army National Guard (KYARNG) is in the process of updating our Integrated Cultural Resources Management Plan (ICRMP). This ICRMP Update will be used to guide the KYARNG cultural resources management program from 2013 through 2018. In this document, see attached electronic copy the KYARNG reflects on the results of the original ICRMP, revises cultural resources management goals, identifies cultural resources compliance actions over the next five years and updates the cultural resources information available for each of our facilities.

We are notifying the Miami Tribe because the KYARNG occupies lands in or near the area believed to be occupied aboriginally or historically by your tribe and to solicit any comments or concerns that you might have pertaining to this action.

The KYARNG has also contacted representatives of the following tribal organizations regarding this issue:

The Cherokee Nation
The United Keetoowah Band of Cherokee Indians
The Shawnee Tribe
The Eastern Shawnee Tribe
The Peoria Tribe

The Eastern Band of Cherokee Indians
The Chickasaw Nation
The Absentee Shawnee Tribe
The Choctaw Nation

Please feel free to contact CPT Christopher Hettinger, KYARNG Environmental Program Manager, regarding this draft document at 502-607-1856 or by electronic mail at chris.p.hettinger@us.army.mil. We look forward to working with you to protect the architectural and archaeological resources in our care.

Sincerely,

Edward W. Tonini
Major General, KYNG
The Adjutant General

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DEPARTMENT OF MILITARY AFFAIRS

STEVE BESHEAR
GOVERNOR

OFFICE OF THE ADJUTANT GENERAL
100 MINUTEMAN PARKWAY
BNGC - EOC BUILDING
FRANKFORT, KENTUCKY 40601-6168

EDWARD W. TONINI
MAJOR GENERAL, KYNG
THE ADJUTANT GENERAL

17 July 2012

John P. Froman, Chief
Peoria Indian Tribe
P.O. Box 1527
Miami, OK 74355

Dear Chief Froman:

I am writing to inform you that the Kentucky Army National Guard (KYARNG) is in the process of updating our Integrated Cultural Resources Management Plan (ICRMP). This ICRMP Update will be used to guide the KYARNG cultural resources management program from 2013 through 2018. In this document, see attached electronic copy the KYARNG reflects on the results of the original ICRMP, revises cultural resources management goals, identifies cultural resources compliance actions over the next five years and updates the cultural resources information available for each of our facilities.

We are notifying the Peoria Tribe because the KYARNG occupies lands in or near the area believed to be occupied aboriginally or historically by your tribe and to solicit any comments or concerns that you might have pertaining to this action.

The KYARNG has also contacted representatives of the following tribal organizations regarding this issue:

The Cherokee Nation
The United Keetoowah Band of Cherokee Indians
The Shawnee Tribe
The Eastern Shawnee Tribe
The Miami Tribe

The Eastern Band of Cherokee Indians
The Chickasaw Nation
The Absentee Shawnee Tribe
The Choctaw Nation

Please feel free to contact CPT Christopher Hettinger, KYARNG Environmental Program Manager, regarding this draft document at 502-607-1856 or by electronic mail at chris.p.hettinger@us.army.mil. We look forward to working with you to protect the architectural and archaeological resources in our care.

Sincerely,

Edward W. Tonini
Major General, KYNG
The Adjutant General

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DEPARTMENT OF MILITARY AFFAIRS

STEVE BESHEAR
GOVERNOR

OFFICE OF THE ADJUTANT GENERAL
100 MINUTEMAN PARKWAY
BNGC - EOC BUILDING
FRANKFORT, KENTUCKY 40601-6168

EDWARD W. TONINI
MAJOR GENERAL, KYNG
THE ADJUTANT GENERAL

17 July 2012

Gregory E. Plye, Chief
Choctaw Nation
Drawer 1210
Durant, OK 74702-1210

Dear Chief Plye:

I am writing to inform you that the Kentucky Army National Guard (KYARNG) is in the process of updating our Integrated Cultural Resources Management Plan (ICRMP). This ICRMP Update will be used to guide the KYARNG cultural resources management program from 2013 through 2018. In this document, see attached electronic copy the KYARNG reflects on the results of the original ICRMP, revises cultural resources management goals, identifies cultural resources compliance actions over the next five years and updates the cultural resources information available for each of our facilities.

We are notifying the Choctaw Nation because the KYARNG occupies lands in or near the area believed to be occupied aboriginally or historically by your tribe and to solicit any comments or concerns that you might have pertaining to this action.

The KYARNG has also contacted representatives of the following tribal organizations regarding this issue:

The Cherokee Nation
The United Keetoowah Band of Cherokee Indians
The Shawnee Tribe
The Eastern Shawnee Tribe
The Peoria Tribe

The Eastern Band of Cherokee Indians
The Chickasaw Nation
The Absentee Shawnee Tribe
The Miami Tribe

Please feel free to contact CPT Christopher Hettinger, KYARNG Environmental Program Manager, regarding this draft document at 502-607-1856 or by electronic mail at chris.p.hettinger@us.army.mil. We look forward to working with you to protect the architectural and archaeological resources in our care.

Sincerely,

Edward W. Tonini
Major General, KYNG
The Adjutant General

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DEPARTMENT OF MILITARY AFFAIRS

STEVE BESHEAR
GOVERNOR

OFFICE OF THE ADJUTANT GENERAL
100 MINUTEMAN PARKWAY
BNGC - EOC BUILDING
FRANKFORT, KENTUCKY 40601-6168

EDWARD W. TONINI
MAJOR GENERAL, KYNG
THE ADJUTANT GENERAL

11 July 2012

Mr. Lindy Casebier, Acting Executive Director
Kentucky Heritage Council &
State Historic Preservation Officer
300 Washington St.
Frankfort, KY 40601

Dear Lindy:

The Kentucky Army National Guard (KYARNG) is in the process of updating our Integrated Cultural Resources Management Plan (ICRMP). The staff of the Kentucky Heritage Council was instrumental in the development of the original ICRMP, which has been in use by the KYARNG since 2003.

This update builds upon the original document and will be used to guide the KYARNG cultural resources management program in identifying cultural resources compliance actions from 2013 through 2018.

Your review is important to us. Should you have any questions or concerns, please feel free to call upon me at any time (502) 607-6054 or tom.fugate@us.army.mil

Sincerely,

Thomas W. Fugate,
NEPA/ECOP/CRM
KYARNG
100 Minuteman Parkway
Boone National Guard Center
Frankfort, KY 40601

KENTUCKYUNBRIDLEDSPRIT.COM



AN EQUAL OPPORTUNITY EMPLOYER M/F/D

ARNG ENVIRONMENTAL CHECKLIST	
Enter information in the yellow shaded areas.	
PART A - BACKGROUND INFORMATION	
1. PROJECT NAME: Integrated Cultural Resources Management Plan (ICRMP) Update	
2. PROJECT NUMBER: N/A	3. DATE: 29-Mar-12
4. DESCRIPTION AND LOCATION OF THE PROPOSED ACTION: The Kentucky Army National Guard (KYARNG) is proposing to complete and implement an Updated Integrated Cultural Resources Management Plan (ICRMP). This ICRMP is a continuation of our original 2003 proactive approach to management of the KYARNG's historic resources on a statewide site by site basis. This Update documents our accomplishments under the previous ICRMP and revises our existing management goals and attempts to identify cultural resources compliance actions for the next five years.	
5. START DATE (dd-mmm-yy): 1-Jan-13	6. END DATE (dd-mmm-yy): 1-Jan-18
7. STATE/ORGANIZATION: Kentucky Department of Military Affairs	8. SERVICE COMPONENT: ARNG
9. ADDRESS: 100 Minuteman Parkway, Frankfort, Kentucky 40601-6168	
10. PROPONENT/UNIT NAME: CFMO	11. POC: COL Steven T. King
12. PROPONENT/UNIT ADDRESS: Bldg. #162, 100 Minuteman, Parkway, Frankfort, KY 40601-6168	
13. COMM VOICE: 502-607-1481	14. COMM FAX: 502-607-1873
15. DSN VOICE: 667-1481	16. DSN FAX: 667-1873
17. EMAIL: steven.t.king@us.army.mil	
18. Was the project adequately addressed in a separate environmental review? Do not include Environmental Baseline Surveys (EBSs). <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	
If YES, fill out and attach copy of the decision document:	Document Title: Implementation of ICRMP at Kentucky National Guard Facilities
	Reviewing Agency: KYARNG/NGB
	Date of Review: (dd-mmm-yy): 21-Aug-03
PART B - HISTORICAL INFORMATION	
1. Is the agency undergoing, or has it undergone, legal action for NEPA issues? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	
2. Has there been previous ARNG training, construction, or similar proposals on the site? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	
3. Are there any known contentious environmental issues currently associated with the site? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	
Explain any YES answers. The original KYARNG ICRMP was approved in 2003 and with annual updates has been in use for cultural resources management for more than 9 years.	
4. Has the proposed type of equipment (tracked or wheeled) been operated on the site before? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	
If NO, what NEPA document covers this action?	Document Title:
Provide copy of REC, FNSI, or ROD. This does not include EBSs.	Preparing Agency:
	Date (dd-mmm-yy):
5. Describe the environmental setting, including past and present use of the site. This ICRMP Update is a continuation of the KYARNG's proactive approach to cultural resources management on a statewide site by site basis. Individual site descriptions can be found in the larger document and site specific reports on file in the Environmental Office.	

PART C - DESCRIPTION OF PROPOSED PROJECT/ACTION					
Include a map with the site clearly marked					
1. The proposed action will involve (check all that apply):	<input type="checkbox"/> Training Activities/Areas	<input type="checkbox"/> Construction	<input type="checkbox"/> Reorganization/Restorationing	<input type="checkbox"/> Maintenance/Repair/Rehabilitation	<input type="checkbox"/> Lease or License
	<input type="checkbox"/> EBS Preparation		<input checked="" type="checkbox"/> Environmental Plans/Surveys		
	<input type="checkbox"/> Other (Explain):				
2. Has any related real estate action been addressed in a separate environmental document within the last 5 years?					<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
If YES Document Title:					Date (dd-mmm-yy):
3. Number of acres to be disturbed:					None
4. How is the site currently zoned?	<input type="checkbox"/> Residential	<input type="checkbox"/> Commercial	<input type="checkbox"/> Industrial	<input type="checkbox"/> Park	
	<input checked="" type="checkbox"/> Other (Explain): State Government				
5. Briefly describe the surrounding area land uses (e.g., undeveloped, recreation, residential, etc):					
This Updated ICRMP covers all KYARNG facilities statewide. Site specific area descriptions can be found in the larger document and individual site reports found on file at the KYARNG Environmental Office.					
6. Provide distances to ALL environmentally sensitive areas:					
TYPE	Distance	Unit	TYPE	Distance	Unit
a. Prime/Unique Farmland	N/A		e. Wild/Scenic River	N/A	
b. Wilderness Area/National Park	N/A		f. Coastal Zones	N/A	
c. Sole-Source Aquifer	N/A		g. Floodplain	On-site	
d. Wetlands	On-site				
PART D - ENVIRONMENTAL IMPACT ANALYSIS					
1. AIR					
a. Is the proposed action in a non-attainment/maintenance area?					<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
Attach a General Conformity Determination or Record of Non-Applicability (RONA) for Military Construction activities in non-attainment/maintenance areas.					
b. Will the proposed action require an air emissions permit, registration, license, etc?		During proposed action		<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
		During normal operations after proposed action is completed		<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
c. Will the proposed action release objectionable odors, smoke, dust, suspended particles, or noxious gases into the air?		During proposed action		<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
		During normal operations after proposed action is completed		<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
d. Will the proposed action expose sensitive receptors (threatened or endangered plants or animals, or children) to pollutants?		During proposed action		<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
		During normal operations after proposed action is completed		<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
Explain any YES answers and/or planned mitigation here.					
2. TRAFFIC					
a. Will the proposed action result in generation of or increase in aircraft activity/traffic?					<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
b. Will the proposed action result in the generation of or increase in vehicular traffic?					<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO

c. Will the proposed action use and/or construct unimproved roads?	During proposed action <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO During normal operations after proposed action is completed <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO																														
Explain any YES answers and/or planned mitigation here. Include aircraft types, number of sorties, and flight schedules (if applicable).																															
3. NOISE																															
a. Will the proposed action result in an increase in noise levels?	During proposed action <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO During normal operations after proposed action is completed <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO																														
b. Is the proposed action close to any civilian activity where noise might affect the population (add any not listed in the spaces provided)? Include distances for all types:																															
<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO																															
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">TYPE</th> <th style="text-align: center;">Distance</th> <th style="text-align: center;">Unit</th> </tr> </thead> <tbody> <tr> <td>(1) Residence/Home</td> <td style="text-align: center;">100.0</td> <td style="text-align: center;">feet</td> </tr> <tr> <td>(2) Church</td> <td style="text-align: center;">1000.0</td> <td style="text-align: center;">feet</td> </tr> <tr> <td>(3) School</td> <td style="text-align: center;">1000.0</td> <td style="text-align: center;">feet</td> </tr> <tr> <td>(4) Hospital</td> <td style="text-align: center;">0.5</td> <td style="text-align: center;">mile</td> </tr> </tbody> </table>	TYPE	Distance	Unit	(1) Residence/Home	100.0	feet	(2) Church	1000.0	feet	(3) School	1000.0	feet	(4) Hospital	0.5	mile	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">TYPE</th> <th style="text-align: center;">Distance</th> <th style="text-align: center;">Unit</th> </tr> </thead> <tbody> <tr> <td>(5) Library</td> <td style="text-align: center;">0.5</td> <td style="text-align: center;">mile</td> </tr> <tr> <td>(6) Wilderness Area</td> <td style="text-align: center;">N/A</td> <td style="text-align: center;"></td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>	TYPE	Distance	Unit	(5) Library	0.5	mile	(6) Wilderness Area	N/A							
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(4) Hospital	0.5	mile																													
TYPE	Distance	Unit																													
(5) Library	0.5	mile																													
(6) Wilderness Area	N/A																														
c. Will the proposed action involve aircraft? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO																															
d. Will the proposed action involve night (10 pm to 7 am) operations?	During proposed action <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO During normal operations after proposed action is completed <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO																														
Explain any YES answers.																															
4. EARTH																															
a. Will the proposed action result in long-term disruptions, displacements, compaction, or overcovering of soil, a permanent change in topography, or ground surface relief features? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO																															
b. Will the proposed action result in a long-term increase in wind or water soil erosion, on or off the site, after the proposed action is completed? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO																															
Explain any YES answers.																															
5. NATURAL RESOURCES																															
NOTE- A subject matter expert from the State/Territory ARNG Environmental Office must confirm the answers to these questions by signing the signature page.																															
a. Will the proposed action change the diversity or numbers of any species including mammals, birds, reptiles, amphibians, fish, trees, shrubs, grasses, crops, microflora, or aquatic plants? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO																															
b. Will the proposed action introduce any non-native species into the area? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO																															
c. Will the proposed action impact any plants or animals that are listed or candidates for threatened, unique, rare, or endangered status? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO																															
d. Will the proposed action create barriers to prevent the migration or movement of animals? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO																															

e. Will the proposed action deteriorate, alter, or destroy existing fish or wildlife habitat?	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
f. Will the proposed action deplete any non-renewable natural resources?	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
g. Will the proposed action alter, destroy, or significantly impact environmentally sensitive areas (wetlands, coastal zones, etc.)?	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO

Explain any **YES** answers.

6. LAND USE

a. Will the proposed action alter the present land use of the site?	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
b. Who owns the property?	<input checked="" type="checkbox"/> Federal/DOD <input checked="" type="checkbox"/> State <input type="checkbox"/> City/Town/County <input type="checkbox"/> Private <input type="checkbox"/> Other (Explain):	

c. Does the proposed action involve a real estate action (e.g., purchase, lease, permit, or license)?	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
Answer the following if you answered YES above:	(1) Has an EBS been completed? If YES , attach the EBS.	<input type="checkbox"/> YES <input type="checkbox"/> NO
	(2) Require an increase of acreage/amendment to an existing lease or license?	<input type="checkbox"/> YES <input type="checkbox"/> NO
	(3) Require new purchase of additional acres using federal, state, or other funds?	<input type="checkbox"/> YES <input type="checkbox"/> NO
	(4) Require a new lease, license, and/or land use permit?	<input type="checkbox"/> YES <input type="checkbox"/> NO
	(5) Replace or dispose of existing facilities?	<input type="checkbox"/> YES <input type="checkbox"/> NO

Explain any **YES** answers.

7. SOLID WASTE

a. Will the proposed action generate solid wastes that must be disposed of on or off site?	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
--	------------------------------	--

Explain a **YES** answer.

8. HAZARDOUS WASTE

a. Will the proposed action generate hazardous waste?	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
b. Will the proposed action store and/or prepare for the disposal of hazardous waste or materials?	During proposed action	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
	During normal operations after proposed action is completed	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
c. Does the proposed action require a permit to accumulate hazardous waste or materials at the site?	During proposed action	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
	During normal operations after proposed action is completed	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
d. Does the proposed action have an increased risk for explosion, spill, or the release of hazardous waste or materials (including but not limited to pesticides, chemicals, or radiation)?	During proposed action	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
	During normal operations after proposed action is completed	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
e. Will the proposed action require the presence of trained personnel to handle and dispose of hazardous and/or toxic waste/materials?	During proposed action	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
	During normal operations after proposed action is completed	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO

f. Will the proposed action involve the opportunity for hazardous material minimization and recycling?	During proposed action	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
	During normal operations after proposed action is completed	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
Explain any YES answers.			
g. Do you have a plan describing procedures for the proper handling, storage, use, disposal, and cleanup of hazardous and/or toxic materials?	During proposed action	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO
	During normal operations after proposed action is completed	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO
Explain any NO answers.			
9. WATER			
a. Will the proposed action change currents, course, or direction of water movements in marine or fresh waters?		<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
b. Will the proposed action discharge sediments, liquids, or solid wastes into surface waters, or alter the surface water quality?	During proposed action	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
	During normal operations after proposed action is completed	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
c. Will the proposed action change the quality and/or quantity of ground waters, either through direct additions or withdrawals, or through interception of an aquifer by cuts or excavations?		<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
d. Does the proposed action have the potential to accidentally spill hazardous or toxic materials in or near a body of water?	During proposed action	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
	During normal operations after proposed action is completed	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
e. Does the proposed action have the need for a Spill Control and Countermeasure Plan, and/or Installation Spill Contingency Plan (SPCC and/or ISCP)?	During proposed action	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
	During normal operations after proposed action is completed	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
f. Will the proposed action construct facilities or implement actions within floodplains and/or wetlands?	During proposed action	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
	During normal operations after proposed action is completed	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
g. Does the proposed action require an NPDES stormwater or wastewater discharge permit?		<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
h. Does the proposed action involve the construction of a water or wastewater treatment system (oil water separators, grease traps, etc)?		<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
Explain any YES answers.			

10. CULTURAL RESOURCES

a. Does the proposed action involve an undertaking (Reference: 36 CFR 800.161[y]) to a building/structure 50 years or older? ☐ YES ☒ NO

If YES to Question a, has an architectural inventory/evaluation been completed to determine eligibility for the National Register of Historic Places? ☐ YES ☐ NO

b. Does the proposed action involve ground disturbance? (Reference: 36 CFR 800.161[y]) ☐ YES ☒ NO

If YES to Question b, has an archaeological inventory been completed to determine if there are any archaeological sites present? ☐ YES ☐ NO

If YES to Question b, did the state contact any Federally-recognized Tribes to comment on the proposed action? ☐ YES ☐ NO

c. Does the proposed action fall under any Federal or Nationwide Programmatic Agreement or Programmatic Comment? If YES, reference it below. ☐ YES ☒ NO

If NO to Question c, has the state contacted the SHPO for comments? ☒ YES ☐ NO

d. Does the proposed action have the potential to affect any traditional cultural properties or sacred sites? If YES, attach coordination with Federally-recognized Tribes. ☐ YES ☒ NO

Explain any YES answers.

The KYARNG is working with the SHPO's Office and the UK Archaeological Survey in the development of this Update. Both agencies participated in the development of the original ICRMP and will be full partners in the completion of this Update. Copies of the draft Updated ICRMP will also be made available to the 10 Native American Tribes with areas of interest in Kentucky. These tribes were identified through the original ICRMP development process and are also anticipated to be full partners in the development of this final Update.

11. POPULATION

a. Will the proposed action alter the location, distribution, density, or growth rate of the human population of an area? ☐ YES ☒ NO

b. Will the proposed action affect children?
Reference: Executive Order 13045

During proposed action	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
During normal operations after proposed action is completed	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO

c. Are there any Environmental Justice issues associated with the proposed action?
Reference: Executive Order 12898. ☐ YES ☒ NO

Explain any YES answers.

12. INFRASTRUCTURE

a. Will the proposed action result in the need for new systems or substantial alterations to the following utilities:

- | | | |
|---|------------------------------|--|
| (1) Electrical power, fossil fuel or other (specify): | <input type="checkbox"/> YES | <input checked="" type="checkbox"/> NO |
| (2) Drinking water? | <input type="checkbox"/> YES | <input checked="" type="checkbox"/> NO |
| (3) Wastewater treatment? | <input type="checkbox"/> YES | <input checked="" type="checkbox"/> NO |
| (4) Sewer collection system? | <input type="checkbox"/> YES | <input checked="" type="checkbox"/> NO |
| (5) Wash racks? | <input type="checkbox"/> YES | <input checked="" type="checkbox"/> NO |
| (6) Solid waste disposal? | <input type="checkbox"/> YES | <input checked="" type="checkbox"/> NO |

Explain any **YES** answers.

PART E - INNOVATIVE READINESS TRAINING (IRT)

Skip this portion if this is not an IRT Project

1. REQUESTER INFORMATION

a. REQUESTER NAME:		b. TITLE:	
c. AGENCY NAME:			
d. AGENCY ADDRESS:			
e. COMM VOICE:		f. COMM FAX:	g. DSN VOICE:
h. DSN FAX:		i. EMAIL:	
j. TYPE: <input type="checkbox"/> FEDERAL <input type="checkbox"/> STATE <input type="checkbox"/> LOCAL/MUNICIPAL <input type="checkbox"/> YOUTH/CHARITABLE			
k. SUPPORT TYPE REQUESTED: <input type="checkbox"/> ENGINEER <input type="checkbox"/> TRANSPORTATION <input type="checkbox"/> TECH ASSISTANCE <input type="checkbox"/> LOGISTICAL			
<input type="checkbox"/> COMMUNICATION <input type="checkbox"/> ADMINISTRATIVE <input type="checkbox"/> CEREMONIAL <input type="checkbox"/> PARADE			
<input type="checkbox"/> OTHER (SPECIFY):			

2. ASSIGNED UNIT INFORMATION (Filled out by assigned National Guard unit)

a. UNIT ASSIGNED PROJECT:		b. SERVICE COMPONENT:	
c. UNIT ADDRESS:			
d. PROJECT OFFICER		RANK:	NAME:
e. SITE VISIT DATE (dd-mmm-yy)			
f. PROJECT ASSESSMENT (Give detailed assessment of project requirements. Review project requirements against the screening criteria in Section 651.29 of 32 CFR Part 651. If the project qualifies for a Categorical Exclusion, indicate the Categorical Exclusion code).			
g. ESTIMATED NUMBER OF HOURS REQUIRED TO COMPLETE PROJECT:			
h. PERSONNEL REQUIRED:		OFFICER	ENLISTED

PART F - DETERMINATION

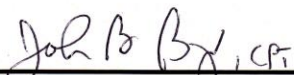
a. Does the proposed action have the potential to degrade the quality of the environment, or curtail the diversity of the environment? ☐ YES ☐ NO


b. Does the proposed action have the potential for cumulative impacts on environmental quality when the effects are combined with those of other Federal/State actions, or when the action is of lengthy duration? ☐ YES ☐ NO

c. Does the proposed action have environmental effects that will cause substantial adverse effects on the human or natural environment, either directly or indirectly? ☐ YES ☐ NO

On the basis of this initial evaluation, the following is appropriate (check one):

- ☐ An **Environmental Baseline Survey (EBS)** and a **new checklist** once the EBS is completed.
- ☐ IAW 32 CFR 651 Appendix B, the proposed action qualifies for a **Categorical Exclusion (CX)** that does not require a Record of Environmental Consideration.
- ☒ A **Record of Environmental Consideration (REC)**.
- ☐ An **Environmental Assessment (EA)**.
- ☐ A **Notice of Intent (NOI)** to prepare an **Environmental Impact Statement (EIS)**.


Signature of Proponent (Requester)


COL Steven T. King
Printed Name of Proponent (Requester)

29 Mar 2012
Date Signed

Concurrence: 
Environmental Program Manager

Ms. Faith Fiene
Printed Name of Env. Program Manager

29 Mar 12
Date Signed

Concurrence (as needed):


Signature of Landowner

Mr. Joe Wilkins
Printed Name of Landowner

29 Mar 2012
Date Signed

Signature of Facilities Officer


N/A
Printed Name of Facilities Officer

Date Signed

Signature of Commander

N/A
Printed Name of Commander

Date Signed


Signature of Plans & Operations Officer

COL William A. Denny
Printed Name of Plans & Operations Officer

29 March 2012
Date Signed

ARNG RECORD OF ENVIRONMENTAL CONSIDERATION	
1. PROJECT NAME: Integrated Cultural Resources Management Plan (ICRMP) Update	
2. PROJECT NUMBER: <div style="text-align: center;">N/A</div>	3. DATE: <div style="text-align: center;">29-Mar-12</div>
4. PROJECT START DATE (dd-mmm-yy): 1-Jan-13	
5. PROJECT END DATE (dd-mmm-yy): 1-Jan-18	
6. DESCRIPTION AND LOCATION OF THE PROPOSED ACTION: <p>The Kentucky Army National Guard (KYARNG) is proposing to complete and implement an Updated Integrated Cultural Resources Management Plan (ICRMP). This ICRMP is a continuation of our original 2003 proactive approach to management of the KYARNG's historic resources on a statewide site by site basis. This Update documents our accomplishments under the previous ICRMP and revises our existing management goals and attempts to identify cultural resources compliance actions for the next five years.</p>	
7. CHOOSE ONE OF THE FOLLOWING: <div style="margin-left: 20px;"> <input checked="" type="checkbox"/> An existing Environmental Assessment adequately covers the scope of this project. <div style="display: flex; justify-content: space-between; width: 80%;"> EA Date (dd-mmm-yy) 21-Aug-03 Conducted By: KYARNG </div> </div> <div style="margin-left: 20px;"> <input type="checkbox"/> An existing Environmental Impact Statement adequately covers the scope of this project. <div style="display: flex; justify-content: space-between; width: 80%;"> EIS Date (dd-mmm-yy) Conducted By: </div> </div> <div style="margin-left: 20px;"> <input type="checkbox"/> After reviewing the screening criteria and completing the ARNG Environmental Checklist, this project qualifies for a Categorical Exclusion (select one below). <div style="margin-left: 20px;"> Categorical Exclusion Code: </div> </div> <div style="margin-left: 20px;"> <input type="checkbox"/> This project is exempt from NEPA requirements under the provisions of: <div style="margin-left: 20px;">Cite superseding law:</div> </div>	
8. REMARKS: <div style="height: 150px; border: 1px solid black;"></div>	
<div style="text-align: center;"> <hr style="width: 100%;"/> (Signature of Proponent (Requester)) </div> <div style="text-align: center; margin-top: 20px;"> <hr style="width: 100%;"/> COL Steven T. King Printed Name of Proponent (Requester) </div> <div style="text-align: center; margin-top: 20px;"> <hr style="width: 100%;"/> 29 Mar 12 Date Signed </div>	<div style="text-align: center;"> Concurrence: <hr style="width: 100%;"/> Environmental Program Manager </div> <div style="text-align: center; margin-top: 20px;"> <hr style="width: 100%;"/> Ms. Faith Fiene Printed Name of Env. Program Manager </div> <div style="text-align: center; margin-top: 20px;"> <hr style="width: 100%;"/> 29 Mar 12 Date Signed </div>



DEPARTMENTS OF THE ARMY AND THE AIR FORCE
NATIONAL GUARD BUREAU
111 SOUTH GEORGE MASON DRIVE
ARLINGTON, VA 22204-1382

NGB-ARE

21 AUG 2003

MEMORANDUM FOR The Kentucky Army National Guard (KYARNG)
Attn: Environmental Office (Ms. Faith Fiene), Kentucky Department of Military Affairs, 100
Minuteman Parkway, Armory 1, Building 112, Frankfort, KY 40601-6168

SUBJECT: Integrated Cultural Resources Management Plan (ICRMP) and Environmental
Assessment (EA) for KYARNG

1. References:

a. Army National Guard Manual for Compliance with the National Environmental Policy Act
of 1969, Mar 02.

b. Memorandum, NGB-ARE, 13 Nov 02, subject: All States (Log Number P98-0004)
Revised Guidance for Environmental Documentation.

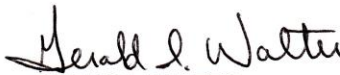
c. Memorandum, NGB-ARE, 08 Feb 01, subject: All States (Log Number I01-0026)
Integrated Cultural Resources Management Plans and Consultation Guidance.

2. In accordance with procedures established in references 1a, 1b, and 1c, the ICRMP and EA
were approved by the National Guard Bureau (NGB). Please find enclosed a copy of the signed
Finding of No Significant Impact (FNSI) and two original ICRMP signature pages.

3. A completed ICRMP signature page must remain on file at NGB. When all state personnel
signatures are obtained, return one original ICRMP signature page to NGB-ARE-C. Upon
receipt of the signature page, this action will be complete.

4. The point of contact is Ms. Beth Law, at (703) 607-4271 or Beth.Law@ngb.army.mil.

3 Encls
as


GERALD I. WALTER
LTC, NGB
Chief, Environmental
Programs Division

**FINDING OF NO SIGNIFICANT IMPACT (FNSI)
ENVIRONMENTAL ASSESSMENT
FOR
IMPLEMENTATION OF AN INTEGRATED CULTURAL RESOURCES MANAGEMENT PLAN
AT
KENTUCKY ARMY NATIONAL GUARD FACILITIES**

Introduction

The Kentucky Army National Guard (KYARNG) prepared an Environmental Assessment (EA) to identify and evaluate potential environmental effects from implementing an Integrated Cultural Resources Management Plan (ICRMP) at facilities throughout Kentucky. The KYARNG prepared the EA in accordance with the National Environmental Policy Act (NEPA), the Council on Environmental Quality (CEQ) Regulations 40 CFR Part 1500-1508, and 32 CFR Part 651, *Environmental Analysis of Army Actions*.

1. Description of Proposed Action and Alternatives

Proposed Action. The KYARNG proposes to implement the ICRMP for its facilities in Kentucky during fiscal years 2003 through 2007. Department of Defense Instruction (DODI) 4715.3 *Environmental Conservation Program*, and Army Regulation (AR) 200-4 *Cultural Resources Management* require development of an ICRMP. The ICRMP establishes explicit responsibilities, standard operating procedures, and long-range goals for managing cultural resources at KYARNG lands, in compliance with all applicable laws and regulations, while ensuring the safety and efficiency of Federal and State missions. Cultural resources include historic properties, cultural items, Indian sacred sites, and archeological resources.

Alternatives Considered. The KYARNG analyzed a No Action alternative. Current cultural resources management measures would remain in effect under the No Action alternative but there would be no comprehensive plan to integrate mission needs with cultural resources protection. The No Action alternative is not viable to the KYARNG because it does not meet the requirements of AR 200-4 and DODI 4715.3. An environmental analysis of a No Action alternative is required by CEQ regulations to serve as a benchmark against which the Proposed Action can be evaluated.

2. Environmental Analysis

Based upon the analysis contained in the EA, it has been determined that the known and potential impacts of the Proposed Action on the physical, cultural, and natural environment would be of a positive nature. Implementation of the KYARNG's ICRMP would result in the efficient management of cultural resources at KYARNG facilities. The goals included in the ICRMP require integration with natural resources, military training, and facility management. As a result, all cultural, natural, and human resources under the KYARNG's control will receive more consideration and protection than previously afforded. Implementation of the Proposed Action would not result in substantial adverse environmental effects.

Neither the Proposed Action nor the No Action alternative creates disproportionately high or adverse human health or environmental effects on children, minority or low-income populations, or communities at or surrounding KYARNG facilities.

Under the Proposed Action, the minor impacts to land use from complete archaeological inventories at all training facilities and National Register for Historic Places determinations would be short term and very localized. Training and other operations can resume immediately with minor shifts in land use; therefore, no mitigation is recommended.

3. Regulations

The Proposed Action would not violate the National Environmental Policy Act (42 USC § 4321 to 4370e), its regulations promulgated by the Council on Environmental Quality (40 CFR parts 1500-1508), 32 CFR Part 651, *Environmental Analysis of Army Actions*, or any other Federal, State, or local environmental regulations.

4. Public Review and Comment

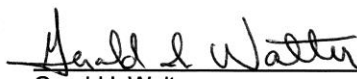
Per 32 CFR Part 651, the draft ICRMP and draft EA were made available for a 15-day public review and comment period from February 15 – 30, 2002 and the final ICRMP, final EA and Draft Finding of No Significant Impact (FNSI) were made available for a 15-day public review and comment period from July 31 – August 14, 2003 at locations listed in the final ICRMP, final EA, and draft FNSI public Notice of Availability. During the draft ICRMP and draft EA 15-day public review and comment period and the 15-day final ICRMP, final EA, and draft FNSI public review and comment period no comments were received.

For further information, contact the KYARNG Environmental Branch at (502) 607-1860.

5. Finding of No Significant Impact

After careful review of the EA, I have concluded that implementation of the Proposed Action would not generate significant controversy or have a significant impact on the quality of the human or natural environment. This analysis fulfills the requirements of the National Environmental Policy Act and the Council on Environmental Quality regulations. An Environmental Impact Statement will not be prepared, and the National Guard Bureau is issuing this Finding of No Significant Impact.

AUGUST 21, 2003
Date


Gerald I. Walter
Lieutenant Colonel, US Army
Chief, Environmental
Programs Division

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APPENDIX C

PLANNING LEVEL SURVEYS & HISTORIC CONTEXTS

Planning Level Surveys:

As noted in DA PAM 22-4, the various observations engendered by the Planning Level Survey are to be operationalized through an actual field effort, also known as an inventory, designed to locate and identify cultural resources including archeological sites, historic structures, traditional cultural properties, and Native American sacred sites. DA PAM 200-4 further directs that an inventory schedule be developed to address NHPA undertakings, other compliance requirements, and enable the development of a baseline inventory for management purposes. Installation undertakings and other activities that may affect cultural resources over the five-year period of the ICRMP should be identified and prioritized if at all possible.

Such planning level surveys were first completed for the KYARNG by the Army Corps of Engineers, St. Louis District, in March 1998 (Wilzbach, 1998). This document reports the history of cultural investigations on KYARNG facilities, lists archaeological sites and historic buildings recorded within facility boundaries, discusses historic contexts and predictive models, and provides a list of Native American tribes that may be culturally affiliated with archaeological collections recovered from KYARNG facilities. To date, 72 historic properties, including archaeological sites, historic buildings or structures, and isolated artifact finds/non sites have been recorded on three KYARNG facilities discussed in this report. No archeological work has been conducted on the Eastern Kentucky Training Site (Hidden Valley), and the facility has no recorded cultural properties. No cultural properties located on KYARNG facilities have been listed on the National Register (This was not correct, the 1850 State Arsenal/Military Museum had been listed in the 1970s) and none had been determined eligible.

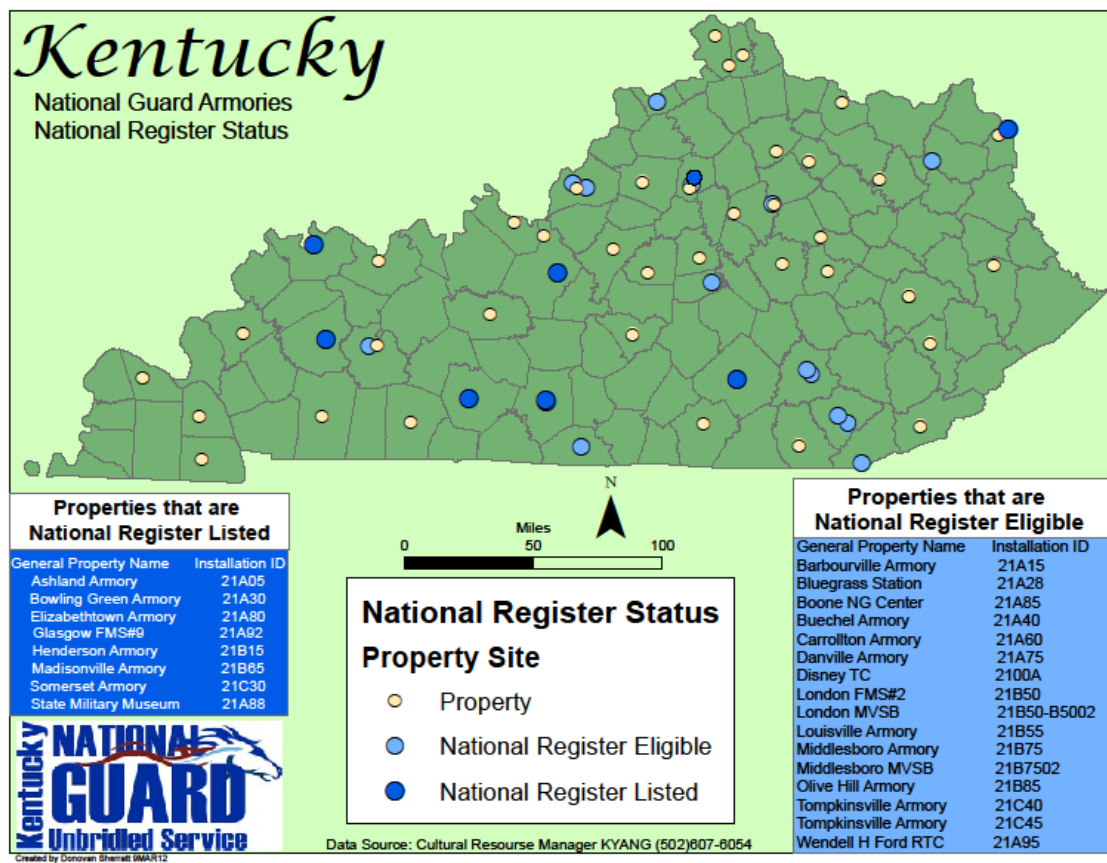
Back in July 1994, an architectural and historical survey of the Lexington facility of the Lexington Blue Grass Army Depot (Bluegrass Station) was undertaken. At that time, the Lexington Army Depot was scheduled for closure as a result of the Base Realignment and Closure (BRAC) activities mandated by the Department of Defense. This survey identified 78 contributing buildings in a proposed historic district and 29 non-contributing buildings and a single archeological site (15FA235). Of those contributing buildings 12 are of especial significance for their role in the overall World War II mission of the Depot. The survey recommended that, before the final disposition of the Lexington Army Depot, a preservation covenant and Memorandum of Agreement be drawn up by the parties involved in the transfer and the SHPO for management of these historic resources. This accomplished, the facility was transferred to the KYARNG in 1995 and a National Register historic district consisting of the Administration Building (Building 1), principal warehouses (Buildings 3, 5, 6, 14, 16, & 17), the gas station (Building 9), and the radar testing buildings (140 & 141), was established and listed in the National Register in 1999. (Copies of this MOA are on file at the KYARNG Environmental Office and the Bluegrass Station, as it is known today. Bluegrass Station has its own CRM who coordinates Section 106 reviews with the SHPO and other interested parties.

In 1997, at the time the above PLS was being conducted, the KYARNG had requested that a Series of archaeological and architectural surveys be conducted by the Kentucky Archaeological Survey, which is jointly administered by the University of Kentucky and the Kentucky Heritage Council, the State Historic Preservation Office.

The first of these was KAS Report #25 (Inventory and Evaluation of National Guard Armories in the State of Kentucky, Carothers, 1998). The purpose of this project was to assess all buildings owned by the Kentucky Army National Guard including armories, administrative and aviation buildings, Organizational Maintenance Shops, and Motor Vehicle Storage Buildings. Older armories that are no longer owned by the Commonwealth were also evaluated. The report presents the result of the architectural survey of 68 state-owned buildings, and 14 previous armories and other state-owned buildings. The significance and integrity of each property was evaluated and the majority were not yet old enough to be considered eligible for the National Register. Of the total 83 buildings surveyed, 27 were fifty years old or almost fifty years of age. Of these, 16 were determined eligible for listing. The other 11 buildings were not eligible due to private ownership or heavy alterations.

On September 6, 2002 ten (10) of the 16 eligible armories that were surveyed by Carothers were listed in the National Register of Historic Places. Those were the Glasgow OMS (FMS) #9, the Ashland Armory, the Owensboro Armory, the Maryland Avenue Armory, the Elizabethtown Armory, the Henderson Armory, the Madisonville Armory, the Somerset Armory, the Bowling Green OMS (FMS) #10, and the Williamsburg Armory. The 1850 State Arsenal (Military History Museum) had been previously listed in the 1970s.

A summary of the reports that were conducted under the original ICRMP can be found in Section 2.1.1 of this update under Summary and Results of the Previous ICRMP.



2012 KYARNG National Register Properties Status Map (Buildings).

List of KYARNG National Register Eligible Archeological Sites:

Bluegrass Station (state property):

15FA235

H.L. Disney Training Site (Artemus, federal leased property):

15KX09, 15KX52, 15KX54, 15KX73, 15KX75, 15KX77, 15KX78, 15KX79, 15KX84, 15KX85, 15KX87.

Cultural and Historic Contexts: (taken from the original ICRMP)

The story of the prehistory of Kentucky is as varied as the state's topography. The archaeological Record of the Jackson Purchase is clearly distinct, for example, from that of the Cumberland Plateau in which Knox County lies. There are broad cultural periods and classifications, however, which are generally agreed upon as applicable to the eastern United States as a whole. These periods, each distinguished from the other by such considerations as social organization, Subsistence and settlement patterns, are material culture include, from earliest to most recent: the Paleo Indian, Archaic, Woodland, Mississippian/Fort Ancient and Historic.

Paleo Indian Period:

Adapting to a changing environment following the close of the last Ice Age or Pleistocene, small Groups of Native Americans began to leave behind evidence of their presence in a wide area of the eastern part of what is now the United States as early as 9,000-10,000 B.C. The Paleo Indian Period (10,000 B.C. – 8,000 B.C.) is distinguished by rather large, well-made lanceolate stone projectile points which may have been employed in the hunting of large game animals including, perhaps, remnants of Pleistocene megafauna such as the mastodon and bison (Tankersley 1990). A skillfully chipped channel or “flute” along each side of a point enhanced hafting to a shaft and is a distinctive feature of such signature Paleo Indian points as the Clovis.

Paleo Indian sites, which are relatively sparse in the eastern United States generally, are particularly rare in Kentucky. It is widely believed that these scattered sites, with generally low artifact densities, reflect the activities of small bands of nomadic hunters and gatherers whose mobility was an advantage in the seasonal exploitation of a variety of plant and animal food sources (Childress & Buchner 1999:16).

Archaic Period:

The Archaic period represents a significant span of prehistory (8,000 B.C. – 1,000 B.C.) characterized by more stable climatic conditions, intensive hunting and gathering subsistence activities and a trend toward a more sedentary way of life as compared to that of the preceding Paleo Indian period. Significant change during the Archaic as reflected in the archaeological record has resulted in the general acceptance of three sub-periods: Early Archaic (8,000-6,000

B.C.); Middle Archaic (6,000 – 3,000 B.C.); Late Archaic (3,000 – 1,000 B.C.).

Although the time division between the Paleo Indian and Early Archaic Periods is arbitrary in nature (Griffin 1978:226), comparisons of artifact types begin to show an unmistakable trend toward change and regional variation in artifact assemblages start to appear. Early Archaic artifacts are more varied than those of the Paleo Indian period and commonly include pitted cobbles, scrapers, drills, grinding slabs and mullers and may reflect exploitation of new subsistence resources (Chapman 1985:43-46). Early Archaic projectile points are well crafted and include side notched, corner notched, and stemmed points.

Early Archaic sites attest to the idea that regional populations were increasing in number and becoming well adapted to moderating climatic conditions and associated changes in flora and fauna. Hunters now sought species such as whitetail deer and others native to the region today while that gathering of plant foods assumed increased importance (Chapman 1977). The presence of fire-cracked rocks in many archaic sites are seen as evidence of intensive exploitation of food resources since they type of artifact is a by-product of the use of heated rocks in boiling (Childress & Buchner 1999:17).

There was a general pattern of settlement/subsistence which emerged throughout the Archaic characterized by a more sedentary, seasonal occupation with semi-permanent base camps being established (Ison et al. 1991:8). By the Middle Archaic, changes in the tool assemblage may indicate exploitation of a greater variety of resources with a change in processing techniques. Ground stone tools appear more frequently and may suggest increased processing of plant materials. Net sinkers for fishing, groove d stone axes and atlatl (spear thrower) weights are hallmarks of Middle Archaic material culture (Bense 1994:75). Significantly, the presence of substantial midden deposits toward the end of the Middle Archaic points to long-term or even year-round occupation of sites (Jefferies 1990:151).

During the late Archaic, a settlement system with an increasing number of sites along floodplain settings develop and incipient plant cultivation is suggested. From a dry, Menifee County rock shelter, for example, a squash rind was recovered and the general increase in the number of grinding stones, earth ovens and hearths in the area suggest that early experiments in controlled planting was underway (Jefferies 1996:57).

Woodland Period:

Beginning with the first appearance of pottery around 1,000 B.C., and ending about A.D. 1,000, the Woodland period is represented more frequently in Kentucky than any other (Railey 1990:249). The period shares with the Late Archaic a trend toward greater reliance on plant cultivation and an attendant increase in more sedentary settlement patterns, and is subdivided into Early (1,000 – 200 B.C.), Middle (200 B.C. – A.D. 500) and Late (A.D. 500-1000) subperiods.

In addition to the introduction of pottery, the first appearance of twined fabrics marks the Early Woodland. Cordage and textiles from dry rock shelters in the Cumberland Plateau as well as the preserved remains of a number of cultigens also point to the increasing significance of plants in

Early Woodland culture (Webb & Funkhouser 1936:125).

With the contribution to the food base provided by plant cultivation and the more long-term settlement patterns that resulted, an elaborate mortuary complex developed (Webb & Snow 1945). What is known as the Adena complex, with its conical mounds developed during the Early Woodland tradition around 500 B.C., is primarily identified with the Ohio River Valley. Burials in Adena mounds are furnished with elaborate grave goods including copper bracelets, engraved stone tablets, effigy pipes, ornaments of mica, stone and hematite (Seeman 1986).

The Middle Woodland follows trends established in the preceding period with evidence of greater dependence on cultivation and sites that appear to have been occupied for increasingly longer periods of time. A socio-religious complex based on a system of exchange and shared mortuary and ceremonial practices and goods also developed during this period (Muller 1986). This so-called Hopewell Culture, with its elaborate mounds and exotic grave goods, is expressed most dramatically in Southern Ohio and along the Ohio River drainage. Non-utilitarian items such as tubular pipes, shell beads and hematite celts, may represent mortuary practices associated with Hopewell (Funkhouser & Webb 1932:266-275). Ceramics from this period are commonly decorated with check stamped, rocker stamped, complicated stamped or brushed design (Railey 1990:251).

The elaborate mortuary sites and ceremonial objects of the Hopewell culture disappear with the beginning of the Late Woodland and ceramic decoration becomes simplified. Although hunting and gathering of wild plants remained perhaps the primary subsistence focus, this period is marked by an increase in the use of native cultigens and maize, which appears more regularly in Late Woodland sites (Railey 1990:256). A pattern of base camps with associated special purpose activities is also characteristic of the period with sites most commonly representing small, multi-family settlements (Reid 1997:36).

Late Prehistoric, Mississippian, & Fort Ancient Period:

The cultivation of maize became a primary subsistence focus during this period (A.D. 1000 to A.D. 1700), during which a complex religious-social-political system found its expression in the construction of large, earthen mounds and ceremonial centers. Hunting and gathering continued but the increase in dependable food sources, which also included other cultigens such as beans and squash, produced surpluses which could be stored (Lewis 1990:375). From this subsistence base developed a far more sedentary settlement pattern marked by permanent villages, hierarchical social structure, craft specialization and other hallmarks of the chiefdom (Reid 1997:37-38). Mississippian ceremonial artifacts reflect standardized iconographic design, which are depicted in clay, bone and wood sculptures, engraved or painted on ceramics and engraved or embossed in shell (Griffin 1967). Other artifacts include small, triangular arrow points, polished celts, stone pipes, mortars, bone needles and fish hooks, stone hoes, and decorative objects of river mussels.

Mississippian sites are found primarily in the western and southern sections of Kentucky while the Fort Ancient (A.D. 1000 to A.D. 700), a contemporary and closely related culture, appears most often in central and northeastern Kentucky. Fort Ancient shares many of the same traits as

Mississippian and is distinguished notably by an absence of platform mounds and an apparent lack of hierarchical organization in the settlement system (Jefferies 1996:121). Villages organized in circular and elliptical arrangement around a central plaza and surrounded, in many cases, by palisades, are common to the period (Sharp 1990:469, 1996:181-182). Although most closely linked to open, floodplain situations, Fort Ancient components have been identified in upland areas as well as dry rockshelters in the Eastern Mountains.

Historic Period:

White explorers, trappers, traders and surveyors had made earlier incursions into the mountains and the area that would become Kentucky, but one of the first documented arrivals was Sr. Thomas Walker, an emissary of the Loyal Land Company (Jillson 1964:6). Walker and companions, who arrived in the area in 1750, explored an extensive area of the Cumberland Plateau section. By the late 1760s, "Long Hunters," including the likes of Daniel Boone, were beginning to explore the area. These hunters and later settlers made their way into the area through the nearby Cumberland Gap (McBride & McBride 1990:587). It is widely accepted that the native population of the area was quite small at the time of first European contact due in large part to raids carried out by the Iroquois Confederacy. Such raids were aimed at securing a monopoly on the fur trade with the French and Dutch (Ison et al 1991:11). Disease carried by the European explorers, as well as direct conflict, assured the rather rapid displacement of the Native Americans who still occupied the region. Land grants for military service and other incentives from the Virginia Legislature encouraged settlement all across the Kentucky territory. Some of the first white settlers who entered Kentucky in the 1780s were Revolutionary War veterans who had received land for their service.

Early agricultural and industrial development by the growing Euro-American population varied across Kentucky during the late eighteenth and into the nineteenth century, as Kentucky became established as an important agricultural state for livestock, tobacco, and in western Kentucky, a variety of crops. The history of the eastern Kentucky region, where the H. L. Disney and the Eastern Kentucky (Hidden Valley) Training Centers are located, was heavily influenced by its mineral and timber resources. The first iron forges west of the Alleghenies were built soon after the discovery near Clay City of iron pyrite in 1785. The Red River iron Works, established in 1805, supplied cannon balls during the War of 1812 and operated until 1874 (Jillson 1964:24-25). Logging began early in the area with numerous sawmills located along the Red River and has remained important to the local economy over the years (Kleber 1992:732). Besides farming, which prospers in the broad floodplains along the major stream drainages, important natural resources include limestone, natural gas, oil and clay for brick making (Kleber 1992:732).

Railroads, which were introduced during the middle to late nineteenth century, proved a boon to logging as well as providing transportation to market for the county's other natural resources and agricultural products. These early lines included the Bigwoods, Red River and Lombard Railroad (Wyss and Wyss 1977:42). A considerable portion of this region became part of the Daniel Boone National Forest and significant tourist dollars are generated by visitors to this area, including the rugged Red River Gorge. Nearby Natural Bridge State Park is also a major tourist draw (Hayes 1993:2).

Coal mining became the dominant industry by the late nineteenth century, and continues to be a major factor in many parts of eastern Kentucky in the present. It has become increasingly mechanized and employs less of the population, but with the advent of strip mining, has had an increasing impact on the natural and cultural landscape (McBride & McBride 1990). Coal mining also developed as an important industry in parts of western Kentucky, especially in the area where the Wendell H. Ford Regional Training Facility is located. Mining remains the industrial mainstay of the Muhlenberg County economy although approximately 39 percent of the land is farmed and used for grazing (Kleber 1992:660).

The state's economy has become increasingly diversified into the early twenty-first century. Many Kentuckians migrated out of the state in the post World War II period to work in factory settings in Indiana, Illinois, Ohio and Michigan. Increasing proportions of the in-state population have left agricultural communities and moved to Louisville, Lexington and other urban centers to work in the manufacturing, retail and service sectors.

History of the Kentucky National Guard:

The History of the Kentucky National Guard and the discussion of the historical significance of armories that follows was taken from the "Inventory and Evaluation of National Guard Armories in the State of Kentucky" by Kate Carothers (1999) and the "History of the Kentucky National Guard" by Tom Fugate and John Trowbridge (2003).

This is a brief outline of the history of the Kentucky National Guard from its beginnings as a State militia to its present mission as both a state and national military organization. A discussion of the development of the armory as a building in Kentucky follows.

Known by several names over the years, the Kentucky National Guard is among the oldest Military organizations in the United States. Its history goes back over two hundred years to the Frontier days of the 1770s, when Kentucky was part of Virginia.

During those early days, nearly every able-bodied man was considered to be a member of the militia. Militiamen were part-time soldiers. They were farmers, merchants, or tradesmen who took up arms in emergencies and there were plenty of emergencies.

The Native Americans saw the new Kentucky settlements as the beginning of an invasion of their priceless hunting grounds and they responded with violence. Kentuckians and the Indians would fight each other, off and on, for nearly fifty years.

The opening of Kentucky to settlement happened at about the same time that the American Revolution began and Kentucky would become a battlefield in that war.

Kentuckians would respond by fortifying their settlements and by organizing militia companies that could be called into action quickly. George Rogers Clark provided the Kentucky Militia with leadership and a strategic vision. He obtained gunpowder and soldiers from Virginia and took the fight to the British and Indians.

He captured Vincennes and other British strongholds in the Old Northwest. His patrols along the Ohio River, with men on horseback and in boats, helped to protect Kentucky Settlements but nothing could protect Kentucky completely. In 1782 a force of about 360 Indians and Canadians loyal to Britain slipped into Kentucky. They attacked the fort at Bryan's Station, near Lexington. Unable to capture the fort, they headed back north. A pursuing force of Kentuckians walked into their ambush at Blue Licks. In this battle about 66 Kentucky militiamen were killed. However, the battle had no real influence on the outcome of the war, which ended in 1783 with independence for the former British colonies.

The first generation of Kentuckians built a reputation for Kentuckians as natural fighters. Men like Daniel Boone, James Harrod, and Simon Kenton gained international fame as officers in the Kentucky militia.

Neither the end of the Revolution nor the achievement of Kentucky statehood separate from Virginia in 1792 brought lasting peace to Kentucky. The British remained in place near the Canadian border and continued to support the Indians in their opposition to American growth between the Appalachians and the Mississippi River. The new United States government sent several expeditions, which included many Kentuckians, against the Native Americans.

Troops led by Generals Harmar and St. Clair met with disastrous defeats but better-trained forces won important victories at the Battle of Fallen Timbers in 1794 and the Battle of Tippecanoe in 1811.

In 1812 the United States again went to war with Great Britain. Kentuckians supported the war, hoping to defeat the Indians once and for all, and to take Canada away from the British. The war would begin with tragedy for Kentucky. Overconfident but unprepared militiamen took part in the loss at the Battle of the River Raisin, in what is now southern Michigan, early in 1813.

After the battle, the British would allow their Indian allies to kill many of the wounded or captured militiamen, outraged by this the Kentuckians made "Remember the Raisin!" their battle cry for the remainder of the war.

Kentucky's most important victory came in October 1813. An American army defeated a British and Indian force beside the River Thames in Canada. Colonel Richard M. Johnson's Regiment of Kentucky Mounted Riflemen charged through the enemy lines. At this point the great Shawnee Indian leader Tecumseh, who had attempted to unite many of the tribes against the Americans, was killed. Thus ending the Indian threat to Kentucky settlement, but the goal of conquering Canada was not achieved.

The war's most famous battle lay ahead. The Battle of New Orleans was fought in January 1815, after the treaty ending the war of 1812 had been signed, but before word of it reached the armies. Kentucky sent about 2,500 men to assist with General Andrew Jackson's defense of the city. Only about half had guns, but those who were armed played a critical role in stopping the British invasion force.

Peace with Great Britain and the end of the Indian peril brought change to the Kentucky Militia. Ever since Kentucky had become a state, it had, like other states, maintained an enrolled militia system. This required nearly every man to sign up for militia service, provide himself with a weapon, and attend periodic training sessions called musters. With no serious enemies in view, most Kentuckians paid little attention to the enrolled militia. Musters, when held at all became social gatherings that featured more drinking than drilling and laws, which required participation were not enforced. Because of this, a new type of militia – the volunteer militia – became popular and unable to rely upon the enrolled militia, Kentucky and other states called upon volunteers to fill the regiments of soldiers required of the states by the federal government during crises.

The most serious crisis during this period concerned Texas. Many Americans, including Kentuckians, had moved west and settled in Texas, then part of Mexico, by the 1830s. In 1836 Texas fought a revolution to obtain its independence from Mexico. Kentuckians went west to help the Texans, and many of them met their deaths at the Alamo and Goliad massacres. However, Kentucky volunteers provided vital manpower for the final Texas victory at the Battle of San Jacinto.

In 1846 after Texas was granted statehood, an act which was intolerable to Mexico, war broke out between the two countries. Kentucky provided three infantry regiments and a mounted regiment for his war. The Louisville Legion, a volunteer militia battalion, provided most of the men for the First Kentucky Infantry, while men for the Second and Third Regiments came from Lexington, the mountains of eastern Kentucky, and other parts of the state.

Many would fight at the Battle of Buena Vista, where General Zachary Taylor won a decisive victory over the Mexicans under General Santa Anna and a few Kentuckians fought under General Winfield Scott in the campaign which led to the conquest of Mexico City.

The Third Kentucky Regiment was part of the occupation force that garrisoned the Mexican Capital until a peace treaty was signed.

Interest in the militia diminished again after the Mexican War. A major reform of the Kentucky Militia system was attempted in 1860. General Simon Bolivar Buckner tried to establish a statewide organization taking in many of the volunteer militia companies. He envisioned Kentucky as having its own miniature army with distinctive uniforms, high quality weapons, and thorough training. He called the force the Kentucky State Guard. Only the name lasted, however. The coming of the Civil War put an end to Buckner's plans.

In 1861 tension between the northern and southern sections of the United States tore the county apart. Kentuckians found themselves caught between the warring factions. Most Kentuckians supported the Union, but they believed slavery was essential to their prosperous economy. It took the state some months to decide which way to go in the war. Governor Beriah Magoffin declared Kentucky neutral and ordered General Buckner's Kentucky State Guard to repel the soldiers of either the Union or the Confederacy should they enter Kentucky. Individual Kentuckians made their own decision. The State Guard proved to be largely loyal to the Confederacy, with entire companies marching away to recruiting camps in Tennessee.

Some of the Union men would form Home Guard companies and the federal government shipped weapons, called “Lincoln Guns,” into Kentucky to arm them. Others enlisted in volunteer regiments, the first at recruiting camps north of the Ohio River and later at camps within Kentucky. By the end of 1861, Kentucky State government had declared itself loyal to the Union and federal forces occupied the northern half of the state. The Kentucky State Guard had disintegrated, but Confederate troops were in place at strategic locations across southern Kentucky.

Eventually about 100,000 Kentuckians served in the Union Army. They made up 52 infantry regiments, 15 cavalry regiments, and 6 artillery batteries. Black Kentuckians, attracted by a promise of freedom from slavery in exchange for enlisting in the army, filled several Union Regiments.

About 40,000 Kentuckians fought in the Confederate Armory. Many of them were in the First Kentucky “Orphan” Brigade, one of the most famous units on either side during the Civil War.

Other Kentuckians made reputations as dashing cavalymen serving under John Hunt Morgan and Nathan Bedford Forrest. Their raids into Kentucky destroyed important Union supplies and facilities and kept thousands of Union soldiers busy guarding railroads, bridges, and warehouses.

The Confederates lost Kentucky during the 1862 campaign. After the Battle of Perryville in October, fighting involving the major armies moved south of Kentucky’s borders but there was no peace in Kentucky. Guerillas terrorized the state. Some of these bands of raiders supported the Union or the Confederacy, but many were simply lawless bandits who took advantage of wartime chaos to rob or murder their neighbors. Union authorities in Kentucky would take drastic measures to control these guerillas – measures so harsh that many Kentuckians who had supported the Union turned against federal authority by the end of the war.

The end of the Civil War brought a new era of conflict to Kentucky. State Guard companies saw frequent service, on duty to control violence caused by feuds, strikes, and racial conflicts.

War came again in 1898. This time American troops and sailors fought the Spanish and gained an overseas empire for the United States. The Kentucky State Guard provided three infantry regiments and a cavalry regiment. Only the First Kentucky Infantry Regiment reached the combat zone in Puerto Rico during his short war, and hostilities ended before they actually went into battle. Most of the Kentucky guardsmen spent the war in training camps fighting disease and shortages of supplies.

In 1900 Kentuckians almost fought their own miniature civil war, a bitter dispute over the 1899 election for governor. Democratic candidate William Goebel was shot, sworn in as governor, and then died. The Republican incumbents refused to allow the Democrats into State buildings and both sides called out the State Guard. For a while pro-Republican guardsmen faced pro-Democrat guardsmen on the streets of Frankfort. The courts found a peaceful solution to the crisis, and the Guardsmen went home without firing a shot.

During the early years of the 20th century, state Guard troops served as peacekeepers in the so-called “Black Patch War” in western Kentucky. Area tobacco farmers had resorted to violence in their struggle against monopolistic tobacco companies.

The Kentucky State Guard became the Kentucky National Guard in 1912, when a new federal law regulating the militia came into effect. The new system set training standards for state units and established more efficient procedures for mobilizing the Guard into federal service.

These new procedures were tested in 1916 when violence from the revolution going on in Mexico spilled across the border. Nearly all the Kentucky National Guard joined units from many other states on patrol along the Mexican border. For the first time, Kentucky troops used trucks and machine guns on active duty. Guardsmen returned from Texas in 1917 just in time to be mustered into federal service for duty in World War I.

Kentucky’s units were attached to the 38th “Cyclone” Division, newly organized at Camp Shelby, Mississippi. Unit titles and functions changed to fit the federal system and meet the needs of modern warfare. The First Kentucky Infantry became the 138th Field Artillery, and the Second Kentucky became the 149th Infantry. After lengthy training, the men of the 38th Division went to France to serve as replacements in other units. The division never fought as a single organization, and Kentucky units soon lost their state identity. 7, 518 National Guardsmen from Kentucky served in World War I. 890 Kentuckians died in the war.

Americans believed that victory in World War I insured a lasting peace. National Guard budgets were small in the 1920s and 1930s and little was done to modernize the Guard, although by the late 1930s the Kentucky National Guard did have its own tank company. A new mounted unit, the 123rd Cavalry Regiment, was formed as well and Guardsmen saw frequent duty near their homes. They helped victims of the great flood of 1937, controlled labor strikes in the coal fields, and attended annual summer training camps.

Peace, in fact, did not last very long. In 1939 Europe was engulfed in another war, and Japan had invaded China. Mounting tensions between the United States and Germany and Japan made American entry into the war appear inevitable. Early in 1941, the Kentucky National Guard was mobilized and Kentucky’s 38th Tank Company went to the Philippine Islands as the Japanese invaders came. After a long defense of the Bataan Peninsula and Corregidor Island, the American and Philippine defenders were overwhelmed and the Japanese forced captured survivors to endure the grueling Bataan Death march and years of mistreatment in prisoner of war camps. Of the 67 Kentucky tankers captured, only 37 came home after the war.

Kentucky National Guardsmen returned to the Philippines in 1944. The 38th Division cleared entrenched Japanese troops from the mountainous terrain of Luzon Island. Fighting was especially heavy in the Zig Zag Pass, where an assault by the 149th Infantry, supported by the 138th Field Artillery, finally won a hard nineteen-day battle. The 38th Division earned the title “The Avengers of Bataan.”

Other Kentucky National Guard units fought in the European Theater. The 103rd and 106th Anti-Aircraft Artillery Battalions, formerly a cavalry unit, fought from North Africa, through France and Germany, into Czechoslovakia.

After the victory in World War II, the Kentucky National Guard had to face a new world, one threatened by nuclear weapons and split by a “cold war” between democratic and communist countries.

In 1947 an important addition was made to the Kentucky Guard with the formation of the Kentucky Air National Guard. The Air Guard’s pilots have flown F-51, F-84, and F-86 fighters, RF-101 Voodoo and RF-4 Phantom reconnaissance planes, C-130 Hercules transports, and other aircraft on missions all over the world.

The cold war turned hot in 1950 when the army of communist North Korea invaded South Korea and early in 1951 the Kentucky National Guard’s 623rd Field Artillery Battalion was sent to Korea.

From an advanced position in the Mund Dung Nee Valley the battalion fired its 155mm howitzers in support of the American Tenth Corps and the First Korean Division.

Other cold war crises also required mobilization of Kentucky Guard units. The 123rd Armor and other units were activated during the Berlin crisis of 1961. Air Guard photo-recon planes flew over Korea during the U.S.S. Pueblo seizure incident in 1968. That same year the 2nd Battalion of the 138th Artillery went to Vietnam. From hilltop positions such as Fire Base Bastogne, Tomahawk Hill and Hamburger Hill the Kentucky gunners supported troops of the 101st Airborne Division, a regular army unit normally based at Fort Campbell, Kentucky.

The Battalion’s C Battery lost nine men killed and thirty-two wounded when North Vietnamese troops overran Fire Base Tomahawk on June 19, 1969.

Through the decades after World War II, members of the Kentucky National Guard took on many challenging jobs in their home state. They guarded property and helped repair damage after a wave of tornadoes struck Kentucky in April, 1974. They patrolled the campus of the University of Kentucky during protest against the Vietnam War. They controlled riots on the streets of Louisville, tried to keep the peace during strikes and now they also help in the fight to control the illegal production of marijuana in the state.

And all the while they train to be ready on short notice in case of another national emergency.

Such an emergency came in 1990 when Iraq invaded Kuwait. Over 1,290 members of the Kentucky National Guard – men and women – were called up during the Persian Gulf War. During Operation Desert Shield and Operation Desert Storm, Kentucky units provided artillery support fire, processed prisoners of war, purified drinking water, moved supplies, cared for the sick and wounded, and even made video documentaries about the short Gulf War.

The Kentucky Air Guard's 123rd Tactical Airlift Wing made significant contributions toward the United States Air Force's ability to move people, equipment, and material around the globe during the Gulf War.

Back in Kentucky, Guard personnel continued their tradition of peacetime service in the citizens of the Commonwealth during the 1990s. Every year, Kentucky communities call upon the Guard for help. The Guard's people, equipment, and expertise were especially valuable during harsh winter storms in 1994 and major floods in 1997. Guard involvement helped insure smooth operations at the Kentucky Derby, the Bluegrass State Games, and the Special Olympics.

On the world stage during the mid-1990s, the Kentucky National Guard began its participation in the "Partnership for Peace" mission to Ecuador. This program of cooperation and humanitarian assistance continues today.

The new millennium brought a new era of warfare – a war against terrorists. On September 11, 2001, the United States was attacked on its own soil. Terrorists crashed hijacked civilian airliners into the World Trade Center in New York and the Pentagon in Washington. Another liner crashed in Pennsylvania. More than 3,000 American – including Kentuckians – died.

In response, about 3,000 Kentucky Guard troops were mobilized. These Kentuckians took part in Operations Enduring Freedom, Noble Eagle, and Iraqi Freedom. Taken together, these operations were the largest deployment of Kentucky Army and Air National Guard men and women since World War II – eclipsing Korea, Vietnam, and the first Persian Gulf War.

The Kentucky troops were deployed across the United States to help protect airports and army installations. They served overseas too – in Bosnia-Herzegovina, Afghanistan, Kuwait, and Iraq. Kentucky Guard military police units guarded Al Qaeda detainees at the American base at Guantanamo, Cuba.

Today, the Kentucky National Guard continues to build upon its more than two-hundred-year tradition of service to the Commonwealth of Kentucky and to the United States of America. Whether to help a neighbor in trying times or to fight a war halfway around the world, the members of the Kentucky National Guard stand ready to take their places alongside the generations of citizen-soldiers who have fought as Kentuckians.

The Armory as a Distinctive Building:

Because the National Guard has historically been associated with social stability, the armories serve as both military and community centers in the cities and counties where they are located. Armories have played a significant part in the history of the National Guard, because they serve as the home of the soldiers. During peaceful times, armories have served as gathering places and a social hall for many community activities, including meetings, reunions, dances, banquets, circuses, basketball games, rock concerts, and wrestling matches. Armories serve as a safe place during storms, tornadoes and other natural disasters. The armory is a distinctive building type, designed specifically for the National Guard as a place to meet, train and store weapons and vehicles. However, many cities today have armories that are no longer owned by the state; many

of these have become community/recreation or emergency centers, owned by the county or city in which they are located. In recent years, the State of Kentucky has determined the Williamsburg, Paducah, Maryland Avenue, and Owensboro armories to be surplus and those facilities have been sold or transferred to the local governments.

The armory as a building type, was first developed after the Civil War. “The armory as a specific building type is a product of the post Civil War era, even though a variety of generic storage facilities for munitions....were common during the earliest years of the Colonial Period.” The 1850 State Arsenal in Frankfort is a good example of what military buildings prior to the advent of “modern” armories. Some offices were housed in the Arsenal, but its main function was that of a storage facility for weapons and ammunition. Once armory construction began, they replaced the earlier, pre-Civil War structures as the most recognizable building of the National Guard. Today armories are synonymous with the National Guard. Every state in the country has a branch of the National Guard and every state has armories.

“Three primary features distinguish the armory as a specific building type. First, in terms of function, the armory served not only as a military facility but also as a clubhouse for the guardsmen and as a civic monument designed to convey power, pride and patriotism. Second, in terms of form and plan, the armory consists of an administration building with an attached drill hall at ground level. The third feature was the exterior design of the building, in that the armories of the (late nineteenth and early twentieth century) were designed to resemble impenetrable fortresses.

Late nineteenth century armories, especially those found in the Northeast, were designed to look like castles (Medieval Gothic architecture), with high, thick walls, towers, battlements and castellated rooflines, giving the buildings a medieval appearance. Other hallmarks of these armories were their large size and construction materials – they were usually built of stone or brick. They had large drill halls attached at the rear of the building, and were at least two stories tall.

Some of the earlier armories found in Kentucky have the same elements as the late nineteenth century armories in the Northeast; for example, the 1905 Louisville Armory (no longer state property) is built of brick and stone, and is a large three-story building with attached drill hall. It also has a pool in the basement, and exterior ornaments such as eagles perched on the roofline. The building’s large size (a city block long) was also akin to the size of the largest Northeastern armories. The Bowling Green Armory, constructed in 1927 and no longer owned by the state, was also an impressive building designed by Brinton B. Davis. It featured a three-story limestone façade with elements of the Beaux Arts architectural style. A large three-story brick drill hall was located on the back of the administrative section. The interior of the drill hall was unusual in that it featured a large stage at one end; this served as both a military and civilian center. Although not as large as the Louisville Armory, the Bowling Green Armory was an impressive structure in the city’s downtown area.

Most of the armories built in the years between 1927-1948 were smaller, one-company facilities. Not until after World War II did armories once again appear as very large buildings, more in keeping with the 1905 Louisville Armory. A large number of armories were built during this

period, which meant the Guard could not spend lavishly on one facility. As the economy improved and the United States emerged as a world power after World War II, the money to build large facilities was once again available, as reflected in the armories of the late 1940s.

The Ashland and Owensboro armories, built in 1948, are identical large, brick two-story buildings. They have the same design and plan, including barred windows, two round towers flanking the entrance, and large barrel-vaulted drill halls. The armory in Madisonville, built in 1947, is a brick two-story building with one-story wings on either side, and have narrow slatted windows. This armory is the only one built between 1947-1949 that does not have an identical counterpart. Armories at Elizabethtown and Somerset, also built in 1948, have the same design and plan, and are two-story yellow brick buildings with one-story wings on either side. Both of these armories were completed in 1948, and are massive buildings with large drill halls attached to the rear of the building.

The armory at Henderson, built in 1951, is a two-story poured concrete structure with steel-reinforced walls that are 10"-12" thick. It has a drill hall on the second floor with a maintenance garage occupying the first level beneath it. Although not as large as the other five armories, this building was modeled after the earlier concrete Works Progress Administration armories of 1941-42. Edd R. Gregg who designed the WPA armories, also served as architect for the Henderson Armory. The six armories discussed above, with the exception of the Owensboro Armory, are the oldest ones still in use as National Guard Armories in Kentucky. All of these were built between 1947-1951, with Madisonville being the oldest facility (1947) still in use as an armory in Kentucky.

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APPENDIX D

VIRTUAL INSTALLATION OVERVIEW

Virtual Installation Overview:

This appendix provides a brief description of the KYARNG virtual installation, an overview of all known cultural resources within the KYARNG virtual installation, and the status of those resources at each site and training installation. This chapter also identifies areas where cultural resources could exist, however, sufficient research has not been completed to identify these potential and unknown resources.

As stated in Chapter 1, the KYARNG has a dual mission. The federal mission is to maintain properly trained and equipped units available for prompt mobilization for war, national emergency, or as otherwise needed. The state mission is to provide trained and disciplined forces for domestic emergencies or as otherwise required by state laws. The Army also has an environmental mission to sustain the environment to enable the Army mission and secure the future.

The state mission provides for the protection of life and property and to preserve peace, order, and public safety under the competent orders of the state governor. The KYARNG's major commands are comprised of the 149th Maneuver Enhanced Brigade (MEB), 75th Troop Command, 138th Fires Brigade, the 238th Regiment, and the KYARNG's 123rd Air Lift Wing. There are 76 individual sites and training installations that support this mission by providing training locales, maintaining and storing equipment and weapons, and housing KYARNG staff. These installations are listed in **Table D-1**. Locations of KYARNG sites and training installations are shown in **Figure D-1**.

Table D-1. KYARNG Sites and Training Installations

Code	Installation	Address	Acreage	County	USGS Quadrangle
21A05	Ashland Armory	2519 Lexington Ave. Ashland, KY 41102-9237	1.2	Boyd	Ashland-G56
21A10	Ashland FMS #1	2519 Lexington Ave. Ashland, KY 41102-9237	9.21	Boyd	Ashland-G56
21A15	Barbourville Armory	705 Manchester Street Barbourville, KY 40906-1721	7	Knox	Heidrick-S46
21A25	Bardstown Armory	1020 North 3 rd Street Bardstown, KY 40004	5.5	Nelson	Bardstown-L34
21A27	Benton Armory	P.O. Box 567 Symsonia Highway Benton, KY 42025-0567	7.13	Marshall	Hardin-T11
21C16	Bluegrass Army Depot Armed Forces Reserve Center	2091 Kingston Hwy. Richmond, KY	10	Madison	Moberly-M44
21C16-C1611	Bluegrass Army Depot FMS#4	2091 Kingston hwy. Richmond, KY	See: 21C16	Madison	Moberly-M44
21A30	Bowling Green Reserve Center	920 Morgantown Road Bowling Green, KY 42101-3644	6.9	Warren	Bowling Green South-S26

21A28	Bluegrass Station	P.O. Box 14063 Lexington, KY 40516	780	Fayette	Clintonville-J43
21A85	Boone National Guard Center	100 Minuteman Pkwy. Frankfort, KY 40601	373.6	Franklin	Frankfort West-I38
21A35	Bowling Green FMS#10	920 Morgantown Road Bowling Green, KY 42101-3644	1.29	Warren	Bowling Green South-S26
21A38	Brandenburg Armory	1190 Old Ekron Road Brandenburg, KY 40108	10	Meade	Guston-K28
21A40	Buechel Armory & FMS#8(a)	4815 Progress Blvd. Louisville, KY 40218-3425	11.16	Jefferson	Louisville East-I32
21A45	Campbellsville Armory	1503 E. Broadway Campbellsville, KY 42718-9229	5	Taylor	Campbellsville-P35
21A50	Carlisle Armory	2299 Concrete Road Carlisle, KY 40311	6.38	Nicholas	Carlisle-H45
21A60	Carrollton Armory	1828 Highway 227 Carrollton, KY 41008-9514	9	Carroll	Carrollton-E36
21A65	Central City Armory	P.O. Box 636 Highway 63 509 Everly Brothers Blvd. Central City, KY 42330-1886	7.4	Muhlenberg	Central City West-P20
21A70	Cynthiana Armory	P.O. Box 248 New Lair Road Cynthiana, KY 41031-0248	5.3	Harrison	Shawhan-H43
21A75	Danville Armory	482 Stanford Ave. Danville, KY 40422-1961	3.4	Boyle	Danville-M39
2100A	CSM Harold L. Disney Training Center	P.O. Box 161 Artemus, KY 40903	519	Knott	Artemus-T47
21A80	Elizabethtown Armory	P.O. Box 249 205 Warfield St. Elizabethtown, KY 42701	1.9	Hardin	Elizabethtown-M31
21B60	Fort Knox Armory (Leased Space)	Building #2371 Fort Knox, KY 40121-5000	N/A	Hardin	Fort Knox-K30

B6002	Fort Knox MATES Facility	9387 Wilson Road Fort Knox, KY 40121- 5000	30.7	Hardin	Fort Knox-K30
21A84	Frankfort Leased Military Records Facility	Pine Hill Plaza Frankfort, KY 40601-4332	n/a	Franklin	Frankfort West-I38
21A88	1850 State Arsenal- Museum	Main & Capital Ave. Frankfort, KY 40601	0.77	Franklin	Frankfort East-I39
21A90	Glasgow Armory	410 Cavalry Dr. Glasgow, KY 42141-1045	14.65	Barren	Glasgow South- S30
21A92	Glasgow FMS#9	410 Cavalry Dr. Glasgow, KY 42141-1045	See: 21A90	Barren	Glasgow South- S30
21B00	Harlan Armory	P.O. Box 917 Highway/US 421 Harlan, KY 41701-9407	3.97	Harlan	Harlan-T51
21B05	Harrodsburg Armory	500 Tapp Road Harrodsburg, KY 40330	5.3	Mercer	Harrodsburg-L39
21B07	Hazard Armory	200 Campbell Dr. Hazard, KY 41701-9407	11.46	Perry	Hazard North-P52
21B15	Henderson Armory	735 North Elm Street Henderson, KY 42420- 2937	1.4	Henderson	Henderson-L17
21B25	Hopkinsville Reserve Center	1600 Woodson Dr. Hopkinsville, KY 42240- 0255	8	Christian	Pleasant Green Hill-S17
21B27	Independence Armory	11800 Taylor Mill Road Independence, KY 41051	27	Kenton	Independence-C41

21B30	Jackson Armory	Route 3, Box 600 Armory Dr. Jackson, KY 41339-9620	6.48	Breathitt	Quicksand-N51
21B32	Jackson FMS#6	Route 3, Box 600 Armory Dr. Jackson, KY 41339-9620	See: 21B30	Breathitt	Quicksand-N51
21B40	Leitchfield Armory	541 School House Road Leitchfield, KY 42754	13.58	Grayson	Leitchfield-O27
21B35	Lexington Armory	4201 Parkers Mill Road Lexington, KY 40510-9607	18.14	Fayette	Lexington West-J41
21B35-10	Lexington FMS#3	4201 Parkers Mill Road Lexington, KY 40510-9607	See: 21B35	Fayette	Lexington West-J41
21B50	London FMS#2	213 Armory Street London, KY 40741-2000	2.1	Laurel	Lily-R45
21B51	London Armory	20 State police Road London, KY 40741-9008	2.3	Laurel	London Q-45
21B52	London Joint Readiness Center	350 C.A.P. Drive London, KY	14.3	Laurel	Lily-R45
21B55	Louisville Armory	2729 Crittenden Dr. Louisville, KY 40217-0437	8.8	Jefferson	Louisville East-I32
21B55-10	Louisville FMS#8	2729 Crittenden Dr. Louisville, KY 40217-0437	See: 21B55	Jefferson	Louisville East-I32
21B56	Louisville Air Guard License Facility	Standiford Field Louisville, KY 40213-2678	N/A	Jefferson	Louisville East-I32

21B57	Louisville Recruiting Leased Space	4801/D680 Outer Loop Louisville, KY 40219	N/A	Jefferson	Louisville East-I32
21B65	Madisonville Armory	P.O. Box 562 670 Park Ave. Madisonville, KY 42431-0562	4.4	Hopkins	Madisonville East-P18
21B70	Marion Armory	P.O. Box 104 Rochester Ave. Marion, KY 42064-0104	6.34	Marion	Marion-P13
21B72	Maysville Leased Armory	1218 Pope Dr. Maysville, KY	3.0	Mason	Maysville West-E47
21B75	Middlesboro Armory	North 30 th Street Middlesboro, KY 40965	5.05	Bell	Middlesboro South-V48
21B75-B7502	Middlesboro MVSB	North 30 th Street Middlesboro, KY 40965	See: 21B75	Bell	Middlesboro South-V48
21B80	Monticello Armory	Route 2, Box 15 Monticello, KY 42633-9625	4.9	Wayne	Monticello-T39
21B82	Murray Armory	2001 Coldwater Road Highway 121 Murray, KY 42071-0861	6.12	Calloway	Murray-V11
21B83	Morehead Readiness Center	4911 KY Hwy. 801 North Morehead, KY 40351	10	Rowan	Farmers-I49
21A67	MAT Eastern KY WETS (Hidden Valley Training Site)	Hwy. 15 Clay City, KY 40312-0000	523	Powell	Levee-46
21B85	Olive Hill Armory	P.O. Box 2 Evans Dr. Olive Hill, KY 41164-5204	5.4	Carter	Olive Hill-H52

21B91	Owensboro Readiness Center Airport Leased Property	2200 Airport Road Owensboro, KY 42301	20	Davies	Owensboro-L20
21B94	Paducah Storefront Recruiting (Leased Space)	KYARNG Recruiting Paducah, KY 42001-0001	N/A	McCraken	Paducah East-R09
21B96	Paducah Joint Forces Readiness Center (under construction)	8400 US 60 West Paducah, KY 42086	20.6	McCraken	Heath-R07
21B98	Pikeville Community College Leased Property	147 Sycamore St. Pikeville, KY 42642	N/A	Pike	Pikeville-O57
21C00	Prestonsburg Armory	P.O. Box 67 Auxier Road Prestonsburg, KY 41653-0087	4.7	Floyd	Prestonsburg-M55
21C05	Ravenna Armory	HC 82 Box 273A Highway 52 Ravenna, KY 40472-8906	5.13	Estill	Irvine-M46
21C15	Richmond Armory	1812 Irvine Road Richmond, KY 40475-0360	5	Madison	Richmond South-M43
21C20	Russellville Armory	P.O. Box 369 200 Armory Road Russellville, KY 42276-0369	5.2	Logan	Russellville-T22
21C25	Shelbyville Armory	P.O. Box 1288 50 Stonecrest Court Shelbyville, KY 40065	7	Shelby	Simpsonville-I35
21C30	Somerset Armory	P.O. Box 678 109 Grand Ave. Somerset, KY 42501-0678	1.7	Pulaski	Somerset-R41

21C35	Springfield Armory	1079 Highway 555 Springfield, KY 40069-9704	7.09	Washington	Springfield-M36
21B56	KY Air National Guard Facility	Standiford Field Louisville, KY 40213-2678	85.18	Jefferson	Louisville East-I32
21C40	Tompkinsville Armory	410 Cavalry Dr. Tompkinsville, KY 42167-9469	5.1	Monroe	Tompkinsville-U32
21C45	Tompkinsville MVSB	705 Monroe Drive Tompkinsville, KY 42167-9469	0.9	Monroe	Tompkinsville-U32
21C48	Walton Armory	183 Beaver Road Walton, KY 41094-9557	5	Boone	Verona-D40
21A95	Wendell H. Ford Regional Training Center	Greenville, KY 42345-0508	11,261	Muhlenberg	Central City West-P20
21C50	Williamsburg Armory	Hurricane Hollow Road Williamsburg, KY 40769-0555	5	Whitely	Williamsburg-U44

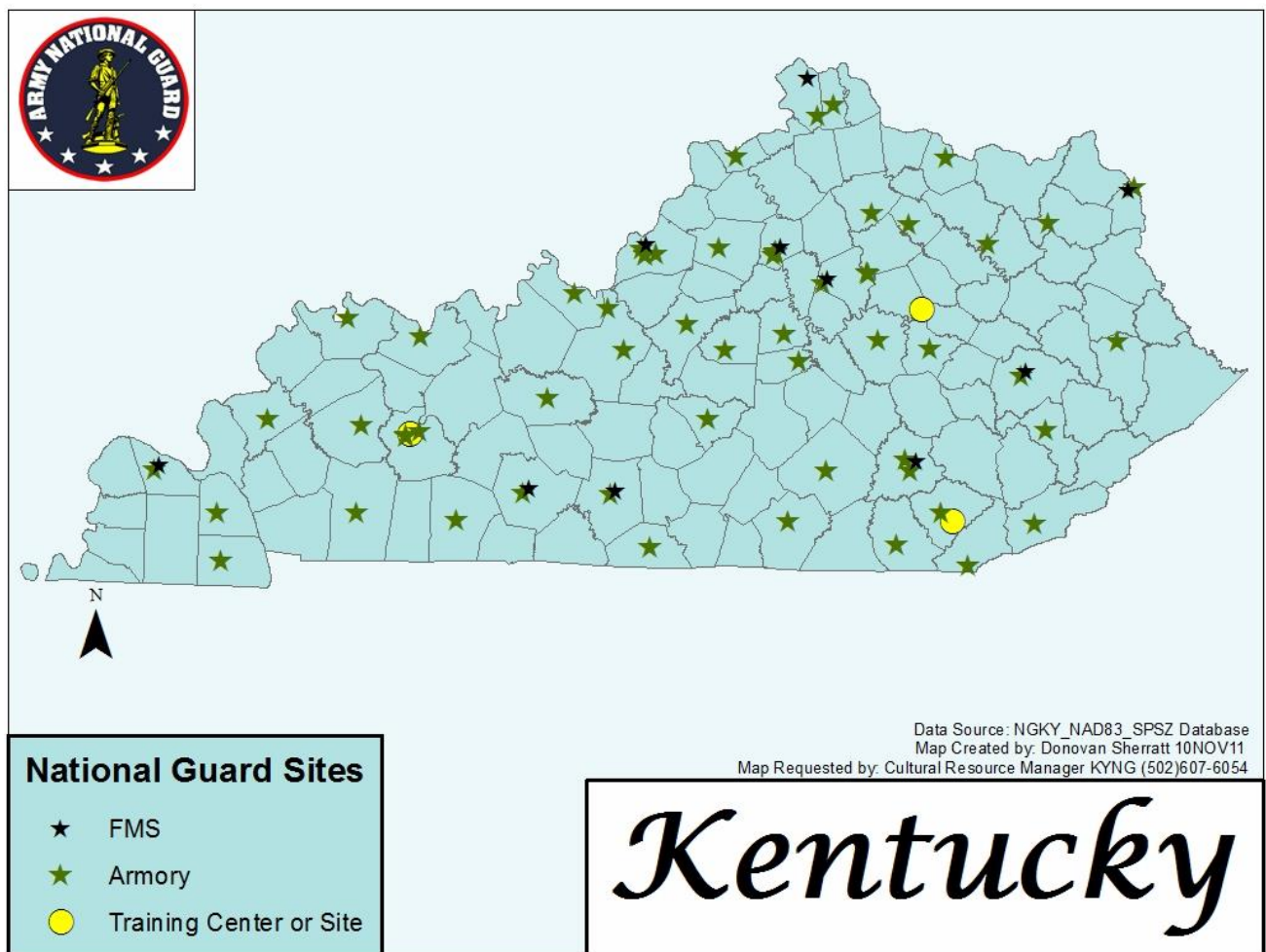


Figure D-1: Map of KYARNG Virtual Installation Showing Sites and Training Installations.

The following sections provide brief descriptions of the infrastructure at each KYARNG site and training installation, and summaries of the status of Section 110 inventories and evaluations completed for each. **Appendix C** provides historic context information. Information on known cultural resources and cultural resources investigations has been entered into the ICRMP database or KYARNG geodatabase for each site and training installation.

D.1 Wendell H. Ford Regional Training Center (WHFRTC):

The WHFRTC is one of three KYARNG training facilities and was formerly referred to as the Western Kentucky Training Site. It is located on 11,261 acres of state owned reclaimed coal strip-mine land in west-central Muhlenberg County, approximately 2,000 feet west of the corporate boundary of Central City, Kentucky and 4 miles north of Greenville, Kentucky. The training center is accessed via Exit 53 on the Wendell H. Ford Western Kentucky Parkway at Kentucky Highway 181. The parkway forms the southern boundary of the training site with the exception of the recently acquired Training Area (TA) 8, located south of the Parkway. The site is bordered on the north by Kentucky Highway 70 and is bisected by Little Cypress Creek in TA 8, Cypress Creek in TA 7, and from the north to south by Kentucky 181.

At the time of European settlement, Muhlenberg County was primarily forested. Since that time, extensive clearing for agriculture, grazing, logging, and more recently coal strip-mining have fragmented or destroyed the pre-settlement ecosystems. Most of the training site has been at one time cleared and mined for coal. All but a small portion of the land at WHFRTC is in different stages of vegetational succession that follows mining, beginning with primary succession of grass/forb domination to subsequent stages of shrub land and tree canopy formation.

Land cover at the WHFRTC includes open grassland and shrubs (ideal for maneuver training exercises), pine and hardwood forest (idea for dismounted training, bivouacking, and concealment), open water bodies, wetlands, and riparian areas along Little Cypress Creek and Cypress Creek, and the developed cantonment area. Numerous active or abandoned oil wells can be found in the western portion of the training site.

The WHFRTC contains approximately 73 structures consisting of the HQ/Administration Building (2001); a Dining Hall (1997); 5 Enlisted and 4 NCO Barracks (1997-2000) 2 Field Grade Officers Quarters (2000); a Fire Training Center (2005); 4 MOUT Buildings (2004), An M-16 and Combat Pistol Firing Ranges; a Battle Simulator, Range Control and Engagement Skills Training Buildings and various smaller outbuildings control towers and storage sheds (1998 – 2010). Currently the KYARNG has proposed to construct a new Qualification Training Range (QTR) and several smaller ranges including a hand Grenade, M203, 10/25 meter and light Demo Range. There are no existing historic structures associated with this facility. All that had existed prior to KYARNG ownership were removed by Peabody Coal Company prior to the strip-mining process.

Prior to commencement of this update, maps, site survey forms, and the Geographic Information System (GIS) database at the Office of State Archaeology (OSA) in Lexington, Kentucky were referenced to determine the extent of previous archaeological research within the WHFRTC. While archaeological survey in general has not been extensive in Muhlenberg County, nine archaeological sites have been recorded within the WHFRTC (15Mu149, 15 Mu141, 15Mu 142, 15Mu 143, 15Mu 144, 15Mu 145, 15Mu 146, 15Mu 255, and 15 Mu 256). In

addition to these nine sites, five cemeteries also have been documented within the WHFRTC, but have not been assigned site numbers.

In March 1989, a cultural resource survey was conducted on approximately 80 acres of the facility (Ball, 1989). In most portions of this tract, extensive evidence of prior surface disturbance was readily apparent. Two heavily disturbed diffused historic scatters were noted but no materials were collected and no site numbers were assigned. No evidence of prehistoric occupation was observed.

From February through April 1990, at the request of the Peabody Coal Company, archaeologists from Arrow Enterprises conducted an archaeological survey of approximately 69 ha for a proposed strip mine permit (Schock 1990a). The survey resulted in the identification of seven archaeological sites (15Mu140-146).

Site 15Mu 140, located on a former ridge top, consisted of a low density of prehistoric and historic artifacts. No diagnostic prehistoric artifacts were recovered, and historic materials consisted of undecorated white ware fragments. The site was destroyed by the construction of a pond during the twentieth century.

Sites 15Mu 141-143 consisted of light prehistoric scatters. No diagnostic artifacts were recovered and cultural affiliation could not be determined for any of these sites.

Sites 15Mu 144-146 are the remains of house sites located near a county road (Schock 1990a: 45-52). According to oral history, Sites 15Mu144 and 15Mu 145 were initially occupied in the late nineteenth or early twentieth centuries, and occupation continued until the early 1960s when coal mining companies purchased the land. A low density of prehistoric material also was recovered from these two sites, however no diagnostic artifacts were found. Site 15Mu 146, which was completely bulldozed as a result of mining activities (Schock 1990a: 52) consisted of remnants of a twentieth-century historic homestead. No prehistoric materials were found at this site. The nearby road was relocated sometime in the early to mid-twentieth century, causing disturbance to all three sites to varying degrees.

Due to the extremely disturbed condition, recent age, and/or lack of diagnostic prehistoric artifacts, Sites 15Mu 140-146 were determined to be not eligible for placement on the NRHP. No further work was recommended for any of these sites (Schock 1990a: 53-54).

In May 1990, at the request of the Peabody Coal Company, Arrow Enterprises conducted an archaeological assessment of approximately 18 ha within 2 km of the training site (Schock 1990b). This survey resulted in the location of three extremely disturbed sites, which consisted of two historic farmsteads and one prehistoric lithic scatter. However, due to the paucity of artifacts recovered, no site numbers were assigned for these areas and no further work was recommended.

At the request of the KYARNG in 2005 archaeologists from the KAS documented three historic cemeteries at the WHFRTC (Stahlgren 2005). These cemeteries are known as the Reno, Vincent, and Coleman cemeteries, and interments date from the mid-nineteenth century to the twentieth century. Although no site numbers were assigned for these cemeteries, because the Reno and Vincent cemeteries were associated with some of the earliest settlers and prominent families in Muhlenberg County, they were considered to be potentially eligible for listing in the NRHP. However, because the Coleman cemetery is still an active cemetery and there is no

separation between historic and modern burials, it was not considered eligible for listing on the NRHP.

In 2006, at the request of the KYARNG, archaeologists from the KAS documented two additional historic cemeteries at the WHFRTC (Mabelitini 2007). These cemeteries are known as the Old Bethel and Cedar Grove cemeteries, and interments range from the early-nineteenth to the twenty-first century. Because both cemeteries are active, no site numbers were assigned and no additional work was recommended for either cemetery. However, it was recommended that the KHC should be contact if any ground disturbing activities should take place in an area identified as a possible unmarked African-American graveyard a the Cedar Grove Cemetery.

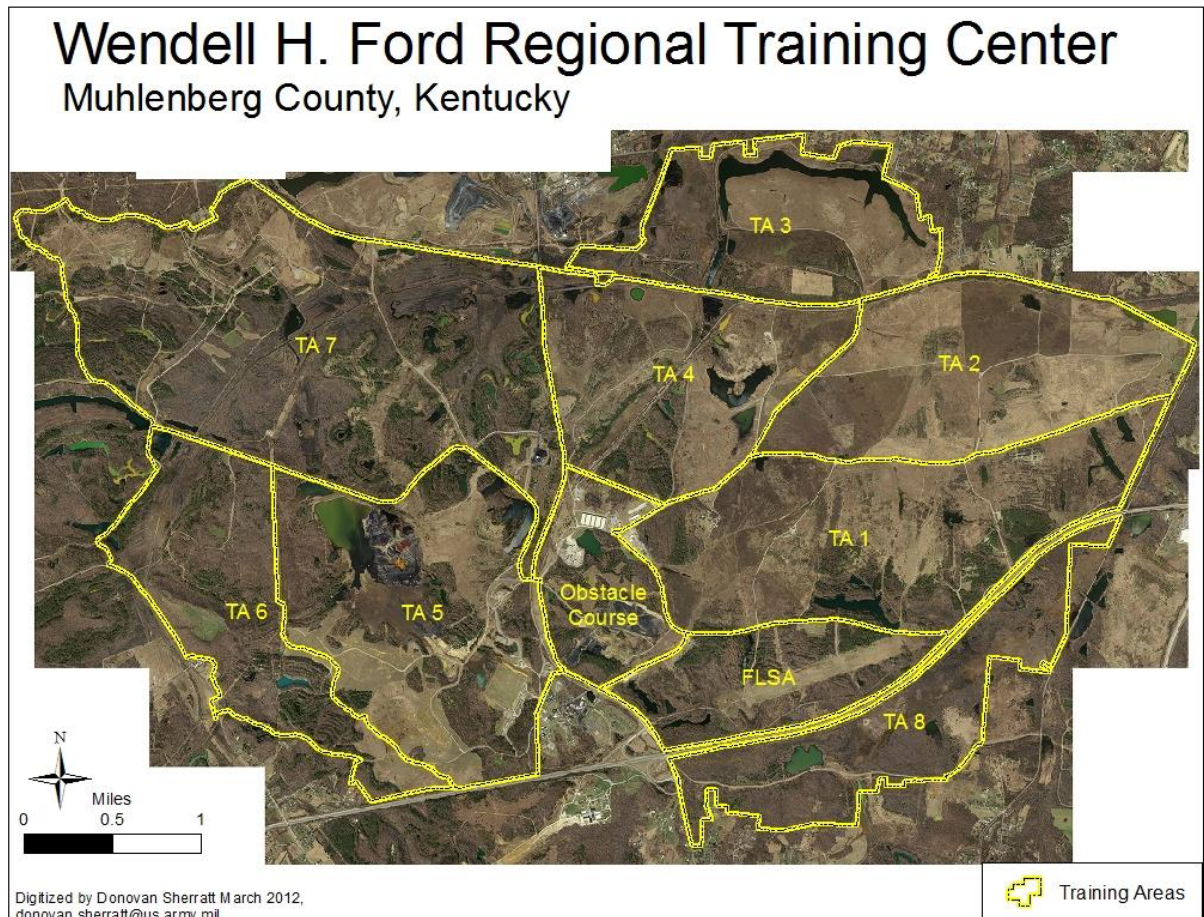
In November 2010, at the request of the KYARNG, a Geophysical Investigation was conducted at the suspected unmarked African American cemetery to determine if unmarked graves were located at the "Hilltop" area where local oral histories suggested that African-Americans were buried. While there were several anomalies in this area that showed promise for being graves, subsequent ground-truthing revealed that all represented natural variations in the soil matrix. Ground-truthing also indicated that the "Person Unknown" markers were seemingly placed in an arbitrary location and no not actually demarcate known or actual graves. Based on the geophysical work and subsequent ground Truthing there is no evidence to suggest that any graves are located in this area.

As part of the 2006 survey, KAS surveyed six tracts encompassing about 950 hectares. As a result, one historic site (15Mu 255), one nineteenth century small family cemetery (15Mu 256), and three twentieth century farm/residence locals were documented. The Railroad site (15Mu 255) is a late-nineteenth to early-twentieth century historic farm/residence. The Eades Cemetery (15Mu 256) is a late-nineteenth century family cemetery. Non-Site Locality 1 is an early-to-mid-twentieth century historic farm/residence. Non-Site Locality 2 is a mid-twentieth century historic farm/residence. None-Site 3 is a mid-to-late-twentieth century historic farm/residence. None of which were determined eligible for listing in the NRHP.

Cultural Resources Summary

- *A predictive archaeological model for The Wendell H. Ford Regional Training Center has been completed (Ball, 1989 & Wilzbach 1998). The property is considered to retain a low potential for archaeological resources.*
- *There are 11,261 acre(s) at this training installation, of which 11,261 acre(s) has been surveyed for archaeological resources.*
- *9 archaeological site(s) has/have been located, of which Zero (0)are either eligible or need further evaluation to make a determination of eligibility for listing in the NRHP.*
- *Of the 73 building(s) and structure(s) at this training installation, Zero (0)are currently 50 years old or older.*
- *Zero (0)building(s) and structure(s) has/have been evaluated. Zero (0)have been determined to be eligible. Zero (0)need further evaluation to make determination of eligibility for listing in the NRHP. However, once these new facilities begin to reach 50 years of age they will need to be evaluated at that time.*
- *Zero (0)building(s) and structure(s) will turn 50 years old over the life of this ICRMP.*

- *This training installation has not yet been surveyed to determine whether it includes a historic district / historic landscape. Due to its recent date of construction this training installation does not include a historic district / historic landscape.*
- *Tribes Have been consulted regarding the existence of sacred sites and/or traditional cultural properties that might be part of a larger cultural landscape. Due to the amount of disturbance from mining activities there are no known resources of traditional, religious, or cultural significance that might be part of a larger cultural landscape.*
- *This training installation contains 5 cemeteries.*



D.2 Harold L. Disney “Artemus” Training Center (DTC):

The Disney Training Center covers 519 acres in the Eastern Coalfield region in southeast Knox County, Kentucky. It is located on the south bank of the Cumberland River, four miles east of Barbourville and 0.3 miles southeast of Artemus, Kentucky. The general topography of the region consists of upland ridges separated by deeply entrenched streams. The principal areas of level land are located along the Cumberland River and along the lower reaches of some of its tributaries. The Cumberland River forms the main drainage for the southern portion of the Eastern Coalfield region, including most of Knox County. The Eastern Coalfield is underlain by

Pennsylvanian age rocks, Principally sandstone, shale, and coal. The lower levels of the property, along the floodplain contains wetlands that have been mapped.

The DTC contains 21 buildings and numerous lesser general purpose structures that were constructed between 1995 and 2011. The primary buildings include the Administration Building, a Classroom, the Simulator Building and 3 Barracks. The Tennessee Valley Authority (TVA) originally acquired the site in 1961. The TVA had planned to build a power facility on the Cumberland River. However, these plans never came to fruition. TVA leased the land for farming for several years and in 1979 leased the undeveloped property to the KYARNG as a local training area (LTA). Ownership of the site was transferred from the TVA to the U.S. Department of the Army in 1994.

The DTC consists of 519 acres that have all been surveyed for historical and archaeological resources (Nekloa 1980, Scarry et al. 1992). The archaeological field survey in 1980 was only for two acres to be impacted by a three-track vehicle driving lanes and a small arms rifle range but the 1992 survey covered the entire property. These surveys resulted in the discovery of 25 archaeological sites with 41 distinct components. In addition, two historic cemeteries, five rock piles and one recent refuse dump were located. Of these areas, only 11 archaeological sites are considered eligible for listing in the NHHP. There is a third active cemetery on the property and all three have been fenced and family members who wish to visit the cemeteries make arrangements by contacting the training site manager.

On May 11, 2009 the KAS conducted an assessment of a proposed running track's impact to archaeological site 15Kx 73. An examination of the site boundary information provided by the KAS Site Survey Form on file at the Office of State Archaeology and observations of the path of the proposed track marked on the field was conducted.

Since the eastern limits of the proposed track impacts only a small portion of site 15Kx 73 at its western edge, it was determined that construction of the running track would not adversely affect the archaeological resources associated with the site. It was recommended that the track be constructed in the location marked on the field on May 11, 2009. It was also recommended that the site be interpreted.

Archaeological sites and cemeteries eligible for listing in the National Register of Historic Places at the H.L Disney Training Center:

15Kx09	Prehistoric Stone Mound
15Kx52	Archaic and Woodland lithic scatter
15Kx54	19 th Century house site – the Levi Hoskins-Lock-W.J. Campbell Homestead
15Kx73	19 th Century house site – Durham Homestead
15Kx75	Late Archaic-Early Woodland & Late Woodland lithic scatter
15Kx77	19 th Century house site – Pursiful farmstead

15Kx78	19 th – 20 th Century farmstead – Pursiful farm
15Kx79	Dan Baker farm 1870-1900
15Kx84	19 th – 20 th Century farmstead – Massengill farm
15Kx85	Multi-component site Woodland to Late Prehistoric period lithic scatter and 19 th Century Sam Wyatt homestead
15Kx87	Middle to Early Archaic lithic scatter
Mills-Pursiful Cemetery	Important historic cemetery related to other historic sites located on the facility and early settlers in the region
Campbell Cemetery	Perhaps related to the Sam Wyatt farm, the earliest historic site on the facility.

Cultural Resources Summary

- *A predictive archaeological model for Harold L. Disney Training Center, has been completed (Wilzbach, 1998). The property is considered to retain high potential for archaeological resources.*
- *There are 519 acre(s) at this site, of which 519 acre(s) have been surveyed for archaeological resources.*
- *25 archaeological site(s) have been located, of which 11 are either eligible or need further evaluation to make a determination of eligibility for listing in the NRHP.*
- *Of the 21 building(s) and structure(s) at this site, Zero (0) are currently 50 years old or older.*
- *Zero (0) building(s) and structure(s) have been evaluated. Zero (0) have been determined to be eligible. Zero (0) need further evaluation at this time to make a determination of eligibility for listing in the NRHP. However, once these buildings and structures begin to reach 50 years of age they will need to be evaluated.*
- *Zero (0) building(s) and structure(s) will turn 50 years old over the life of this ICRMP.*
- *This site has not yet been surveyed to determine whether it includes a historic district / historic landscape. At this time the site does not include a historic district / historic landscape.*
- *This site does not lie within a local historic district.*
- *Tribes have not as yet been consulted regarding the existence of sacred sites and/or traditional cultural properties. There are suspected resources of traditional, cultural, or religious significance that might be part of a larger cultural landscape.*
- *This site contains 3 cemeteries.*

clubhouse, tennis courts, golf course, and riding stables. Although no buildings or structures from the resort remain on the property, other remnants, such as roads, and parking lots still exist and are used in association with hardened bivouac sites during training operations.

In 1997 archaeologists from the Kentucky Heritage Council (SHPO) visited the EKTS-HV and determined that this development had disturbed the property to the extent that any subsurface deposits would have been destroyed. In a letter dated September 10, 1997, the SHPO stated "There are no properties listed in or eligible for listing in the National Register of Historic Places within the training site and we see no reason for the National Guard to develop a cultural resources management plan for this property."

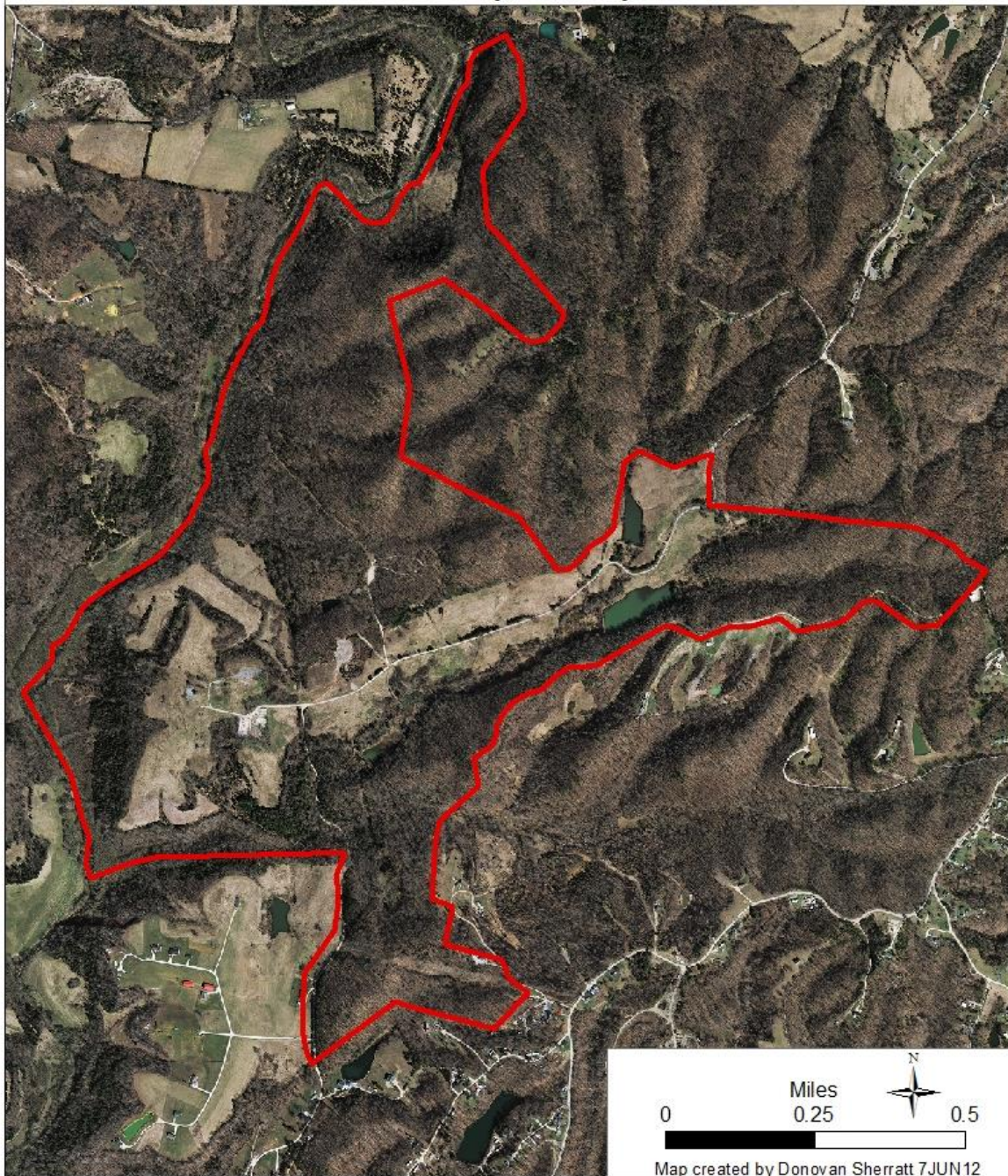
Cultural Resources Summary

- *A predictive archaeological model for the EKTS-HV, has been completed (Wilzbach, 1998). The property is considered to retain no potential for archaeological resources.*
- *There are 523 acres at this site, of which 523 acres have been surveyed for archaeological resources.*
- *Zero (0) archaeological sites have been located, of which Zero (0) is either eligible or need further evaluation to make a determination of eligibility for listing in the NRHP.*
- *Of the Zero (0) buildings and structures at this site, Zero (0) are currently 50 years old or older.*
- *Zero (0) buildings and structures have been evaluated. Zero (0) have been determined to be eligible. Zero (0) need further evaluation to make determinations of eligibility for listing in the NRHP.*
- *Zero (0) buildings and structures will turn 50 years old over the life of this ICRMP.*
- *This site has been surveyed to determine whether it includes a historic district/historic landscape. This site does not include a historic district/historic landscape.*
- *This site does not lie within a local historic district.*
- *Tribes have not been consulted regarding the existence of sacred sites and/or traditional cultural properties. There are no known resources of traditional, cultural, or religious significance that might be part of a larger cultural landscape.*
- *This site contains Zero (0) cemeteries.*

Eastern Kentucky Training Site

Hidden Valley

Powell County, Kentucky



D.4 Readiness Centers (Armories)

An RC supports individual and collective training, administration, automation and communications, and logistical requirements for the KYARNG. The RC is the single gathering point for KYARNG personnel and is a mobilization platform during federal and state activation of KYARNG troops. The building serves as a headquarters for Table of Organization and Equipment (TOE) and Table of Distribution and Allowance (TDA) organizations and provides support to the community. Functional areas included in this single category are assembly space, classrooms, distributive learning centers, locker rooms, physical fitness areas, kitchen, weapons and protective masks storage, other storage, enclosed areas to support training with simulation, operator level maintenance on assigned equipment, and use of Nuclear, Biological, and Chemical (NBC) equipment.

An architectural inventory and evaluation of KYARNG Armories was undertaken in 1999 as a joint project of the Kentucky Department of Military Affairs, the Kentucky Heritage Council (SHPO) and the University of Kentucky, Department of Anthropology via the Kentucky Archaeological Survey (Carothers 1999). The project surveyed and assessed 83 buildings, including all of the armories then owned by the Kentucky Department of Military Affairs and those formerly owned or used by the KYARNG. The inventory took into account the age and integrity of all the buildings in compliance with Section 110 of the National Historic Preservation Act.

Carothers (1999) determined that ten buildings were potentially eligible for listing in the NRHP because they meet the 50-year age limit and meet the necessary integrity and historical requirement of the NRHP. An additional eleven would be potentially eligible within the next ten years (Carothers 1999). For purposes of the development of the original ICRMP, 25 additional buildings were re-evaluated in 2000 (Brent & Allen, 2000). On-going maintenance of the structures and compliance with sections 106 and 110 of the National Historic Preservation Act since Carothers' survey were considered. All of the buildings identified by Carothers were determined to still be eligible and two additional buildings were determined to also be eligible. In addition, four structures were potentially eligible for listing within six to ten years. In 2005 the KYARNG hired its first Cultural Resources Manager who undertook a series of additional architectural surveys, including a statewide Cold War evaluation, to bring section 110 compliance up to date. Currently, Section 110 evaluations take place each January and the PRIDE database is updated to insure historic resources are identified in a timely manner.

There are currently 48 RCs located throughout the KYARNG virtual installation. The RCs, in general, consist of an armory building, parking lot(s), sidewalks, driveways, and small maintained lawns. Other buildings present within an RC can include Motor Vehicle Storage Buildings (MVSBs), Field Maintenance Shops (FMS), and various storage structures. Most RCs are located on lots less than five acres.

Below (Table D-2) is a list of KYARNG Readiness Centers/Armories, organized by period of construction and National Register status using PRIDE Historic Status Codes.

Table D-2: KYARNG Readiness Centers (RCs)

Facility Name	Date of Construction	National Register Status
Ashland Armory	1948	Individual NR Listed (NRLI)
Barbourville Armory	1962	Individual NR Eligible (NREI)

Bardstown Armory	1962	Determined Not Eligible for Listing (DNE)
Benton Armory	1996	Not Yet Evaluated (NEV)
Bluegrass Depot Readiness Center	2007	Not Yet Evaluated (NEV)
Bowling Green Armory	1965	Not Yet Evaluated (NEV)
Brandenburg Armory	1989	Not Yet Evaluated (NEV)
Buechel Armory	1957	Individual NR Eligible (NREI)
Burlington Armory	2012	Not Yet Evaluated (NEV)
Campbellsville Armory	1963	Not Yet Evaluated (NEV)
Carlisle Armory	1978	Not Yet Evaluated (NEV)
Carrolton Armory	1959	Individual NR Eligible (NREI)
Central City Armory	1975	Not Yet Evaluated (NEV)
Cynthiana Armory	1975	Not Yet Evaluated (NEV)
Danville Armory	1955	Individual NR Eligible (NREI)
Elizabethtown Armory	1948	Individual NR Listed (NRLI)
Frankfort Armory #1	1974	Not Yet Evaluated (NEV)
Frankfort Armory #4	Unknown	Not Yet Evaluated (NEV)
Glasgow Armory	1964	Not Yet Evaluated (NEV)
Harlan Armory	1980	Not Yet Evaluated (NEV)
Harrodsburg Armory	1978	Not Yet Evaluated (NEV)
Hazard Armory	1987	Not Yet Evaluated (NEV)
Henderson Armory	1951	Individual NR Listed (NRLI)
Hopkinsville Reserve Center	1963	Not Yet Evaluated (NEV)
Independence Readiness Center	2007	Not Yet Evaluated (NEV)
Jackson Armory	1987	Not Yet Evaluated (NEV)

Leitchfield Armory	1993	Not Yet Evaluated (NEV)
Lexington Armory	1971	Not Yet Evaluated (NEV)
London Armory	1980	Not Yet Evaluated (NEV)
London FMS #2 (former armory)	1954	Individual NR Listed (NRLI)
Louisville Armory	1962	Individual NR Eligible (NREI)
Madisonville Armory	1949	Individual NR Listed (NRLI)
Marion Armory	1964	Not Yet Evaluated (NEV)
Maysville Armory	1986	Not Yet Evaluated (NEV)
Middlesboro Armory	1959	Individual NR Eligible (NREI)
Monticello Armory	1964	Not Yet Evaluated (NEV)
Morehead Readiness Center	2004	Not Yet Evaluated (NEV)
Murray Armory	1987	Not Yet Evaluated (NEV)
Olive Hill Armory	1960	Individual NR Eligible (NREI)
Owensboro Readiness Center	2008	Not Yet Evaluated (NEV)
Paducah Armed Forces Reserve Center	2004	Not Yet Evaluated (NEV)
Prestonsburg Armory	1980	Not Yet Evaluated (NEV)
Ravenna Armory	1975	Not Yet Evaluated (NEV)
Richmond Armory	1975	Not Yet Evaluated (NEV)
Russellville Armory	1976	Not Yet Evaluated (NEV)
Shelbyville Armory	1996	Not Yet Evaluated (NEV)
Somerset Armory	1946	Individual NR Listed (NRLI)
Springfield Armory	1980	Not Yet Evaluated (NEV)
Tompkinsville Armory	1959	Individual NR Eligible (NREI)
Walton Armory	1978	Not Yet Evaluated (NEV)
Williamsburg Armory	1980	Not Yet Evaluated (NEV)

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APPENDIX E

AGREEMENT DOCUMENTS



**KENTUCKY COMMERCE CABINET
KENTUCKY HISTORICAL SOCIETY**

Ernie Fletcher
Governor

100 West Broadway
Frankfort, Kentucky 40601-1931
Phone (502) 564-1792
Fax (502) 564-4701
www.history.ky.gov

George Ward
Secretary

Kent Whitworth
Executive Director

AGREEMENT PERTAINING TO THE KENTUCKY MILITARY HISTORY MUSEUM

In keeping with the instruction of the Constitution of the Commonwealth of Kentucky that the General Assembly "shall provide for the safe-keeping of the public arms, military records, relics, and banners of the Commonwealth of Kentucky," the Kentucky Department of Military Affairs and the Kentucky Historical Society mutually agree to operate a Kentucky Military History Museum in the Old State Arsenal Building on East Main Street, Frankfort, Kentucky, as provided in K.R.S. 171.345.

The primary mission of this museum will be the preservation and interpretation of the military history of Kentucky, with emphasis upon the history of the Kentucky Militia and National Guard. The Old State Arsenal shall be the permanent home for this museum.

Functions required for the operation of the museum shall be divided between the two parent agencies.

The Kentucky Historical Society will perform the following museum functions within its capabilities:

1. Establish general museum theme and layout.
2. Perform historical research in support of the museum.
3. Design and install exhibits (with occasional assistance from Military Department personnel, if available).
4. Exercise responsibility for exhibit content and validity.
5. Establish an acquisitions policy and supervise acquisition activity.
6. Supervise artifact storage and maintenance.
7. Operate a museum gift shop.
8. Train and administer personnel on museum staff.
9. Provide routine services to museum visitors.
10. Provide and maintain museum security equipment.
11. Supervise public relations activities.
12. Prepare and issue appropriate publications.
13. Equip and operate the museum workshop.
14. Plan and fabricate traveling and temporary exhibits.
15. Hold responsibility for inventories of artifacts.
16. Supervise museum security procedures.
17. Perform routine administration.
18. Provide services to appropriate National Guard activities.

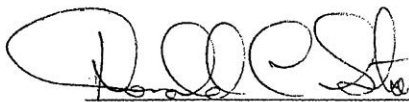

The Kentucky Department of Military Affairs will perform the following functions within its capabilities:

1. Provide the Arsenal Building for museum use.
2. Maintain the building structures and facilities (Mechanical, electrical, plumbing, etc.), and provide janitorial supplies.
3. Maintain building grounds/trash removal.
4. Maintain flagpole and provide flags.
5. Transfer appropriate historic properties to the museum.
6. Provide outdoor exhibit space, as needed or as available.
7. Provide daily or routine janitorial services.
8. Provide professional personnel for assistance to the museum for specified, limited projects.
9. Assist in public relations.
10. Assist in artifact procurement.
11. Provide utilities service.
12. Administer major construction.
13. Maintain federal properties.

In general, the Historical Society shall be responsible for all actual museum functions, while the Military Department shall be responsible for preservation and maintenance of the Old State Arsenal Building itself.

No provisions of this agreement shall be taken to infringe upon the duties and responsibilities of the military Department's War Records facility.

This agreement supersedes all previous such contracts.

  10-27-06
Adjutant General Date KHS Director Date
DONALD C. STORM
MAJOR GENERAL, KYNG
THE ADJUTANT GENERAL



KENTUCKY COMMERCE CABINET
KENTUCKY HISTORICAL SOCIETY

Ernie Fletcher
Governor

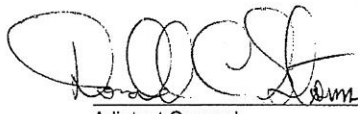
100 West Broadway
Frankfort, Kentucky 40601-1931
Phone (502) 564-1792
Fax (502) 564-4701
www.history.ky.gov

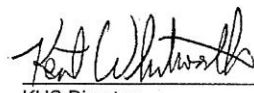
George Ward
Secretary

Kent Whitworth
Executive Director

MEMORANDUM OF UNDERSTANDING (MOU) BETWEEN THE DEPARTMENT OF MILITARY AFFAIRS ("THE DEPARTMENT") AND THE KENTUCKY HISTORICAL SOCIETY ("THE SOCIETY")

1. This MOU defines the relationship between the signatory agencies as it applies to operations of the "Old Wars" section of the Military Records and Research Branch (MRRB) and the Society's Kentucky Military History Museum, both of which are located in the Department's Old State Arsenal Building.
2. The documents comprising the Old Wars collection will remain the property of the Department, and their custodian will continue to be an archivist on the staff of MRRB with a working title of "Historian."
3. The document storage room, custodian's office and research area currently being used by the Old Wars section will remain primarily dedicated to their use.
4. Hours of operation for the Old Wars section will be the same as the Military History Museum, except that it will be closed on Mondays, Saturdays and Sundays. Any future changes in either the Old Wars historian's or the Museum's schedule will be coordinated and agreed upon by the Manager of MRRB and the Curator of the Museum.
5. A telephone line and photocopier will be provided by the Department to support the functions of the Old Wars section. Office supplies for the Old Wars section will be requested by the Old Wars historian through MRRB.
6. Standards for access to the Old Wars holdings will remain at the discretion of the Old Wars historian, generally limited to bona fide scholars and under the historian's supervision, using approved archival methods (i.e. wearing cotton gloves when handling documents, etc.).
7. Customer service activities of the Old Wars section will remain consistent with the rest of MRRB; free of charge, excepting in those cases when a charge is assessed for photocopies in excess of twenty (20) copies.
8. The Old Wars historian will remain under the supervision of the MRRB Branch Manager.
9. The Curator of the Military History Museum and the Manager of MRRB will be responsible for resolving matters affecting the status of the Old Wars section being housed at the Old Arsenal that arise after this MOU is signed.
10. This MOU may be modified or amended at any time upon agreement of both agencies, and may be canceled at any time for cause.


Adjutant General Date
DONALD C. STORM
MAJOR GENERAL, KYNG
THE ADJUTANT GENERAL


KHS Director Date
10-27-06



DEPARTMENT OF MILITARY AFFAIRS

STEVE BESHEAR
GOVERNOR

OFFICE OF THE ADJUTANT GENERAL
100 MINUTEMAN PARKWAY
BNGC - EOC BUILDING
FRANKFORT, KENTUCKY 40601-6168

EDWARD W. TONINI
MAJOR GENERAL, KYNG
THE ADJUTANT GENERAL

7 January 2011

Mark Dennen,
Director Kentucky Heritage Council &
State Historic Preservation Officer
300 Washington St.
Frankfort, KY 40601

Dear Mark:

Attached is a copy of the Nationwide Programmatic Agreement (PA) for Army National Guard Readiness Centers (Armories) Maintenance and Repair that the Kentucky Army National Guard (KYARNG) is proposing to implement. I have made copies of this PA available to your staff and Craig Potts and I have discussed it in detail.

I have also discussed this PA with Ms. Faith Fiene, the KYARNG Environmental Program Manager and LTC Steven King, the KYARNG Chief Maintenance Officer and all are in full agreement that the PA should be implemented by the Commonwealth of Kentucky.

With your concurrence, I would like to propose that this PA be implemented between the KYARNG and the Kentucky SHPO and that it take effect on 1 February 2011.

Should you require any additional support materials, please feel free to call upon me at 502-607-6054.

Sincerely,

Thomas W. Fugate,
NEPA/ECOP/CRM
KYARNG

KENTUCKYUNBRIDLEDSPRIT.COM



AN EQUAL OPPORTUNITY EMPLOYER M/F/D



DEPARTMENT OF MILITARY AFFAIRS

STEVE BESHEAR
GOVERNOR

OFFICE OF THE ADJUTANT GENERAL
100 MINUTEMAN PARKWAY
BNGC - EOC BUILDING
FRANKFORT, KENTUCKY 40601-6168

EDWARD W. TONINI
MAJOR GENERAL, KYNG
THE ADJUTANT GENERAL

7 January 2011

Kristin Leahy,
Army National Guard Directorate
Environmental Programs Division
Cultural Resource Program Manager
111 South George Mason Dr.
Arlington, VA 22204

Dear Kristin:

On the date listed above, I met with Faith Fiene, the KYARNG Environmental Program Manager, LTC Steven King, the KYARNG CFMO and Mr. Craig Potts the Section 106 Program Manager for the Kentucky Heritage Council, the State Historic Preservation Office and all parties fully supports the implementation of the Nationwide Programmatic Agreement (PA) for Army National Guard Readiness Centers – Maintenance and Repair by the KYARNG.

Therefore, please accept this letter as official notification of the implementation of the PA by the Commonwealth of Kentucky to take effect 1 February 2011.

Should you require any additional support materials, please feel free to call upon me at 502-607-6054.

Sincerely,

Thomas W. Fugate,
NEPA/ECOP/CRM
KYARNG

KENTUCKYUNBRIDLEDSPRIT.COM



AN EQUAL OPPORTUNITY EMPLOYER M/F/D

NATIONWIDE PROGRAMMATIC AGREEMENT

for

ARMY NATIONAL GUARD READINESS CENTERS MAINTENANCE AND REPAIR

among

The NATIONAL GUARD BUREAU

The NATIONAL CONFERENCE OF STATE HISTORIC PRESERVATION OFFICERS

and

The ADVISORY COUNCIL ON HISTORIC PRESERVATION

WHEREAS, the National Guard Bureau (NGB) must comply with Section 106 of the National Historic Preservation Act (NHPA) (16 U.S.C. 470f) and its implementing regulations, 36 CFR Part 800, for all Federally owned or Federally supported Army National Guard (ARNG) Readiness Centers (Readiness Centers), also known as "armories," in all fifty States, Puerto Rico, the U.S. Virgin Islands, Guam, and the District of Columbia, ("States"); and

WHEREAS, for this Programmatic Agreement (PA), "Readiness Centers" includes all structures attached to the main Readiness Center building and separate structures located within the "Area of Potential Effect" for the relevant undertakings, and some of these ARNG Readiness Centers are historic properties (as defined at 36 CFR §800.16(l)(1)) and others may be historic properties but the eligibility determination has not occurred; and,

WHEREAS, this PA, addresses solely routine maintenance and repair of Readiness Centers that are "undertakings" (as defined in 36 CFR § 800.16(y)) which could affect historic properties, subject to Section 106 review; and,

WHEREAS, for the purposes of this Programmatic Agreement, routine maintenance is defined as regular and general upkeep of a readiness center against normal wear and tear; and,



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Nationwide Programmatic Agreement for Army National Guard Readiness Centers

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WHEREAS, pursuant to AR 200-1, 13 December 2007, *Environmental Protection and Enhancement*, Subsection 1-15, (or any succeeding document), the NGB is defined as an "installation management organization" for the state ARNGs and, per Terms, Section II, each Adjutant General (TAG) is defined as the "Installation Commander" for each of the States, Territories, and DC; and,

WHEREAS, the NGB has jurisdiction over federally owned and state owned and operated facilities, including Readiness Centers, due to their receiving federal funding; and,

WHEREAS, this PA, prepared pursuant to 36 CFR §800.14(b)(2), addresses the effects of any ARNG routine maintenance and repair undertakings at Readiness Centers, and which may include the following determinations: No Historic Properties Affected (36 CFR 800.4(d)(1)), No Adverse Effect (36 CFR 800.5 (b), (c)), and Adverse Effect (36 CFR 800.5 (a)(1) (2)), and establishes a program alternative by which NGB will ensure compliance with Section 106; and,

WHEREAS, the NGB, in consultation with the U.S. Army Federal Preservation Officer (FPO), Army Environmental Command (AEC), and the ACHP determined that consultation with Native American tribes during the development of this PA was not necessary because this PA deals specifically with renovations to above ground resources and any undertakings that require ground disturbance outside of the scope of this PA require additional tribal consultation in accordance with 36 CFR 800.2(c)(ii); and,

WHEREAS, the NGB afforded the public an opportunity to comment on this PA by contacting a state-wide non-profit historic preservation organization where applicable and academic experts to obtain comments and provided access to the draft Programmatic Agreement on a project website where interested parties could provide comment; and (Appendix D),

WHEREAS, the NGB has completed *The Historic Context for Army National Guard Readiness Centers* in June 2008 to assist the NGB with applying National Register of Historic Places (NRHP) eligibility criteria contained in 36 CFR § 60.4, to its Readiness Centers and to serve as an overview of



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Nationwide Programmatic Agreement for Army National Guard Readiness Centers

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the different types of architecture, architects, social history, people and events that occurred throughout the United States related to Readiness Centers (Appendix A); and,

WHEREAS, the NGB has consulted with the ACHP, the National Conference of State Historic Preservation Officers (NCSHPO), the National Trust for Historic Preservation (National Trust), the United States Department of Interior's National Park Service (NPS), cultural resources experts in academia, and has requested the ACHP, NGB, and NCSHPO to sign this PA in accordance with 36 CFR § 800.14(b)(2)(iii) and Appendix D.

NOW THEREFORE, the NGB, the ACHP and NCSHPO agree that this PA will address NGB's Section 106 compliance responsibilities for maintenance and repair at historic ARNG Readiness Centers.

STIPULATIONS

The NGB shall implement the following measures:

I. Terms of the Programmatic Agreement

A. Every state ARNG organization will be required to organize a consultation meeting with the appropriate SHPO within 90 days of the signing of this agreement. During that meeting, a state ARNG representative (the Cultural Resources Manager (CRM) or the Environmental Program Manager (EPM)) and the SHPO will determine whether to implement the alternative process outlined in this PA to meet their Section 106 responsibilities. Within 120 days of the signing of this agreement, the state ARNG EPM will formally notify the NGB in writing of the decision made during this consultation. Within 150 days following the signing of this agreement, the NGB will notify, via formal correspondence, the NCSHPO and the ACHP which state ARNGs and SHPOs will fulfill their Section 106 responsibilities in accordance with the alternative process outlined in this PA. If, during the aforementioned consultation meeting, it is determined that a state ARNG will not use the alternative



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Nationwide Programmatic Agreement for Army National Guard Readiness Centers

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process outlined herein, the state ARNG and SHPO will continue to meet the Section 106 consultation requirements in accordance with Subpart B of 36 CFR Part 800.

- i. State ARNGs and SHPOs that initially chose not to use the alternative procedures described herein may, in the future, reconsider this approach and implement the PA in their respective states. After reconsideration, and the state ARNG and SHPO make a preliminary determination to use the PA, they should follow the steps set forth in I. A. above to complete the process and notify the NGB as appropriate.

B. A Cultural Resources Manager (CRM) in the state, who will act as a liaison on behalf of the installation's TAG, will perform daily installation cultural resources management responsibilities and will coordinate with all internal and external stakeholders.

C. The installation's commander will ensure that the CRM has appropriate knowledge, skills, and professional training and education to carry out installation cultural resources management responsibilities. The installation commander will also ensure that all cultural resources technical work (including but not limited to identification, evaluation, and treatment of historic properties, and preparation and implementation of an Integrated Cultural Resources Management Plan (ICRMP)), is conducted by individuals who meet the applicable professional qualifications standards established by the National Park Service in 36 CFR 61, Appendix B.

D. The terms of the PA apply to NGB undertakings concerning the maintenance and repair Readiness Centers. The list of current ARNG Readiness Center properties is set forth in Appendix B attached hereto.

E. This PA does not address ARNG undertakings that could cause ground disturbance or that may affect archaeological sites, except those areas previously designated as easements (e.g., natural gas, telephone, and water lines) or areas where disturbance has already occurred (e.g., sidewalks, driveways, paths) for the first six inches depth of ground disturbance. For excavation work deeper



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Nationwide Programmatic Agreement for Army National Guard Readiness Centers

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than six inches on Readiness Center properties, the standard 36 CFR Part 800 consultation process must be followed.

F. This PA does not apply on "tribal lands" as defined under 36 CFR § 800.16(x).

G. This PA does not apply to replacement or repair of wall insulation. Any action to this insulation will require compliance with the standard 36 CFR 800 consultation process.

II. Exemptions

The CRM will determine whether a proposed activity meets the definition of one of the exempted activities listed below. If the CRM determines the proposed activity meets one or more of the definitions listed below, the proposed activity is then exempt from further Section 106 review. For each instance in which the installation CRM employs any of these exemptions, the CRM shall prepare written documentation to be retained in the CRM's records and used in the annual report. The CRM will specifically identify which of the exempt category(ies) was utilized.

Exterior and interior work is exempted from Section 106 review when it:

- i. Affects those materials listed under Exemption II.A and II.B below;
- ii. Is routine maintenance, defined as regular and general upkeep of a readiness center against normal wear and tear;
- iii. Involves repair or replacement with in-kind materials when the material being repaired or replaced has been identified as contributing to the historic significance of the building; and,
- iv. Non-historic/non-character defining exemptions will apply to both exterior and interior maintenance and repair of non-historic or non-character defining materials only when historic or character defining features or materials are not destroyed, obscured, concealed, or altered or otherwise compromised. These exemptions only apply to Readiness Centers when a



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Nationwide Programmatic Agreement for Army National Guard Readiness Centers

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formal study by qualified professionals have evaluated and identified those elements that are historic or character defining and those that are non-historic or non-character defining materials and that the appropriate SHPO has concurred with those findings.

- v. Meets the Secretary of the Interior's *Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, and Reconstructing Historic Buildings* (Weeks, Kay. D and Grimmer, Anne E, 1995, http://www.nps.gov/history/hps/tps/standards/standards_complete.pdf) when repair or replacement will occur to those materials identified as contributing to the historic significance of the building.

A. Exterior Exemptions Apply to:

1. Painting on previously painted surfaces using similar color
2. Paint removal by means that will not damage or adversely affect the historic fabric of the building
3. Repair of existing walkways
4. Repair of existing parking areas within the existing footprint and not involving lighting and landscaping changes
5. Repair of existing above ground fuel storage facilities
6. Placement of temporary, or not permanently fixed, barriers for compliance with DoD Minimum Antiterrorism Standards for Buildings (UFC 4-010-01 8 October 2003)
7. Building exterior repairs that matches existing details, form, and materials and meet the requirements as specified above in II i-iv
8. Building exterior replacement that matches existing details, form, and materials, meets the requirements as specified above in II 1-iv, and only when deterioration of the material is beyond repair

B. Interior Exemptions Apply to:



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Nationwide Programmatic Agreement for Army National Guard Readiness Centers

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1. Insulation (ceilings, attics, basement spaces, plumbing pipes, hot water heaters, and ductwork)
2. Electrical systems
3. Telecommunications equipment
4. Security systems
5. Fire suppression systems
6. Non-destructive asbestos removal and abatement
7. Non-destructive lead paint abatement

III. Section 106 Review Process for Readiness Center Undertakings

CRMs shall carry out the following process for each undertaking under the scope of this PA:

A. Identification and Evaluation of Readiness Centers

1. CRMs shall consult Appendix B and the PRIDE (Planning Resource Infrastructure Development and Evaluation (PRIDE) is the ARNG's real property database) to determine the historic property status for the relevant ARNG Readiness Center. If an installation has not been evaluated an ARNG Readiness Center for NRHP eligibility, the Readiness Center's eligibility will be determined per 36 CFR 800.4.
2.
 - a. If the relevant Readiness Center is a "historic property," or eligible for or listed on the NRHP, then the installation will proceed to Stipulation III B.
 - b. If the relevant Readiness Center is not a historic property, then no further Section 106 review is necessary. The CRM shall document this determination and proceed accordingly.



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Nationwide Programmatic Agreement for Army National Guard Readiness Centers

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B. Consultation with Indian Tribes and Native Hawaiian Organizations

1. The CRM will consult with Indian tribes or Native Hawaiian organizations for a proposed Readiness Center project if the CRM, through their regular, yearly consultation efforts, identifies a Federally-recognized Indian tribe or Native Hawaiian organization that may attach religious and cultural significance to a historic property affected by the proposed undertaking or is otherwise interested in a particular Readiness Center. Consultation with Indian tribes or Native Hawaiian organizations regarding the undertaking will take place through formal government to government consultation unless another agreement is in place such as a formal Memorandum of Understanding (MOU) that specifically outlines other consultation protocol. All tribal consultation will begin at the same time that consultation with the SHPO occurs.

C. Determination of Effect on Historic Readiness Centers

If a proposed undertaking does not meet the definition of an exempted activity as defined in Section II, then the CRM will follow the process as stipulated within 1 and 2 below.

1. No Adverse Effect—36 CFR §800.5 (b) and (c)
 - a. If the CRM determines that a proposed undertaking will not adversely affect a Readiness Center that is an historic property because the Secretary of Interior Standards (36 CFR 68) will be followed, the CRM will:
 - (i) Notify the SHPO in writing for each undertaking and include the documentation specified in 36 CFR §800.11(e) and request concurrence with the CRM's finding of no adverse effect.
 - (aa) If SHPO concurs in writing within thirty days of the receipt of the CRM's finding and appropriate documentation, the proposed Readiness Center undertaking will proceed.



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(bb) If SHPO does not reply to the CRM within thirty days of receipt of the CRM's request and appropriate documentation in writing, the CRM's no adverse effect finding will become final and the proposed Readiness Center undertaking will proceed without further Section 106 review.

(cc) If the SHPO replies to the CRM's finding within thirty days of receipt of the CRM's finding request and appropriate documentation in writing, but does not concur with the CRM's finding of no adverse effect, the CRM and the SHPO will attempt to resolve the disagreement. When the CRM determines that an agreement on the finding cannot be reached, the CRM shall refer the matter to the NGB and:

(dd) The NGB shall determine whether to revise the CRM's effect finding.

a. If the NGB revises the CRM's finding to meet SHPO's position, the CRM will move on to Stipulation III.C.2.

b. If the NGB decides not to revise the CRM's effect finding, the parties will exercise the Dispute Resolution procedures set forth in Administrative Stipulation V.

2. Adverse Effect— (36 CFR §800.5 (a)(1) and (2).) The following procedure shall serve as a substitute for the process set forth in 36 CFR §800.6, *Resolution of Adverse Effects*, and specifically 36 CFR §800.6 (c), *Memorandum of Agreement*:

a. If the CRM, after considering alternative actions, determines that a proposed project may adversely affect a Readiness Center that is an historic property, the CRM will:

(i) Notify the SHPO in writing of the undertaking, including the information as specified in 36 CFR §800.11(e), the alternatives that were considered to avoid the Adverse Effect and why they were not possible to implement, proposed appropriate mitigation, and to request



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the SHPO's concurrence on the finding. Proposed mitigation may involve HABS/HAER Level III documentation as described in Appendix C of this PA, though HABS/HAER Level I and II and/or other mitigation measures may be more acceptable and should be considered on a case by case basis based on the specific undertaking.

(aa) If the SHPO concurs in writing within thirty days of the receipt of the CRM's finding of adverse effect and recommended mitigation, the proposed project will proceed in accordance with the CRM's suggested mitigation measures.

(bb) If the SHPO does not respond in writing to the CRM within thirty days of receipt of the CRM's finding of adverse effect and recommended mitigation, the proposed Readiness Center project will proceed in accordance with the CRM's suggested mitigation measures.

(cc) If the SHPO responds in writing to the CRM within the thirty day time period, but does not agree with the CRM's recommended mitigation measures, the CRM, the NGB, and the SHPO will consult further to attempt to reach an agreement.

(dd) If agreement regarding mitigation measures or any other matter related to the adverse effect determination cannot be reached, the parties will exercise the Dispute Resolution procedures set forth in Administrative Stipulation V.

(ii) Notify the interested public of the undertaking and the adverse effect determination either on the State ARNG's or State SHPO's website(s) or in other means by which the state ARNG feels is an appropriate means of notifying interested parties of the undertaking. The State ARNG will take into account ARNG any comments received by the interested public.

(aa) Notification of the public should occur at the same time that the CRM notifies the SHPO of the CRM's finding of adverse effect and recommended mitigation.



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Administrative Stipulations

I. Personnel

The State ARNG's Facilities Management Officer (FMO) or Construction and Facilities Management Officer (CFMO) will include the CRM in their state's planning for proposed projects and activities related to the maintenance and repair of Readiness Centers that are historic properties early in the planning process. After participating in the state-level planning process, the CRM will coordinate with the state SHPO for all non-exempt undertakings.

II. Anti-Deficiency Act Compliance

All requirements set forth in this PA requiring expenditure of U.S. Army funds are expressly subject to the availability of appropriations and the requirements of the Anti-Deficiency Act (31 U.S.C. Section 1341). No obligation undertaken under the terms of the PA shall require or be interpreted to require a commitment to expend funds not appropriated for a particular purpose. Should the requirements of the Anti-Deficiency Act apply, the NGB will consult with the ACHP and NCSHPO, according to the amendment and termination procedures found in Administrative Stipulations VII and VIII.

III. Readiness Center Reporting, Annual Review and Preparation of Annual Report by NGB

1. For those states in which the state ARNG CRMs reviewed an undertaking pursuant to this PA, the NGB will provide a nationwide annual report to the ACHP and the NCSHPO. The NCSHPO will send a copy of the annual report to all SHPOs upon receipt. NGB will provide any other interested parties copies of the annual report upon written request.
 - a. The annual reports will consist of the previous fiscal year's (October 1 – September 30) activities and will be available on or before January 31 of each year.



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b. Annual reports will include a list of projects and program activities on Readiness Centers that are historic properties in which this Programmatic Agreement was utilized including those projects that have no adverse effect, those with an adverse effect, and those in which an exemption as listed in Stipulation II was utilized.

c. The NGB reports will summarize consultation, alternatives, mitigation, and treatment measures that were implemented to address the adverse effects and include the number of exemptions per category.

(i). The nationwide summary will include the views of SHPOs and other consulting parties who were involved with the project or activity.

(ii). Determinations of Eligibility on Readiness Centers completed in the previous year will also be summarized in the NGB nationwide annual report.

(iii). NGB will prepare nationwide annual reports for the life of this PA. This annual report will include revisions, if any, to Appendix B. Revisions/amendments to Appendix B will not require amendment to this PA.

IV. Unanticipated Discovery Resulting from Readiness Center Projects Addressed in this PA

A. If, during the Section 106 process at a Readiness Center, a proposed project leads to discovery of other historic properties or has unanticipated effects on historic properties, the CRM shall be contacted immediately by the Superintendent of the Readiness Center. All work within a fifty (50) foot buffer around the discovery shall be suspended by the Superintendent of the Readiness Center. The CRM will immediately notify the NGB of the unanticipated discovery. The work will not resume without the written authorization of the NGB.

B. The CRM shall then proceed in accordance with 36 CFR 800.13(b).



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C. The NGB shall only authorize resumption of the Readiness Center project following satisfactory completion of any necessary field investigations.

V. Dispute Resolution

A. Should any individual SHPO, NCSHPO, and/or other signatories to this agreement object in writing to any actions carried out or proposed pursuant to this PA, the NGB will consult with the objecting party and signatories to resolve the objection. If the NGB determines that the objection cannot be resolved, the NGB shall forward all documentation relevant to the dispute to the ACHP, including the NGB's proposed response to the objection. Within 30 days after receipt of all pertinent documentation, the ACHP, after consulting with the objecting party, will either:

1. Advise the NGB in writing that the ACHP concurs with the NGB's proposed response to the objection, whereupon the NGB will respond to the objection accordingly; or
2. Provide the NGB with recommendations in writing, which the NGB will take into account in reaching a final decision regarding the disputes.
3. Should the ACHP not exercise one of the above options within 30 days after receipt of all pertinent documentation, the NGB may assume the ACHP's concurrence in its proposed response to the objection and proceed accordingly.

B. Any written recommendations or comment provided by the ACHP pursuant to this stipulation will pertain only to the subject of the dispute; the NGB's responsibility to carry out all other actions under this agreement that are not subjects of the dispute will remain unchanged.

VI. Monitoring of Programmatic Agreement

Individual SHPOs, the NCSHPO and the ACHP may review any activities carried out pursuant to this PA upon official request. The NGB will facilitate any requests from individual SHPOs, the NCSHPO and the ACHP to monitor or to review project files or on-site activities for Readiness Center projects pursuant to this PA.



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The NCSHPO, at their discretion, may solicit comments annually from individual SHPOs on how they believe the agreement document is working.

VII. Termination of the Programmatic Agreement

A. If the NGB determines that it is unable to comply with the terms of this PA, or if NCSHPO, the NGB, or the ACHP determine that the PA is not being properly implemented, the NGB, the NCSHPO, or the ACHP may propose to the other parties to this PA that it be terminated.

B. The party proposing termination will so notify all parties to this PA in writing, explaining the reasons for proposing termination and affording them at least thirty (30) days to consult and seek alternatives to termination. If, at the end of said period, the party proposing termination has not retracted its proposal to terminate, the PA shall be deemed terminated. At that time, the NGB will notify the state ARNG, SHPO, NCSHPO, and the ACHP, in writing, regarding the termination.

C. If the PA is terminated, the NGB will:

1. Consult according to 36 CFR § 800.14(b) to develop a new PA or,
2. Comply with 36 CFR Part 800 with regard to each undertaking at a Readiness Center.

D. If a specific SHPO determines that the PA is not being properly implemented in its State, that SHPO shall follow the steps in Administrative Stipulation VII. A. and B. above. If such a process leads to a termination, the PA shall no longer apply to the relevant State. However, the other States will continue to follow the PA. The NGB will notify the state ARNG, SHPO, NCSHPO, and the ACHP, in writing, regarding the state-wide termination as part of the annual review and reporting requirement, as described in Administrative Stipulation III.

VIII. Amendment of the Programmatic Agreement



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Any signatory to this PA may propose in writing to the NGB that the PA be amended, whereupon the NGB will consult with the signatories to this PA to consider such amendment. The Amendment will go into effect upon written agreement by all signatories.

IX. Expiration and Renewal of the Programmatic Agreement

This PA will take effect on the date it is signed by the last signatory and will remain in effect for 10 years. No extension or modification will be effective unless all signatories have agreed in writing within the 10 year time period. All signatories will meet six months prior to sunset of the Programmatic Agreement to ascertain if renewal and/or revision is desirable.

X. Execution and Implementation

Execution and implementation of this PA evidences that the NGB has afforded the ACHP a reasonable opportunity to comment on the maintenance and repair of Readiness Centers that are historic properties, and that the NGB has taken into account the effects of the undertaking(s) on these historic properties. Execution and compliance with this PA fulfills the NGB's Section 106 responsibilities regarding the maintenance and repair of the Readiness Centers addressed in this PA.



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NATIONWIDE PROGRAMMATIC AGREEMENT

For

ARMY NATIONAL GUARD READINESS CENTERS MAINTENANCE AND REPAIR

Among

The NATIONAL GUARD BUREAU

The NATIONAL CONFERENCE OF STATE HISTORIC PRESERVATION OFFICERS

The ARMY FEDERAL PRESERVATION OFFICER

And

The ADVISORY COUNCIL ON HISTORIC PRESERVATION

By: *R. W. Carpenter* Date: 22 OCT 2010

Raymond W. Carpenter

Major General, US Army

Acting Director, Army National Guard

By: *Ruth A. Pierpont* Date: 11/19/10

Ms. Ruth Pierpont

President

National Conference of State Historic Preservation Officers

By: *John M. Fowler* Date: 12/10/10

Mr. John M. Fowler

Executive Director

Advisory Council on Historic Preservation



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W. S. Webb Museum of Anthropology
Office of State Archaeology
College of Arts and Sciences
211 Lafferty Hall
Lexington, KY 40506-0024
(859) 257-8208
Fax (859) 323-1968
www.uky.edu

April 16, 2012

Tom Fugate
Kentucky National Guard
Joint Forces Headquarters Kentucky
100 Minuteman Parkway
Frankfort, Kentucky 40601-6168

RE: Curation of Materials from Archaeological Sites on Kentucky National Guard Properties

Dear Mr. Fugate:

The William S. Webb Museum of Anthropology agrees to curate materials from the following archaeological sites 15Bl116, 15Da247, 15Jf712, 15Lo228, 15Ml453, 15Mu255, 15Mu256, and 15Ne93. It is my understanding that these sites are located on Kentucky National Guard properties and were investigated following procedures approved by the Kentucky Heritage Council by the Kentucky Archaeological Survey. The material should be prepared in accordance with the curation policy of the William S. Webb Museum of Anthropology and coordinated with the Assistant Director Nancy O' Malley.

If you have any questions feel free to contact me at 859-257-1944 or gmcrot2@uky.edu.

Most sincerely,

A handwritten signature in blue ink that reads 'George M. Crothers'.

George M. Crothers, Ph.D.
Director

An Equal Opportunity University

APPENDIX F

ICRMP DISTRIBUTION LIST AND POINTS OF CONTACT

**KYARNG
ICRMP
Contact List**

Contact	Eastern Band of the Cherokee Nation: Principal Chief Michell Hicks.	Cherokee Nation: Principal Chief Chad Smith.
Address	Mr. Russell Townsend, THPO Cultural Resources Division P.O. Box 455 Cherokee, NC 28719	Dr. Richard Allen, THPO P.O. Box 948 Tahlequah, OK 74465
Email	russtown@nc-chokeee.com	rallen@chokeee.org
Phone	(828) 554-6851	(918) 453-5466
Fax	(828) 488-2462	(918) 458-5580
When to Contact	Prehistoric Sites or Human Remains	Prehistoric Pottery or Human Remains
Other POC	Mr. Tyler Howe: tylehowe@nc-chokeee.com	

Contact	United Keetoowah Band of Cherokee Indians: Chief George Wickliffe.	Chickasaw Nation: Governor Bill Anoatubby
Address	Ms. Lisa Stopp Historic Preservation Coordinator P.O. Box 746 Tahlequah, OK 74465	Ms. Virginia Nail, THPO P.O. Box 1548 Ada, OK 74821
Email	lstopp@unitedkeetoowahband.org	Gingy.nail@chicksaw.net
Phone	(918) 456-9200	(580) 332-8685
Fax	(918) 432-1873	(580) 332-2631
When to Contact	Prehistoric Sites or Human Remains	Prehistoric Sites or Human Remains
Other POC		Kirk Perry: Kirk.Perry@chickasaw.net

Contact	The Shawnee Tribe: Tribal Chairman Ron Sparkman	Absentee Shawnee Tribe: Governor George Blanchard.
Address	Ms. Rebecca Hawkins Tribal Administrator P.O. Box 189 Miami, OK 74355	Ms. Henryetta Ellis Cultural/Historic Preservation Dept. 2025 S. Gordon Cooper Dr. Shawnee, OK 74801
Email	shawneetribe@neok.com	hellis@astribe.com
Phone	(918) 542-2441	(405) 275-4030 Ext. 190
Fax	(918) 542-2922	(405) 878-4533
When to Contact	Prehistoric Sites or Human Remains	Prehistoric Sites or Human Remains
Other POC		

Contact	Eastern Shawnee Tribe: Chief Glenna J. Wallace	Choctaw Nation of Oklahoma: Chief Gregory E. Plye.
Address	Ms. Robin Dushane Cultural Preservation Director P.O. Box350 Seneca, MO 64865	Mr. Terry D. Cole Director, Cultural Resources Drawer 1210, 16 th & Locust Durant, OK 74702-1210
Email	RDushane@estoo.net	terryc@choctawnation.com
Phone	(918) 666-2435 ext. 247	(800) 522-6170 ext. 2125
Fax/cell	(918) 533-4104	(580) 920-3102
When to Contact	Prehistoric Sites or Human Remains	Choctaw Academy
Other POC		

Contact	Miami Tribe: Chief Thomas E. Gamble.	Peoria Indian Tribe: Chief John P. Froman
Address	Ms. Julie Olds Cultural Preservationist P.O. Box 1326 Miami, OK 74355	118 S. Eight Tribes Trail P.O. Box 1527 Miami, OK 74355
Email	jlolds@miamination.com	jfroman@peoriatribe.com
Phone	(918) 542-1445 ext. 32	(918) 540-2535
Fax	(918) 542-7260	(918) 540-2538
When to Contact	Prehistoric Sites or Human Remains	Human Remains Only
Other POC		

Contact	Kentucky Heritage Council, The State Historic Preservation Office
Address	Mr. Lindy Casebier, Executive Director & SHPO 300 Washington St. Frankfort, KY 40601
Email	mark.dennen@ky.gov
Phone	(502) 564-7005
Fax	(502) 564-5820
When to Contact	Section 106 Reviews
Other POC	Craig Potts

APPENDIX G

ANNUAL UPDATES

5. Section 3.0

6. CULTURAL RESOURCES MANAGEMENT PLAN (Updated Annual Report 2006)

This chapter describes the specific work plan for the on-going field inventory and evaluation of cultural resources under the stewardship of the KYARNG/DMA.

The Plan requires that the federal government take into account the effects of its actions or programs on National Register listed or eligible historic properties prior to the implementation of undertakings, and to ensure that historic preservation is integrated into the on-going programs of federal agencies.

6.1 3.1 HEADQUARTERS LEVEL IMPLEMENTATION PLAN

All cultural resources, no matter how small or insignificant they appear to be to the average person, should be viewed as having the potential to contribute information of value to various groups, including the academic community, Native Americans, local historical societies, people whose ancestors settled the area, and many others. For this reason, the KYARNG/DMA must ensure that all classes of cultural resources at KYARNG/DMA facilities are inventoried, evaluated and protected.

The purpose of the KYARNG/DMA cultural resources management program can be divided into the achievement of short term (next five years) and long-term goals. The overall intent of these goals is to achieve regulatory compliance and ensure that KYARNG/DMA stewardship responsibilities are met. Short-term goals include:

- Enhance KYARNG/DMA personnel awareness of and appreciation for, cultural resource preservation and improve the effectiveness of their decision making.
- Enhance working relationships with the KY SHPO to identify and protect cultural resources that might exist at KYARNG/DMA facilities.
- Promote outreach with Tribes who are stakeholders in local natural and cultural resources and ensure their access to these resources, and
- Adopt an approach for the protection of archaeological resources that is consistent with the Department of the Interior's National Strategy for Federal Archaeology.

The long term goals for the cultural resource management program at KYARNG/DMA facilities are intended to ensure that the KYARNG/DMA meets its stewardship responsibilities in the future. Long-term goals include:

- Identify procedures for revising the ICRMP at least once every five years or as new cultural resource data are acquired and as knowledge grows about the prehistory and history of the surrounding region.
- Ensure continued compliance with the requirements of the NHPA, especially Sections 106 and 110.

--Establish long-term working relationships with stakeholders and Native American Tribes to identify and protect cultural resources that might exist at KYARNG/DMA facilities.

--Ensure that scientific and historical data recovered from cultural resources at KYARNG/DMA facilities are made available with due regard to confidentiality and security to researchers, Native Americans and other interested parties.

6.2 3.2 FIVE-YEAR PLAN FOR KENTUCKY

In general, the KYARNG should focus on the following cultural resources compliance issues and stewardship activities over the next five years:

--Ensure that the management of cultural resources at KYARNG/DMA facilities is an integral part of the overall planning process.

--Establish a Geographical Information System to coordinate and integrate cultural resources management activities to be updated as additional resources are discovered.

--Identify and preserve historical records that are of value in order to understand the development and changing roles of the KYARNG.

--Curate and preserve collections and records that are of value in order to understand state prehistory and history.

--Establish funding priorities and program funds for cultural resources compliance and management activities in the Environmental Program Requirements (EPR) Report.

--Ensure that staff members and others responsible for cultural resource administration and protection have received sufficient training in cultural resource regulations and procedures.

--Ensure NHPA compliance in the master planning process by requiring that the EPM/CRM review all Master Plans for section 106 issues before they are implemented.

Specific cultural resources projects are listed in the following sections under four considerations: administrative, archaeological resources, architectural resources and federally recognized Native American Tribal Consultation. Some specific statewide and other recommendations are broken out for individual facilities. Implementation is funding dependent.

6.3 3.3 ADMINISTRATIVE REQUIREMENTS

6.3.1 3.3.1 Statewide - Cultural Resources Manager

In order to promote compliance with state and federal laws and regulations, a dedicated staff member will be hired in the KYARNG Environmental Office to manage the Cultural Resources program on a statewide basis. This action will provide the KYARNG/DMA a means to manage the historical, archeological and Tribal coordination aspects of the program in a pro-active way. **The KYARNG**

implemented this recommendation on 1 August 2005 with the hiring of their first full-time Cultural Resources Manager.

6.3.2 3.3.2 Statewide - Develop procedures for in-house review of repair and maintenance of National Register eligible buildings

Historic preservation **has been** integrated into the repair and maintenance program at KYARNG/DMA through the development of in-house procedures for compliance with Sections 106 and 110 of the National Historic Preservation Act. These procedures apply to the repair and maintenance of National Register listed or eligible historic properties to prevent harm to their culturally defining features. **The utilization of the KYARNG's internal facilities Work Order system and the NEPA Record of Environmental Consideration and Checklist coupled with the relocation of the Environmental Office to the FMO & Facilities building has enabled direct access and review of all repairs and maintenance of NR structures.**

6.3.3 3.3.3 Statewide - Provide training for facilities managers and training staff

Cultural resources training must be provided thru the Environmental Office on a regular interval for facilities managers and training staff. A basic training program will teach these individuals the basic concepts of the *Secretary of Interior's Standard for the Rehabilitation and Restoration of Historic Properties*. This will help insure that the cultural defining features of a historic structure are not removed or altered in a well meaning, but incorrect, treatment. Training will also include information on archaeological resource protection and inadvertent discovery procedures. **To accomplish this directive the KYARNG's Environmental Office has developed an on-line Cultural Resources Management Program that consists of (3) video training modules that introduce the basic guidelines and standard operating procedures for managing cultural resources, which includes both buildings and archeological sites.**

6.3.4 3.3.4 Statewide - Identify and consolidate Historic Records to a central location

In order to carry out the requirements of Sections 106 and 110 of the National Historic Preservation Act, the Cultural Resources Manager in the Environmental Office will at times need to gather historic information on specific buildings or places. The information regarding many aspects of KYARNG/DMA history is scattered in numerous offices in Frankfort and much of it remains at the armories. By placing copies of this historic material in a central repository, the job of establishing historic significance and eligibility would be much easier for cultural resources compliance staff and other researchers. **In order to accomplish this objective, the Environmental Office has implemented a facilities specific filing system that enables the CRM to gather, store and easily access historic records related to all of the KYARNG's properties.**

6.3.5 3.3.5 Statewide – Programmatic Agreement (PA) for National Register eligible sites

There is currently a Programmatic Agreement with the SHPO in place for twelve (12) buildings and an archaeological site at Bluegrass Station (Appendix I). The Bluegrass Station agreement clearly spells out the character defining features of the buildings and which ones can be modified and which ones cannot. Additional agreements between the SHPO and DMA should be considered for future work on the other listed and eligible buildings as appropriate. Specific detail treatments for work related to window and

door replacement and exterior treatment (siding) could be negotiated thru a PA. The SHPO could prove helpful to DMA by helping to locate vendors for maintaining or replacing character- defining features, such as windows and doors.

6.3.6 3.3.6 Statewide - Obtain and digitize all relevant technical and historic documents

The development of an in-house reference collection will greatly assist the EPM/CRM in complying with Sections 106 and 110 of the National Historic Preservation Act and allow for the dissemination of information to other staff as needed. Technical bulletins and other information relating to the National Register and treatments for character-defining features on historic buildings are available from the SHPO or from the National Park Service website (www.nps.gov) at little or no cost (see Appendix D). To help insure that the Environmental Office has pertinent data on armories and other facilities across the state, it would be useful to collect, digitize and microfilm KYARNG/DMA historic material, unit histories and other relevant documents. These are often the only historical research information available on the resources of a specific location. Microfilming to archival standards will insure the long-term preservation of this information and provide a back up in the event that the few available paper or electronic copies become damaged or lost. Commencing in 2005, the KYARNG's CRM established a limited library of Preservation Briefs and other NPS/SHPO historic preservation publications which are available through the Environmental Office. In 2007, we will begin working with the KYARNG's Military Records and Research Library and the Command Historian to identify relevant historic data to be copied and placed on file within the Environmental Office.

6.3.7 3.3.7 Establish a GIS Database for Cultural Resources

A secure database will be developed to identify the locations of cultural resources on KYARNG/DMA property. Use of Geographical Information System (GIS) technology will allow coordination and integration of cultural resources management activities with installation training and construction activities, master planning, NEPA impact analyses, and natural resources planning. GIS layers will be developed to include Historic buildings; archeological sites and the location of geographic areas that Native American Tribes have ancestral ties to. Access to sensitive information will be limited. Electronic spatial data produced by inventories will conform to the Federal Information Processing Standards and spatial data standards for DOD to ensure that spatial data is usable in various spatial data systems.

6.3.8 3.3.8 Revise ICRMP for FY2008 – 2012

To comply with Army and ARNG policy, this ICRMP must be revised in five years. A review will be conducted to determine the viability of the plan and to assess the need for revision and update. The review will evaluate the ICRMP implementation, Work Plan and recordkeeping and determine whether new requirements trigger a rewrite of the ICRMP. This review will take place following the May 2007 ICRMP Workshop being held in Albany, New York. It is expected that the CRM will utilize the new electronic template to completely revise the existing Kentucky ICRMP.

6.4 3.4 ARCHAEOLOGICAL RESOURCES

6.4.1 3.4.1 Statewide - Archaeological Survey of Armories

Based on a survey in 2000, several armories (to include Glasgow, Middlesboro, Madisonville, Owensboro, Ravenna and Paducah) are situated on tracts of land that appear to have undisturbed areas for which a Phase I archaeological survey should be completed. As part of these studies, the National Register status of any identified archaeological sites will be evaluated in consultation with KY SHPO. This recommendation was completed in 2006 by the Kentucky Archaeological Survey, University of Kentucky Department of Anthropology and the final written report with findings from the SHPO are pending.

6.4.2 3.4.2 Statewide - Additional Archaeological Surveys

DMA owns approximately 317 acres attached to the armories that it owns across the state. In order to ensure that the KYARNG/DMA is in compliance with section 106, a Phase I archaeological survey should be undertaken to determine the potential for archaeological resources on all properties that have not been previously surveyed. This recommendation was completed in 2006 by the Kentucky Archaeological Survey, University of Kentucky Department of Anthropology, and the final written report is pending.

6.4.3 3.4.3 Statewide - Cultural resource surveys for new land acquisitions

In order to be in full compliance with Section 106 of the National Historic Preservation Act the federal government must take into account the effects of its actions or programs on National Register listed or eligible historic properties, prior to implementation. As new land is acquired by the Department of Military Affairs for armories, training sites and other purposes, archaeological surveys should be completed prior to grading or design, to identify sensitive areas that should be avoided during construction or other types of surface disturbance. The KYARNG has implemented this recommendation by insuring that all new lands that are purchased or leased are evaluated for eligible resources by the University of Kentucky during the Environmental Site Assessment process. This is an on-going initiative that will continue through the implementation phase of the next 5 year ICRMP.

6.4.4 3.4.4 Statewide - Survey, inventory and map cemeteries on Department of Military Affairs Property

There are six historic cemeteries on DMA property: Coleman, Cypress, and Reno cemeteries at Wendell H. Ford Regional Training Center; Mills/Pursifull and Campbell cemeteries at Artemus Training Site; and Baxter Cemetery at Boone National Guard Center. An inventory of these cemeteries would include gathering headstone information, cemetery history, condition and special features. Detailed Geographical Information System methods would be used to provide map locations and boundaries for these resources. This recommendation was completed in November 2005 by the University of Kentucky but recent state land acquisitions at the WHFRTC have added an additional (3) historic and active cemeteries to the training site for a total of (6). These are currently being evaluated by the Kentucky Archaeological Survey and a complete survey will be conducted in FY 2007. An archaeological survey of the Baxter Cemetery, suspected to be located on the grounds of the Capital City Airport, was conducted as part of a runway expansion project in 2006. During this investigation it was determined that the Baxter Cemetery was completely destroyed during the original construction of the airport and no evidence of human remains were discovered. In July 2006, the operations of the Capital City Airport were transferred from the KYARNG/DMA to the KY Transportation Cabinet and they are now responsible for its compliance state and federal historic preservation regulations.

6.4.5 3.4.5 Artemus - Phase II Archaeological investigation

KYARNG/DMA has fulfilled its Sections 106 and 110 requirements at Artemus by completing a Phase I archaeological survey at the training facility. This survey indicated that there were 13 sites that were potentially eligible for listing in the National Register. Five of these sites (15Kx 52, 15Kx 73, 15Kx 75, 15Kx 85 and 15Kx 87) are within the main maneuver area of the training site. Their presence restricts some kinds of military training. It would be prudent to complete Phase II archaeological investigations to evaluate these sites. If they prove to not be eligible for listing in the National Register of Historic Places, these areas could become unrestricted for military training. **The KYARNG has established a process through the FMO by which Phase II archaeological surveys at Artemus will be conducted during NEPA evaluation for individual proposed construction or ground disturbance activities.**

6.5 3.5 ARCHITECTURAL RESOURCES

6.5.1 3.5.1 Conduct Architectural Survey for Boone National Guard Center

In 1997-1999 a survey was undertaken by KYARNG/DMA for all of the armories within the state of Kentucky. This survey examined 83 buildings, primarily armories, but did not include a variety of administrative and maintenance types of structures. Boone National Guard Center has never been systematically surveyed for architectural resources. A full survey will provide an inventory of the age and historical significance of the structures associated with the development of Boone Center. **This survey was conducted by the staff of the KY SHPO and the University of Kentucky in 2005. It identified (4) resources which will become eligible under criterion A for their historical association with the KYARNG within the next decade, starting in 2008. It also identified a single resource which is currently eligible under exceptional significance for its association with the Cold War Era in Kentucky.**

6.5.2 3.5.2 Statewide - Cold War Survey

A survey for significant Cold War related structures owned by the KYARNG/DMA is needed to comply with Section 106 and 110 of the National Historic Preservation Act and to facilitate planning for any current or future cultural resource management issues. The Cold War Era dates from 1946-1989. Recent Legacy and National Park Service studies on Cold War resources have found that many significant structures are not yet 50 years old, but they are nonetheless significant. **This survey was completed in November 2005 by staff of the KY SHPO and the University of Kentucky. It was their determination that the 1972 Emergency Operations Center (EOC) at the Boone National Guard Center was the only KYARNG structure that appears to meet criterion consideration G for exceptional significance. All other KYARNG Buildings/structures and sites appear to be related to routine operations of the Guard.**

6.5.3 3.5.3 Statewide - Architectural Resources Survey of new land acquisitions

To comply with Sections 106 and 110 of the National Historic Preservation Act, new land that is acquired for training sites or for any other purpose should be surveyed to determine whether historic architectural resources exist at the site. **The KYARNG has implemented a process through the FMO/ENV Offices by which architectural resources are evaluated during the Environmental Site**

Assessment process. This is an on-going activity and will continue throughout the next 5 year implementation of the ICRMP.

6.5.4 3.5.4 Document and map rock fences at Boone National Guard Center

The three rock fences that are located at Boone National Guard Center were identified by COE archeological survey that was conducted for this facility. Though they were not identified as eligible for listing in 1988, since 1988 the number of rock fences in the Bluegrass Cultural Landscape in Central Kentucky has declined at an alarming rate. To insure the preservation of these resources the KYARNG/DMA should document the fences, to include measurements, history, photographs and a condition report, and map their locations using GIS techniques. This recommendation was completed in October 2005 by staff of the Kentucky Archaeological Survey/University of Kentucky and it was their determination that all portions of the fences are potentially eligible for listing in the National Register of Historic Places and as such should be preserved and protected.

6.5.5 3.5.5 Engineering Evaluation of Old Arsenal

The 1850 Kentucky State Arsenal currently houses the Kentucky Military History Museum, which is jointly operated by the KYARNG and the Kentucky State Historical Society. A thorough engineering evaluation of the building is needed to include structural, mechanical and electrical, to guide future renovation of systems for long term preservation of the building. An evaluation of this type was conducted in the 1980s and was utilized to develop a long-term plan for the systematic renovation of this NR listed structure. The KYARNG works closely with the KY Historical Society and the KY SHPO when conducting any and all federal or stated funded renovations, repairs or alterations to this facility.

6.5.6 3.5.6 Artemus – Install cap over old hand dug well

In order to provide for the safety of troops, facility staff and visitors, it is necessary to place a cap over an old rock-lined hand-dug well from a former farmstead at Artemus. The well is eligible for the National Register. The project will be coordinated with the State Historic Preservation Officer and the Kentucky Division of Water to satisfy requirements for historic preservation and groundwater protection. This resource currently has a wooden cover and will be evaluated by the KYARNG CRM and staff of the KY SHPO in 2007 to determine guidelines for plugging or closing of the well.

6.6 3.6 NATIVE AMERICAN TRIBAL CONSULTATION

6.6.1 3.6.1 Statewide - Consultation with federally recognized Native American Indian Tribes

Executive Memorandum of April 29, 1994, "Government-to-Government Relations with Native American Tribal Governments" emphasizes government-to-government relationships between federal agencies and Native American tribes. Consultation and coordination with federally recognized tribes is always to be initiated with the head of the tribal government by the Adjutant General. E.O. 13175

(Annotated Policy Document for the American Indians and Alaska Native Policy), dated 27 October 1999, specifies that federal agencies are to recognize the right of self-governance and the sovereignty of Indian tribes and are directed to consult with tribes in developing and implementing policies that have tribal implications. Each federal agency is to have “an accountable process to ensure meaningful and timely input by tribal officials in the development of regulatory policies that have tribal implications.” This contact will not only be important to complete the required review of this ICRMP, but it will aid in resolving long-term issues such as Traditional Cultural Properties (TCP) and possible inadvertent discoveries of human remains or cultural material (see SOP #4).

6.6.2 3.6.2 Designate a Native American tribal liaison

The federal requirements regarding government-to-government contacts and consultation with federally recognized Native American Indian Tribes make the designation of a liaison or coordinator essential. Once the government-to-government contact has been established between the tribal head and the TAG, it will be the responsibility of the Native American liaison to handle day-to-day activities. By designating an individual as the liaison, a chain of command can be established and coordination procedures developed.

The Adjutant General should designate an appropriate individual in the KYARNG Environmental Office to serve as a primary contact for federally recognized Native American tribes. Regardless of whether the position is informal or formal, the individual who is designated should be familiar with the Department of Defense American Indian and Alaska Native Policy and Sections IV (Native American Consultation Process) and V (Army Consultation Recommendations) in DA Pam 200-4, which provide good guidance in developing working relationships with federally recognized Native American groups. The Kentucky Native American Heritage Commission is another valuable resource that should be utilized in working with federally recognized Native American Indian tribes with historic ties to Kentucky. **The Environmental Program Manager serves in this capacity on behalf of the KYARNG.**

6.6.3 3.6.3 Statewide - Inventory of Traditional Cultural Properties

In accordance with The American Indian Religious Freedom Act (42 USC 1996) and E.O. 13007, Indian Sacred Sites (see Appendix A), an inventory of Traditional Cultural Properties should be undertaken for all land owned by the KYARNG. This survey must be undertaken with the expertise of federally recognized Native American tribal members, and after a government-to-government relationship has been established. It is recognized that appropriate Indian tribes possess unique expertise in identification, evaluation, and assessment of effects and treatment of culturally affiliated historic properties of religious and cultural significance. All TCP information will be treated in the same way as archaeological sites respecting the possible confidentiality and privacy issues regarding their locations and respecting the concerns of the Tribes. **The KYARNG CRM participated in a Native American Consultation Workshop in 2006 where identification of TCPs was discussed and it was determined that the KYARNG would extend an invitation to interested tribes to visit and evaluate KYARNG properties for potential TCPs. The primary site of interest would be the Artemus Training Site in eastern Kentucky.**

6.7 3.7 SUMMARY

Table 3.1 summarizes projects that KYARNG/DMA proposes to carry out within the next five years as provisions of this ICRMP.

6.7.1.1 Table 3.1 Summary of Projects

DESCRIPTION OF PROJECT						
Administrative Projects	Project Number	FY03	FY04	FY05	FY06	FY07
Cultural Resource Manager	KY00091045			X	X	X
Develop procedures for review of repair and maintenance of National Register eligible buildings	N/A			X	X	X
Provide training for facilities managers and staff	KY00000015			X	X	X
Identify and consolidate DMA Historic Records to a central location	N/A			X	X	X
Programmatic Agreement for National Register eligible sites and listed sites	KY00000012					X
Obtain technical documents library	N/A			X	X	X
GIS Database for Cultural Resources	KY00096004		X	X	X	X
Revise ICRMP for FY2008 - 2012	KY00098005					X
Archaeological Projects						
Archaeological Survey for armories	KY00000016			X	X	X
Additional archaeological surveys	N/A			X	X	X
Cultural resource surveys on new land acquisitions	As Needed			X	X	X
Phase II Archaeological investigation at Artemus	KYA0300002					X
Survey, inventory and map all cemeteries on DMA Property	KY00000014			X	X	X
Architectural Resources						
Architectural survey for Boone National Guard Center	KYA8500020			X		
Cold War Survey	KY00000013			X		
Architectural resources survey for new land acquisitions	As Needed			X	X	X
Document and map rock fences at Boone National Guard Center	KYA8500021		X	X		
Engineering Evaluation of Old Frankfort Arsenal		X				
Install cap over old hand dug well at Artemus	KYA0300005					X
Native American Tribal Consultation						
Consultation with federally recognized Native American Indian Tribes	KY00099004	X	X	X	X	X
Designate a Native American tribal liaison	N/A	X				
Inventory of Traditional Cultural	KY00000011					X

Properties						
UPDATED PROJECTS						
Inventory, map and document (3) newly acquired cemeteries at the WHFRTC					X	X
Conduct a Phase I archeological Survey of the recently acquired land at the WHFRTC					X	X
CRM to work with UK and SHPO staff to revise the KYARNG ICRMP						X
Consult with Native American Tribes on TCPs at Artemus Training Site.						X
Consult with KY SHPO on plugging of rock-lined well at Artemus						X
Convert 1992 Phase I Artemus Archaeological Survey Report #282 to digital format.						X
Continue archaeological surveys of new land as required.						X
Continue architectural surveys of newly acquired structures as required.						X

ICRMP ANNUAL REPORT

To: Dr. Cheryl L. Huckerby, NGB Cultural Resource Program Manger

From: Thomas W. Fugate
NEPA/Cultural Resources
KYARNG

Subject: KYARNG Annual Report on Implementation Status of the KYARNG ICRMP and Cultural Resource Management Program.

Date: 12 September 2007

Reporting Period: 1 September 06 – 1 September 07
(*Period report covers, i.e. 1 May 06 – 1 May 07.*)

Program Overview: (*Short Paragraph covering major accomplishments, actions and any potential problems both current and foreseeable.*)

During the past year, the KYARNG's Environmental & Cultural Resources Programs successfully underwent EPAS inspections and participated in training for use of the new ICRMP template in Lake George, NY. We completed our statewide Phase I Survey of 100% of our properties and the Buechel Armory built in 1957 was determined to be eligible. We conducted Phase I surveys for newly leased properties in preparation of construction of new armories at London and Independence, KY. We worked with the FMO, the KY SHPO and the KY Historical Society to make substantial repairs and upgrades to the 1850 State Arsenal/Military History Museum and coordinated with the SHPO for review of numerous construction and maintenance projects. We also completed cleaning and restoration of one of the historic cemeteries at the Eastern Kentucky Training Site at Artemus, KY.

Projects and Their Status for Reporting Period: (*List all projects: proposed, those completed during, and on-going. If a table is already available, paste in or submit as separate sheet and reference here.*)

*During this period the final report for the Phase I survey of all KYARNG Armories was completed. The survey resulted in the documentation of five (5) previously unrecorded archaeological site: 15Ne93 at Bardstown; 15M1453 at Benton; 15J712 at Buechel Armory in Louisville, and 15Lo228 at Russellville and five (5) isolated finds, IF-1 in Danville; IF-2 In Lexington; IF-3 in Owensboro; IF-4 in Tompkinsville and IF-5 in Louisville. Due to their recent age, history of significant soil disturbance, and low artifact densities these sites and isolated finds are not considered eligible for listing in the National Register of Historic Places.

*The inventory, mapping and documentation of (2) of the newly acquired (3) cemeteries at the WHFRTC was completed and copies were provide to the local county public library and the Kentucky Cemetery Records Program. The report for the 3rd is still pending from the University of Kentucky Archeological Survey as part of a larger survey of the newly acquired lands. Since both of these cemeteries are active and there is no separation between historic and modern burials, neither was assigned a site number nor is considered eligible for listing.

*The Phase I Survey of the newly acquired 6,000 acres of land at the WHFRTC, as discussed above, has been completed. However, the final report is still pending from the University of Kentucky and should be received in early November 2007.

Projects Proposed for Next Reporting Period: *(List all projects in STEP or at least planned to be entered into STEP for the next reporting period that is known at the time of the report writing. If a table is already available, paste in or submit as a separate sheet and reference here.)*

*The CRM will utilize the new template to update the KYARNG ICRMP. This project is expected to start in November 07 and be completed by 1 July 08.

*We are proposing to conduct a geophysical survey, to include ground penetrating radar (GPR) to determine the presence and extent of any burials within the northern hilltop of the Cedar Grove Cemetery, at WHFRTC, which community members have identified as an unmarked segregated African American section of the cemetery.

*We will also be conducting Phase I Surveys of newly leased property at the Owensboro, KY airport and the Danville, KY airport in preparation for construction of new armories in those communities.

Updated State Historic Preservation Office Contact Information: *(Enter Point of Contact and contact information.)*

Kentucky Heritage Council
The State Historic Preservation Office
ATTN: Donna M. Neary, Executive Director &
State Historic Preservation Officer
300 Washington St.
Frankfort, KY 40601
(502) 564-7005

Updated Native American Contact Information: *(Enter Point of Contact and contact information as applicable.)*

Cherokee Nation of Oklahoma
Chad Smith, Principal Chief
Cherokee Nation
P.O. Box 948
Tahlequah, OK 74465

Eastern Band of Cherokee Indians
Michell Hicks, Principal Chief
ATTN: Russell Townsend (THPO)
P.O. Box 455
Cherokee, NC 28719

United Keetoowah Band of Cherokee Indians
Mr. George Wickliffe, Chief
ATTN: Lisa Stopp (NAGPRA)
P.O. Box 746
Tahlequah, OK 74457

Chickasaw Nation
Mr. Bill Anoatubby, Governor
P.O. Box 1548

Ada, OK 74821

Eastern Shawnee Tribe of Oklahoma
Glenna J. Wallace, Chief
ATTN: Robin Dushane (CRM)
P.O. Box 350
Seneca, MO 64865

Absentee-Shawnee Tribe of Indians of Oklahoma
Larry Nuckolls, Governor
ATTN: Karen Kaniatobe (THPO)
2025 S. Gordon Cooper Dr.
Shawnee, OK 74801

Shawnee Tribe
Mr. Ron Sparkman, Chairman
ATTN: Rebecca Hawkins (Tribal Administrator)
P.O. Box 189
Miami, OK 74355

Miami Tribe of Oklahoma
Ms. Julie Olds
Cultural Preservationist
P.O. Box 1326
Miami, OK 74355

Peoria Indian Tribe of Oklahoma
Mr. John P. Froman, Chief
P.O. Box 1527
Miami, OK 74355

ICRMP ANNUAL REPORT

To: Ms. Kristin Leahy, NGB Cultural Resource Program Manager

From: Thomas W. Fugate, KYARNG NEPA/ECOP/CRM

Subject: KYARNG Annual Report on Implementation Status of the KYARNG ICRMP and Cultural Resource Management Program.

Date: 24 August 2009

Reporting Period: 1 September 2008 – 1 September 2009

Program Overview: *(Short Paragraph covering major accomplishments, actions and any potential problems both current and foreseeable.)*

During the past year, the KYARNG's Cultural Resources Program, in support of NEPA & ECOP actions for MILCON projects conducted Phase I archaeological surveys for newly acquired lands at Owensboro, Kentucky where 1 non-eligible (15Da 247) site was recorded and at Burlington and Marion, Kentucky where no cultural resources were encountered. As part of the survey in Marion, Kentucky we also acquired and evaluated a late 19th century residential structure that with SHPO concurrence was determined to not be eligible for listing in the National Register. We also conducted our annual architectural survey of structures fifty years of age. Two of which, the Carrollton and Olive Hill armories were determined to be eligible and a third, the "Old" Jackson, Kentucky Armory or FMS#6 as it is known today, with concurrence from the SHPO was determined to not be eligible. We have continued to work with the Kentucky Historical Society and the SHPO concerning upgrades to the 1850 KY State Arsenal/Military History Museum and have coordinated with the University of Kentucky Archaeological Survey and the SHPO concerning a minor affect during the construction of a new running track to 1 eligible archaeological site (15Kx 73) and 2 non-eligible sites (15Kx 16 & 15Kx90) during an access road construction project at the Disney Training Center in eastern Kentucky. We have also consulted with the SHPO on several minor maintenance projects, such as installation of exhaust fans at FMS #9 & 10, which were all determined to have no adverse affect. The only current or foreseeable problem pertains to the 5 year revision or update to the ICRMP which we began drafting using the November 2007 template in April of 2008. Due to an increase in ECOP requirements for several MILCON projects, I was reassigned to complete those projects in advance of my 1 August 2008 retirement from State Government and thus the ICRMP update went uncompleted. I was asked to return to work for the KYARNG in a contract capacity in late November 2008 and immediately sat to work on updates to ECOP documents that were more than two years of age and coordination of several EA's and additional MILCON ECOP requirements. At this point, we are approaching the completion of the backlog of EA's and ECOP's and it is our intention to dedicate 100% of my time to completing the updated ICRMP for the KYARNG by mid-2010.

Projects and Their Status for Reporting Period: *(List all projects: proposed, those completed during, and on-going. If a table is already available, paste in or submit as separate sheet and reference here.)*

1. Update the KYARNG ICRMP: (in draft status to be completed in mid-2010)
2. Annual architectural survey: (complete, 2 armories determined eligible, Carrollton and Olive Hill and 1 the Jackson FMS#6 not)

3. Archaeological survey of newly acquired lands: (complete to date for Owensboro, Burlington and Marion, Kentucky with 1 non-eligible site being recorded)
4. Coordination of Section 106 review for upgrades to the 1850 State Arsenal: (ongoing)
5. Coordination of statewide construction and maintenance projects: (ongoing)
6. The geophysical survey to determine the presence and extent of any burials within the northern hilltop of the Cedar Grove Cemetery at the WHFRTC which has been identified as a separate segregated African American section of that cemetery: (This has been slow in completing, we are still awaiting scheduling with UK to conduct GPR reading, hope to complete in spring of 2010)

Projects Proposed for Next Reporting Period: *(List all projects in STEP or at least planned to be entered into STEP for the next reporting period that is known at the time of the report writing. If a table is already available, paste in or submit as a separate sheet and reference here.)*

1. Phase I archaeological surveys will be conducted on approximately 517 acres of new "Railroad & River Dock" lands to be purchased or leased in two separate tracts at the WHFRTC
2. Additional Phase I survey work will also be conducted for possible construction of a new FMS at property located in Danville, KY or in Northern Kentucky should one of these sites become available.
3. We shall continue to work through the upgrades to the 1850 State Arsenal with both the SHPO and Kentucky Historical Society and expect to have the building reopened to the public in early 2010.
4. The annual architectural survey of 50 year old structures will be conducted.
5. Coordination of minor construction and maintenance activities being conducted by the FMS & State Facilities Division.

Updated State Historic Preservation Office Contact Information: *(Enter Point of Contact and contact information.)*

Mr. Mark Dennen, Director
Kentucky Heritage Council &
State Historic Preservation Officer
300 Washington Street
Frankfort, KY 40601
(502) 564-7005

Updated Native American Contact Information: *(Enter Point of Contact and contact information as applicable.)*

See Attached List

ICRMP ANNUAL REPORT

To: NGB Cultural Resource Program Manager

From: Thomas W. Fugate, KYARNG NEPA/ECOP/CRM

Subject: KYARNG Annual Report on Implementation Status of the KYARNG ICRMP and Cultural Resource Management Program.

Date: 24 September 2010

Reporting Period: 1 October 2009 – 30 September 2010
(Period report covers, i.e. 1 May 06 – 1 May 07.)

Program Overview: *(Short Paragraph covering major accomplishments within reporting period and any potential problems both current and foreseeable.)*

A phase I archaeological survey of approximately 500 acres of new "Railroad and Dock" lands at the Wendell H. Ford Regional Training Center (WHFRTC) in Muhlenberg County was completed in January 2010 and because of extensive previous disturbance due to coal mining activities no archaeological sites were recorded, with the SHPO's concurrence no further work was recommended for this area. We conducted our annual architectural survey of structures fifty years of age and the Tompkinsville Armory in Monroe County was determined, with concurrence with the SHPO, to be eligible for listing in the National Register. Following this survey we completed our update to the PRIDE database. We also conducted a geophysical survey at the WHFRTC to determine the presence and extent of any burials within the northern hilltop of the Cedar Grove Cemetery, which community members have identified as an unmarked African American section of the cemetery. Several anomalies were detected and ground-testing of these will be conducted in November 2010 with final report to follow in January 2011. We continue to work with the Kentucky Historical Society and the SHPO concerning additional upgrades to the 1850 State Arsenal building and have consulted with the SHPO on several SRM maintenance projects with impacts to NR listed and eligible buildings and construction sites. These include façade enhancements to the USPFO, Roof and window replacements at the Tompkinsville Armory, potential construction of a QTR/TTB/UAC at the WHFRTC, and road construction projects at the Eastern Kentucky Training Site and WHFRTC, which were all determined to have no adverse affect. The only remaining problem pertains to the 5 year update to the ICRMP. We realize that we will be reporting RED on this issue in 2011 but we are taking steps to correct this.

Projects and Their Status for Reporting Period: *(List all projects: proposed, those completed during, and on-going. All projects listed within ICRMP as well as those submitted during the current FY in STEP included. If a table is already available, paste in or submit as separate sheet and reference here.)*

1. 5 year update to the KYARNG ICRMP: (in draft status)
2. Annual architectural survey: (complete, 1 armory determined eligible)
3. Archaeological survey of newly acquired lands: (complete to date for WHFRTC "Railroad & River Dock" with no sites recorded)
4. Phase I survey of possible new land for FMS at Danville or Northern KY: (on hold awaiting land purchase)
5. Coordination of Section 106 review for upgrades for 1850 State Arsenal (ongoing)
6. Coordination of statewide SRM maintenance projects: (complete for reporting period)
7. Geophysical survey of suspected unmarked African American section of cemetery at WHFRTC: (survey complete investigation of anomalies and production of final report ongoing)

Projects Proposed for Next Reporting Period: *(List all projects in STEP or at least planned to be entered into STEP for the next reporting period that is known at the time of the report writing. If a table is already available, paste in or submit as a separate sheet and reference here.)*

1. Annual Section 110 architectural survey of 50 year old buildings and PRIDE update to be conducted.
2. Coordination of SRM construction and maintenance activities being conducted by the FMO and State Facilities Division with SHPO where required.
3. Assist Kentucky Division of Emergency Management with Homeland Security EOC Annex construction proposal coordination with SHPO.
4. Continue to coordinate upgrades to 1850 State Arsenal/KY Military History Museum with SHPO and KY Historical Society.
5. Participate in Native American Federal and State agencies working session at 2010 annual Southeastern Archaeological Conference.
6. Complete evaluation of suspected unmarked African American section of Cedar Grove Cemetery at WHFRTC.
7. Complete 5 year update to the KYARNG ICRMP

Updated State Historic Preservation Office Contact Information: *(Enter Point of Contact and contact information.)*

Mr. Mark Dennen, Director
Kentucky Heritage Council &
State Historic Preservation Officer
300 Washington St.
Frankfort, KY 40601
(502) 564-7005

Updated Native American Contact Information: *(Enter Point of Contact and contact information as applicable.)*

See attached contact list

Tribal Consultation Program: *(Provide the # of tribal MOUs, how the state consulted with tribes during the reporting period (ie project letters, consultation meeting(s), phone calls, etc), is the current approach successful, anticipated changes for the upcoming reporting period)*

We have no MOU's with any of the tribes. Our tribal contacts during this period related to an ongoing EA for the construction of a QTR and the update to one of our INRMPs, which was done by letter to those tribes with a demonstrated interest in the area of the WHFRTC. We also assisted the Absentee Shawnee Tribe in their participation in the annual Kentucky Organization of Professional Archaeologists (kyOPA) Living Archaeology Weekend.

In late October 2010 the KYARNG will participate in a working session with several tribes to discuss our 5 year update to the ICRMP and other procedures for communicating on minor construction and maintenance actions. This is being done as a working session for Federal and State agencies at the SEAC conference in Lexington, KY.

Our consultation process with the tribes is lacking but we are attempting to address this and participating in the tribal working session at the SEAC conference will move us in the direction of correcting this.

Number and Location of Newly Identified NRHP-eligible Resources Identified During Reporting Period:

- 1- The Tompkinsville Armory in Monroe County.

Number of NRHP-Eligible or Listed Historic Districts:

- 1 Eligible District the Cantonment area of the Bluegrass Station near Lexington, KY.
- 12 Eligible Archaeological Sites
- 5 Eligible Cemeteries
- 3 Eligible Stone Fences
- 10 Listed buildings
- 12 Eligible buildings

*numbers reflect state property not included in EQ data call.

Number of Previously NRHP-Eligible or Listed Resources That Were Delisted/Determined Ineligible during Reporting Period:

None

Listing of NHPA Agreement Documents (MOAs and PAs) Currently Active Within State *(to include title and date signed):*

None

Number of NHPA Agreement Documents in Development During Reporting Period. *(Provide a status update on draft NHPA Agreement Documents.)*

None

% of historic (NRHP eligible buildings/structures) that are vacant or underutilized in the state ARNG inventory *(Driver for this is 2009 DA Environmental Program Priorities)*

None

% of acres within the state ARNG inventory that have been surveyed for archeological resources (both total % of acres AND acres surveyed during reporting period) *(Driver for this is 2009 DA Environmental Program Priorities)*

100% of KYARNG properties have been surveyed to date.

Approximately 2.5% was surveyed during this reporting period.

% of NHLI, NHLIC, NRI, NCRL, NREI, and NREC buildings/structures that have a facility physical quality code of Quality Rating, Level 2 *(Driver for this is 2009 DA Environmental Program Priorities)*

None

% of NHPA agreement documents that identify offsite or innovative mitigation strategies *(Driver for this is 2009 DA Environmental Program Priorities)*

None

When is the ICRMP Review Process Scheduled to Occur *(see ICRMP guidance, review process should occur 6 months prior to the 5 year ICRMP or variance anniversary)*

1 June 2011 (5 year update past due)

ICRMP ANNUAL REPORT

To: NGB Cultural Resource Program Manager

From: Thomas W. Fugate, KYARNG
NEPA/ECOP/CRM

Subject: KYARNG Annual Report on Implementation Status of the KYARNG ICRMP and Cultural Resource Management Program.

Date: 30 September 2011

Reporting Period: 30 September 2010 – 30 September 2011

Program Overview: *(Short Paragraph covering major accomplishments within reporting period and any potential problems both current and foreseeable.)*

The KYARNG Completed our annual NHPA Section 110 architectural survey of 50 year old buildings and the Middlesboro Readiness Center in Bell County was determined, with concurrence with the KY SHPO, to be eligible for listing in the National Register. Following this survey we completed our annual update to the PRIDE database. The Geophysical Investigations and Ground Truthing at the suspected African American section of the Cedar Grove Cemetery at the WHFRTC were completed and no evidence to suggest the presence of graves in the hill top area was located. We assisted the KYDEM & KY Office of Homeland Security with coordination of SHPO review of the proposed expansion to the existing EOC building at Boone Center and continued to coordinate SHPO review of upgrades to the 1850 State Arsenal and review of several SRM projects at NR listed or eligible armories. We completed all CRM components of the EA for the proposed QTR at the WHFRTC and on January 7, 2011, following consultations with the Section 106 staff at the SHPO; we implemented the Nationwide PA for Army National Guard Readiness Centers-Maintenance and Repair. 5 SRM projects were exempted through this process. We participated in the Native American Federal & State agencies working session at the SEAC held in Lexington, Kentucky, where KYARNG MILCON & SRM projects and the ICRMP update were discussed. Areas of concern persist with part-time CRM staffing and completion of the now past-due 5-year update to the ICRMP.

Projects and Their Status for Reporting Period: *(List all projects: proposed, those completed during, and on-going. All projects listed within ICRMP as well as those submitted during the current FY in STEP included. If a table is already available, paste in or submit as separate sheet and reference here.)*

1. 5 year update to the KYARNG ICRMP: (still in draft status)
2. Annual architectural survey: (complete, 1 armory determined eligible)
3. Geophysical survey and Ground Truthing of suspected unmarked African American section of Cedar Grove Cemetery at WHFRTC: (completed, no evidence of graves was detected.)

4. Survey of land for possible FMS#7 conducted as part of new Burlington Readiness Center site in Northern Kentucky. (complete, awaiting funding)
5. KDEM & KOHS EOC annex coordination with SHPO: (complete)
6. CRM components for the final FNSI for the QTR EA at the WHFRTC: (complete FNSI signed)
7. Coordination of 106 review for upgrades to the 1850 State Arsenal: (ongoing)
8. Coordination of statewide SRM maintenance project: (Complete for reporting period)
9. Implementation of Nationwide PA for historic armories maintenance and repair: (complete)
10. Participation in Native American/Federal & State agencies working session: (complete)

Projects Proposed for Next Reporting Period: *(List all projects in STEP or at least planned to be entered into STEP for the next reporting period that is known at the time of the report writing. If a table is already available, paste in or submit as a separate sheet and reference here.)*

1. Complete Up-date to ICRMP.
2. Conduct annual Section 110 architectural survey and PRIDE update.
3. Coordinate SRM activities being conducted by State Facilities and FMO with SHPO using Nationwide PA where possible.
4. Continue to coordinate 106 reviews for Phase III & IV upgrades to the 1850 State Arsenal/KY Military History Museum.
5. Coordinate archaeological surveys as required to support State property acquisitions or FMO MILCON activities.

Updated State Historic Preservation Office Contact Information: *(Enter Point of Contact and contact information.)*

Kentucky Heritage Council
ATTN: Mr. Lindy Casebier,
Acting Directory & SHPO
300 Washington St.
Frankfort, KY 40601

Updated Native American Contact Information: *(Enter Point of Contact and contact information as applicable.)*

See attached contact list

Tribal Consultation Program: *(Provide the # of tribal MOUs, how the state consulted with tribes during the reporting period (ie project letters, consultation meeting(s), phone calls, etc), is the current approach successful, anticipated changes for the upcoming reporting period)*

The KYARNG has no MOU's with any Native American tribes. Our tribal contacts during this period consisted of mailings related to the completion of the EA & FNSI for the construction of a QTR at the WHFRTC in Greenville, KY. We also participated in a Federal & State agencies working session at the annual SEAC conference with the THPOs

from the Cherokee Nation, the Eastern Band of the Cherokee Nation, the Peoria Indian Tribe and a representative from the Choctaw Nation. This closed session addressed issues related to review of the draft update to the existing ICRMP and proposed MILCON/SRM projects and took place in Lexington, KY. The THPOs from the Absentee Shawnee Tribe, the Eastern Shawnee Tribe and the Chickasaw Nation were also in attendance but did not participate in the closed working session due to meetings with the state Department of Transportation. We also communicated with the Eastern Shawnee Cultural Preservation Director by telephone and email concerning the possible utilization of federal lands under lease to the KYARNG for the re-interment of human remains. We identified lands that could have been made available but were notified by Ms Dushane that they were no longer looking for lands in Kentucky.

Number and Location of Newly Identified NRHP-eligible Resources Identified During Reporting Period:

1: The Middlesboro Armory located in Bell County, KY.

Number of NRHP-Eligible or Listed Historic Districts:

No new districts were added during this reporting period. We have 1 Eligible District that consists of the cantonment area of the Bluegrass Station near Lexington, KY.

Number of Previously NRHP-Eligible or Listed Resources That Were Delisted/Determined Ineligible during Reporting Period:

None during this reporting period

Listing of NHPA Agreement Documents (MOAs and PAs) Currently Active Within State (to include title and date signed):

1: The Nationwide PA for ARNG Readiness Centers Maintenance & Repair Implemented on 7 January 2011.

Number of NHPA Agreement Documents in Development during Reporting Period. (Provide a status update on draft NHPA Agreement Documents.)

None during this period

% of historic (NRHP eligible buildings/structures) that are vacant or underutilized in the state ARNG inventory (Driver for this is 2009 DA Environmental Program Priorities)

None during this period

% of acres within the state ARNG inventory that have been surveyed for archeological resources (both total % of acres AND acres surveyed during reporting period) (Driver for this is 2009 DA Environmental Program Priorities)

100% of KYARNG properties have been surveyed to date.

Less than 1% were surveyed during this period. Approximately 10 acres were Surveyed during this period.

% of NHLI, NHLC, NRLI, NCRL, NREI, and NREC buildings/structures that have a facility physical quality code of Quality Rating, Level 2 (Driver for this is 2009 DA Environmental Program Priorities)

None during this period

% of NHPA agreement documents that identify offsite or innovative mitigation strategies (Driver for this is 2009 DA Environmental Program Priorities)

None during this period

When is the ICRMP Review Process Scheduled to Occur (see ICRMP guidance, review process should occur 6 months prior to the 5 year ICRMP or variance anniversary)

1 June 2012 (5 year up-date is –past due)

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APPENDIX H

RESOURCE ESTIMATE “FOR OFFICIAL USE ONLY”

APPENDIX I
CULTURAL RESOURCES LAWS AND REGULATIONS

AR 200-1 is available at: http://www.army.mil/usapa/epubs/pdf/r200_1.pdf

Cultural Resources Laws and Regulations

Cultural resources are defined as historic properties in the NHPA; as cultural items in the NAGPRA; as archaeological resources in ARPA; as sacred sites (to which access is provided under the American Indian Religious Freedom Act of 1978 [AIRFA]) in EO 13007; and as collections and associated records in 36 *Code of Federal Regulations* (CFR) Part 79, *Curation of Federally Owned and Administered Collections*. Requirements set forth in NEPA, the NHPA, ARPA, NAGPRA, AIRFA, 36 CFR Part 79, EO 13007, EO 13175, and their implementing regulations, define the KYARNG's compliance responsibilities for management of cultural resources. AR 200-1 specifies Army policy for cultural resources management. The following list of federal statutes and regulations are applicable to the management of cultural resources at KYRNG sites.

I.1 Brief Overview

I.1.1 Federal Laws and Regulations

All federal laws, regulations, and major court decisions can be accessed online from Cornell University Law Library at <http://www.law.cornell.edu/>. All Army regulations, pamphlets, publications, and forms can be accessed online at: <http://aec.army.mil/usace/cultural/index/>. The KYARNG is not responsible for the content of referenced Web sites.

- **National Environmental Policy Act of 1969.** *NEPA sets forth a national policy that encourages and promotes productive harmony between humans and their environment. NEPA procedures require that environmental information is available to public officials and citizens before decisions are made and before actions are taken. The NEPA process is intended to help public officials make decisions that are based on an understanding of environmental consequences and take actions that protect, restore, and enhance the environment. NEPA also provides opportunities for input from Tribes and the public into the decision making process. Regulation 40 CFR 1500–1508 establishes the policy requirements that are binding on all federal agencies for implementing NEPA. Additional guidance on how to complete the NEPA process is provided in the NEPA Handbook developed by the NEPA Committee of the Environmental Advisory Council [GKO/ARNG/G-4/Conservation/NEPA/Guidance/2006 Version of NEPA Handbook]. This ICRMP is subject to NEPA analysis and documentation requirements. The Environmental Assessment (EA) and Finding of No Significant Impact (FNSI) prepared for the original ICRMP are considered to remain valid for the ICRMP Revision; therefore, additional NEPA review completed for the ICRMP Revision is restricted to an internal REC, provided with a copy of the FNSI for the original ICRMP; and review correspondence in Appendix B.*
- **National Historic Preservation Act of 1966, as amended.** *The NHPA establishes the federal government's policy to provide leadership in the preservation of historic properties and to administer federally owned or controlled historic properties in the spirit of stewardship. Regulation 36 CFR 800 sets forth the procedural requirements to identify, evaluate, and determine effects of all undertakings on historic properties.*
- **Curation of Federally Owned and Administered Archaeological Collections.** *Regulation 36 CFR Part 79 defines collections and sets forth the requirements for processing, maintaining, and curating archaeological collections. However, NAGPRA cultural items and human remains shall be managed in accordance with NAGPRA and 43 CFR 10.*
- **Antiquities Act of 1906.** *This act provides information on penalties for damage and destruction of antiquities.*

- **Archaeological Resources Protection Act of 1979.** ARPA provides for the protection of archaeological resources and sites that are on public lands and American Indian lands and fosters increased cooperation and exchange of information.
- **Archaeological and Historic Preservation Act of 1974 (AHPA).** This act provides for the preservation of historical and archaeological data, including relics and specimens.
- **Native American Graves Protection and Repatriation Act of 1990, as amended.** NAGPRA provides guidelines on the ownership or control of American Indian cultural items and human remains that are excavated or discovered on federal or tribal lands after 16 November 1990. 43 CFR 10 sets forth the requirements and procedures to carry out the provisions of NAGPRA.
- **American Indian Religious Freedom Act of 1978.** AIRFA provides for the protection and preservation of traditional religions of American Indians.
- **Presidential Memorandum dated 29 April 1994 – Government-to-Government Relations with Native American Tribal Governments.** This memorandum outlines the principles that executive departments and agencies are to follow in their interactions with American Indian tribal governments.
- **Executive Order 11593 – Protection and Enhancement of the Cultural Environment.** This EO orders the federal government to provide leadership in preserving, restoring, and maintaining the historic and cultural environment of the nation by initiating measures necessary to preserve, restore, and maintain (for the inspiration and benefit of the people) federally owned sites, structures, and objects of historical, architectural, or archaeological significance.
- **Executive Order 13006 – Locating Federal Facilities on Historic Properties in our Nation's Central Cities.** This EO orders the federal government to utilize and maintain, wherever operationally appropriate and economically prudent, historic properties and districts, especially those located in central business areas.
- **Executive Order 13007 – Indian Sacred Sites.** This EO guides each executive branch agency on accommodating access to and ceremonial use of American Indian sacred sites by American Indian religious practitioners, and avoiding adversely affecting the physical integrity of such sacred sites.
- **Executive Order 13175 – Consultation and Coordination with Indian Tribal Governments.** This EO directs the federal government to establish regular and meaningful consultation and collaboration with tribal officials in the development of federal policies that have tribal implications, strengthen the United States government-to-government relationships with federally recognized tribes and Native Hawaiian organizations, and reduce the imposition of unfunded mandates upon such groups.
- **Executive Order 13287 – Preserve America.** This EO directs the federal government to provide leadership in preserving America's heritage by actively advancing the protection, enhancement, and contemporary use of the historic properties owned by the federal government; promoting intergovernmental cooperation and partnerships for the preservation and use of historic properties; inventorying resources; and promoting ecotourism.
- **Executive Order 13327 – Federal Real Property Asset Management.** Expressing the goal of promoting efficient and economical use of real property assets and ensuring management accountability and reforms, EO 13327 requires federal agencies to develop and submit asset management plans, incorporating the management requirements for historic property found in EO 13287 (3 March 2003) and the environmental management requirements found in EO 13148 (21 April 2000). The new EO also establishes the Federal Real Property Council, which is tasked

to consider environmental costs associated with ownership of property, including restoration and compliance costs.

- **Executive Order 13423 – Strengthening Federal Environmental, Energy, and Transportation Management.** Expressing the goal of strengthening the environmental, energy, and transportation management of Federal agencies, EO 13423 requires Federal agencies to conduct their environmental, transportation, and energy-related activities under the law in support of their respective missions in an environmentally, economically and fiscally sound, integrated, continuously improving, efficient, and sustainable manner.

I.1.2 Department of Defense, Army and ARNG Guidance and Regulations

- **Department of Defense Instruction 4715.3 – Environmental Conservation Program.** This instruction implements policy, assigns responsibility, and prescribes procedures for the integrated management of natural and cultural resources on property under DoD control. This instruction is currently being revised; a draft of the revised instruction is anticipated in Fiscal Year (FY) 2008.
- **Department of Defense Instruction 4710.02 – DoD Interactions with Federally-Recognized Tribes.** This instruction implements DoD policy, assigns responsibilities, and provides procedures for DoD interactions with federally recognized tribes (hereafter referred to as “Tribes”) in accordance with DoD Directive 5134.01, DoD Directive 4715.1E, DoDI 4715.3, Secretary of Defense Policy dated October 20, 1998, EO 13175, and the Presidential Memorandum dated September 23, 1994.
- **32 CFR 651, Environmental Analysis of Army Actions.** This regulation sets forth policy, responsibilities, and procedures for integrating environmental considerations into Army planning and decision making, thus implementing CEQ regulations. This regulation is used to prepare the EA to implement the ICRMP.
- **Army Regulation 200-1 – Environmental Protection and Enhancement.** This regulation covers environmental protection and enhancement and provides the framework for the Army Environmental Management System. This regulation addresses environmental responsibilities of all Army organizations and agencies. Chapter 6 regulation establishes the Army’s policy for managing cultural resources to meet legal compliance requirements and to support the military mission. AR 200-1 supersedes AR 200-4.
- **Department of Defense Minimum Antiterrorism Standards for Buildings (UFC 4-010-01).** These standards provide appropriate, implementable, and enforceable measures to establish a level of protection against terrorist attacks for all inhabited DoD buildings where no known threat of terrorist activity currently exists.
- **National Guard Bureau – ARE-C All States Letter (P02-0058) – Cultural Resources Management Policy Guidance.** This letter provides guidance for ICRMPs, annual update process, and templates for future ICRMPs. It also identifies nationwide goals for cultural resources programs.
- **National Guard Bureau – ARE-C ICRMP Guidance (see Appendix K).**

I.1.3 Federal Memoranda, Program Comments, and Agreements

This section summarizes policy documents, memoranda, and agreements affecting the <ARNG at the national level.

- ***World War II Temporary Buildings Programmatic Agreement (PA) (1986).*** The 1986 PA on World War II-era temporary buildings addresses these standardized buildings as a class in evaluation and documentation. The PA prescribes when demolition may proceed without further action and when the SHPO shall review the undertaking. Specifically, the PA allows demolition without further consultation for World War II-era temporary buildings; projects involving renovation, repair, rehabilitation, or movement of these buildings remain undertakings that require consultation with the SHPO. As part of the implementation of this PA, the Historic American Building Survey (HABS) documented representative examples of World War II-era temporary buildings across the United States. The majority of representative examples selected for documentation occurred at three facilities: Fort McCoy in Wisconsin, Fort Drum in New York, and Camp Edwards in Massachusetts.
- ***Programmatic Agreement for ARNG Readiness Centers.*** The PA for ARNG Readiness Centers, applies to both federally and state-owned Readiness Centers (previously designated as Armories) that are 50 years old or older, or that are considered eligible under NRHP criterion consideration G (Exceptional Significance). The terms of the Nationwide PA apply to ARNG undertakings concerning the maintenance and treatment, rehabilitation, renovation, and mothballing of Readiness Centers and associated structures and featured landscapes. The stipulations of the PA include a list of ARNG actions considered to be exempt from Section 106 review, a list of ARNG undertakings that could be completed with an expedited Section 106 review process, and procedures for undertakings not covered by the expedited review process. A national historic context document and a condition assessment of ARNG Readiness Centers were prepared as supporting documents for this PA.
- ***Program comment: DoD World War II- and Cold War-Era Ammunition Storage Facilities (Implemented May 2007).*** DoD has developed a programmatic approach to NHPA Section 106 compliance associated with management of Ammunition Storage Facilities through the Program Alternative allowed under 36 CFR 800.14. In the form of a Program Comment, this is a one-time action that covers all management activities for DoD Ammunition Storage Facilities built during World War II and the Cold War. The Program Comment issued by the ACHP covers undertakings including ongoing operations; maintenance and repair; rehabilitation; renovation; mothballing; ceasing maintenance activities; new construction; demolition; deconstruction and salvage; and transfer, lease, sale, or closure. The action covers approximately 29,100 buildings and structures within the overall DoD inventory of 397,389 buildings and structures. A copy of the Program Comment is included in Appendix I. This Program Comment does NOT apply to Ammunition Storage Facilities that are contributing elements to NRHP-eligible historic districts.
- ***Program Comment: DoD Cold War-Era Unaccompanied Personnel Housing (implemented May 2007).*** DoD has developed a programmatic approach to NHPA Section 106 compliance associated with management of Unaccompanied Personnel Housing (UPH) through the Program Alternative allowed under 36 CFR 800.14. In the form of a Program Comment, is a one-time action that covers all management activities for DoD UPH built during the Cold War. The Program Comment issued by the ACHP will cover undertakings including ongoing operations; maintenance and repair; rehabilitation; renovation; mothballing; ceasing maintenance activities; new construction; demolition; deconstruction and salvage; and transfer, lease, sale and/or closure. The Proposed Action covers approximately 5,000 buildings and structures within the overall DoD inventory of 397,389 buildings and structures. A copy of the Program Comment is included in Appendix I. This Program Comment does NOT apply to UPH that are contributing elements to NRHP-eligible historic districts.

I.1.4 State and Local Laws and Regulations

The historic preservation laws in some states can be more restrictive than federal laws, and meeting the requirements of the state's regulations can require additional or more extensive compliance activities on the part of the agency conducting a federal undertaking (36 CFR 800.16[y]). States might also have cemetery laws to consider (for example, Arkansas Act 753 of 1991, as amended, makes it a class D felony offense to knowingly disturb a human grave). Readiness centers (armories) can be a contributing element or located within a historic district. Historic districts could have covenants or building codes. A list of certified local governments can be found at <http://www2.cr.nps.gov/clg/>.

In cases where a project is not a federal undertaking (36 CFR 800.16[y]) for which the KYARNG or another federal agency is responsible for compliance with NHPA or other requirements, compliance with state, local, city, county, or certified local government laws and regulations would be required. A common example of an action that generally does not involve compliance with federal regulations is an action such as maintenance, repairs, remodeling, or demolition of a historic building or land that is not owned or leased by the federal government, does not support a federal mission, and where no federal funding federal permit or other assistance is involved.

In cases where a project is a federal undertaking for which the KYARNG or another federal agency is responsible for compliance with NHPA or other requirements, both federal and state laws can apply. An example of this action is when the federal undertaking affects a historic property owned and managed by the state. Another example is if the action occurs on state-owned land, state permits for archaeological work on state land could be required.

- **Circumstances Requiring Post-Mortem Examination to Be Performed By Coroner. (KRS72.025):** Coroners shall require a post-mortem examination to be performed in the following circumstances:
 - (1) When the death of a human being appears to be caused by homicide or violence;
 - (2) When the death of a human being appears to be the result of suicide;
 - (3) When the death of a human being appears to be the result of the presence of drugs or poisons in the body;
 - (4) When the death of a human being appears to be the result of a motor vehicle accident and the operator of the motor vehicle left the scene of the accident or the body was found in or near a roadway or railroad.
 - (5) When the death of a human being occurs while the person is in a state mental institution or mental hospital when there is no previous medical history to explain the death, or while the person is in police custody, a jail or penal institution;
 - (6) When the death of a human being occurs in a motor vehicle accident and when an external examination of the body does not reveal a lethal traumatic injury;
 - (7) When the death of a human being appears to be the result of a fire or explosion;
 - (8) When the death of a child appears to indicate child abuse prior to the death;
 - (9) When the manner of death appears to be other than natural;

- (10) When human skeletonized remains are found;
- (11) When post-mortem decomposition of a human corpse exists to the extent that external examination of the corpse cannot rule out injury or where the circumstances of death cannot rule out the commission of a crime;
- (12) When the death of a human being appears to be the result of drowning;
- (13) When the death of an infant appears to be caused by sudden infant death syndrome in that the infant has no previous medical history to explain the death;
- (14) When the death of a human being occurs as a result of an accident;
- (15) When the death of a human being occurs under the age of forty (40) and there is no past medical history to explain the death;
- (16) When the death of a human being occurs at the work site and there is no apparent cause of death such as an injury or when industrial toxics may have contributed to the cause of death;
- (17) When the body is to be cremated and there is no past medical history to explain the death;
- (18) When the death of a human being is sudden and unexplained; and
- (19) When the death of a human being occurs and the decedent is not receiving treatment by a licensed physician and there is no ascertainable medical history to indicate the cause of death.

- **Declaration of Policy. (KRS 164.705):**

This Kentucky law declares it to be the public policy of the Commonwealth to preserve archaeological sites and objects of antiquity for the public benefit and to limit exploration, excavation and collection of such matters to qualified persons and educational institutions possessing the requisite skills and purpose to add to the general store of knowledge concerning history, archaeology and anthropology.

Definitions for KRS 164.705 to 164.735. (KRS 164.710):

As used in KRS 164.705 to 164.735, unless the context otherwise requires:

- (a) “Archaeological site” means any place where articles of value in the scientific study of historic or prehistoric human life and activities may be found, such as mounds, earthworks, forts, mines, burial grounds, graves and village or camp sites of Indian or any aboriginal race or pioneers.
- (b) “Object of antiquity” means a ruin, monument, relic, bone deposit, artifact or any product of human workmanship of Indians or any aboriginal race or pioneers.
- (c) “Department” means the Department of Anthropology of the University of Kentucky.

- **Prohibition. (KRS 164.715):**

KRS 164.715 states that no person shall willfully injure, destroy or deface any archaeological site or object of antiquity situated on lands owned or leased by the Commonwealth or any state agency or any political subdivision or municipal corporation of the Commonwealth.

- **Permit Required to Excavate. (KRS 164.720):**

KRS 164.720 states that:

- (a) No person shall explore, excavate, appropriate or remove from land owned or leased by the Commonwealth or any state agency or any political subdivision or municipal corporation of the Commonwealth, any archaeological site or object of antiquity without first obtaining a permit from the Department of Anthropology upon recommendation of the agency owning or having control of the land upon which the same is situated.
- (b) If exploration or excavation of archaeological sites and the finding and gathering of objects of antiquity is undertaken for the benefit of reputable museums, universities, colleges or other recognized scientific or educational institutions with a view to promoting the knowledge of archaeology or anthropology, permits shall be regularly granted.
- (c) Each permit issued by the department under this section shall accurately describe the location and sites of the ruins or deposits where the exploration or excavation is to be conducted and shall authorize such actions only at such locations. The permit shall be upon such conditions as the department shall deem advisable for maximum effective exploration with a minimum of injury to the surrounding terrain. Each permit shall terminate upon the following thirty-first day of December, subject to an annual renewal on or before the following January 15th. However, any permit may be revoked by the department at any time upon finding that explorations or excavations authorized by the permit are not being conducted lawfully or properly in accordance with its terms.

- **Authority to Mark Locations (KRS 164.725)**

The department may designate archaeological sites and objects of antiquity and cause to be posted at the locations thereof appropriate signs or markers

- **Report Discovery (KRS 164.730)**

Any person who discovers an archaeological site or object of antiquity in the course of construction work or otherwise shall report such discovery to the department.

- **Authority to contract with Private Owner (KRS 164.735)**

The department may enter into contracts or cooperative agreements with private landowners relating to the preservation and proper exploration of any archaeological site or object of antiquity situated on such private land. The department may acquire, with any funds available to it for such purpose, title to any real estate upon which is located an archaeological site or object of antiquity which the department determines it is important to be preserved.

- **Disinterment, Removal, & Reinterment of Graves by Commonwealth – Political Subdivisions or Electric Power Company; Removal by Licensed Funeral Director. (KRS 381.765)**

If disinterment, removal, and reinterment of graves is effected by the Commonwealth of Kentucky or any of its agencies, public institutions, or political subdivisions, the United States of America or any agency thereof, or any electric power or lighting company, such disinterment, removal, and reinterment shall be performed by a funeral director duly licensed under the provisions of KRS Chapter 316; provided, however, a person holding a valid funeral director's license of another state may perform disinterment, removal and reinterment if the state in which such person is licensed has a reciprocal agreement whereby a license granted under the provisions of KRS Chapter 316 is recognized and accepted in that state.

- **Criminal Simulation (KRS 516.110)**

(1) A person is guilty of criminal simulation when:

- (a) With intent to defraud, he makes or alters any object in such manner that it appears to have an antiquity, rarity, source or authorship which it does not in fact possess; or
- (b) With knowledge of its character and with intent to defraud, he possesses an object so simulated.

(2) Criminal simulation is a Class A misdemeanor.

- **Violating Graves (KRS 525.115)**

(1) A person is guilty of violating graves when he intentionally:

- (a) Mutilates the graves, monuments, fences, shrubbery, ornaments, grounds, or buildings in or enclosing any cemetery or place of sepulture; or
- (b) Violates the grave of any person by destroying, removing, or damaging the headstone of footstone, or the tomb over the enclosure protecting any grave; or
- (c) Digs into or plows over or removes any ornament, shrubbery, or flower placed upon any grave or lot.

(2) The provisions of subsection (1) of this section shall not apply to ordinary maintenance and care of a cemetery nor the removal and relocation of graves pursuant to procedures authorized by and in accordance with applicable statutes.

(3) Violating graves is a Class A misdemeanor for the first offense and a Class D felony for each subsequent offense.

(4) The court shall order the defendant to restore the cemetery to its pre-damage condition.

- **Desecration of Venerated Objects, First Degree (KRS 525.105)**

(1) A person is guilty of desecration of venerated objects in the first degree when, other than authorized by law, he intentionally excavates or disinters human remains for the purpose of commercial sale or exploitation of the remains themselves or of objects buried contemporaneously with the remains.

(2) Desecration of venerated objects in the first degree is a Class D felony.

- **Desecration of Venerated Objects, Second Degree (KRS 525.110)**

(1) A person is guilty of desecration of venerated objects in the second degree when he intentionally:

(a) Desecrates any public monument or object or place of worship, or

(b) Desecrates in a public place the national or state flag or other patriotic or religious symbol that is an object of veneration by the public or a substantial segment thereof.

(2) Desecration of venerated objects in the second degree is a Class A misdemeanor.

I.1.5 State Memoranda and Agreements

There are currently no state-specific Memoranda of Agreement (MOAs) or PAs negotiated between the KYARNG and the SHPO.

I.2 National Historic Preservation Act Guidance

I.2.1 Section 106

Section 470f. Effects of Federal Undertakings upon property listed in the NRHP; comment by the ACHP (the NHPA, Section 106) states:

The head of any federal agency having a direct or indirect jurisdiction over a proposed federal or federally assisted undertaking in any state and the head of any federal department or independent agency having authority to license an undertaking shall, prior to approval of the expenditure of any federal funds on the undertaking or prior to the issuance of any license, as the case may be, take into account the effects of the undertaking on any district, site, building, structure, or object that is included in or eligible for inclusion in the National Register of Historic Places. The head of any such federal agency shall afford the Advisory Council on Historic Preservation established under part B of this subchapter a reasonable opportunity to comment with regard to such undertaking.

Section 106 of the NHPA requires the “head of any federal agency having direct or indirect jurisdiction over a proposed federal or federally assisted undertaking in any state and the head of any federal department or independent agency having authority to license any undertaking shall, prior to the approval of the expenditure of any federal funds on the undertaking or prior to the issuance of any license, as the case may be, take into account the effect of the undertaking on any district, site, building, structure, or object that is included in or eligible for inclusion in the National Register. The head of any such federal agency shall afford the Advisory Council on Historic Preservation . . . a reasonable opportunity to comment with regard to such undertaking.”

For the KYARNG, this requirement applies to undertakings on federal property (lands or buildings) or state property with federal actions (such as funding or permits). Projects that have no federal involvement (e.g., no federal funding, no federal action, no federal permits, and no federal property) do not fall under Section 106 of the NHPA; however, check state and local preservation laws and regulations (see **Appendix I.1**).

Consultation with the SHPO and/or the ACHP is a critical step in this process. If an undertaking on federal lands may affect properties having historic value to a Tribe, such Tribe shall be afforded the opportunity to participate as consulting parties during the consultation process defined in 36 CFR 800 (see **Appendix I.3**).

The Section 106 process is designed to identify possible conflicts between historic preservation objectives and the proposed activity, and to resolve those conflicts in the public interest through consultation. Neither NHPA nor ACHP regulations require that all historic properties must be preserved. They only require the agency to consider the effects of the proposed undertaking on those properties and fulfill the procedural requirements for the NHPA prior to implementation.

Failure to take into account the effects of an undertaking on historic properties, and afford the ACHP a reasonable opportunity to comment on such effects, can result in formal notification from the ACHP to the head of the federal agency of foreclosure of the ACHP's opportunity to comment on the undertaking pursuant to NHPA. Litigation or other forms of redress can be used against the federal agency in a manner that can halt or delay critical activities or programs.

The ACHP provides the following summary of the Section 106 process (excerpted from www.achp.gov, *incorporates amendments effective Aug. 5, 2004*), as well as the flowchart provided as **Figure I-1**. Hotlinks included in the text are those provided by the ACHP.

- **Introduction.** *Section 106 of the National Historic Preservation Act of 1966 (NHPA) requires Federal agencies to take into account the effects of their undertakings on historic properties, and afford the Advisory Council on Historic Preservation a reasonable opportunity to comment. The historic preservation review process mandated by Section 106 is outlined in regulations issued by ACHP. Revised regulations, "Protection of Historic Properties" (36 CFR Part 800), became effective January 11, 2001, and are summarized below.*
- **Initiate Section 106 process.** *The responsible Federal agency first determines whether it has an undertaking that is a type of activity that could affect historic properties. Historic properties are properties that are included in the National Register of Historic Places or that meet the criteria for the National Register. If so, the agency must identify the appropriate State Historic Preservation Officer/Tribal Historic Preservation Officer* (SHPO/THPO*) with whom to consult during the process. It should also plan to involve the public, and identify other potential consulting parties. If it determines that it has no undertaking, or that its undertaking is a type of activity that has no potential to affect historic properties, the agency has no further Section 106 obligations.*
- **Identify historic properties.** *If the agency's undertaking could affect historic properties, the agency determines the scope of appropriate identification efforts and then proceeds to identify historic properties in the area of potential effects. The agency reviews background information, consults with the SHPO/THPO* and others, seeks information from knowledgeable parties, and conducts additional studies as necessary. Districts, sites, buildings, structures, and objects listed in the National Register are considered; unlisted properties are evaluated against the National Park Service's published criteria, in consultation with the SHPO/THPO* and any Indian tribe or Native Hawaiian organization that may attach religious or cultural importance to them.*

If questions arise about the eligibility of a given property, the agency may seek a formal determination of eligibility from the National Park Service. Section 106 review gives equal consideration to properties that have already been included in the National Register as well as those that have not been so included, but that meet National Register criteria.

If the agency finds that no historic properties are present or affected, it provides documentation to the SHPO/THPO* and, barring any objection in 30 days, proceeds with its undertaking.

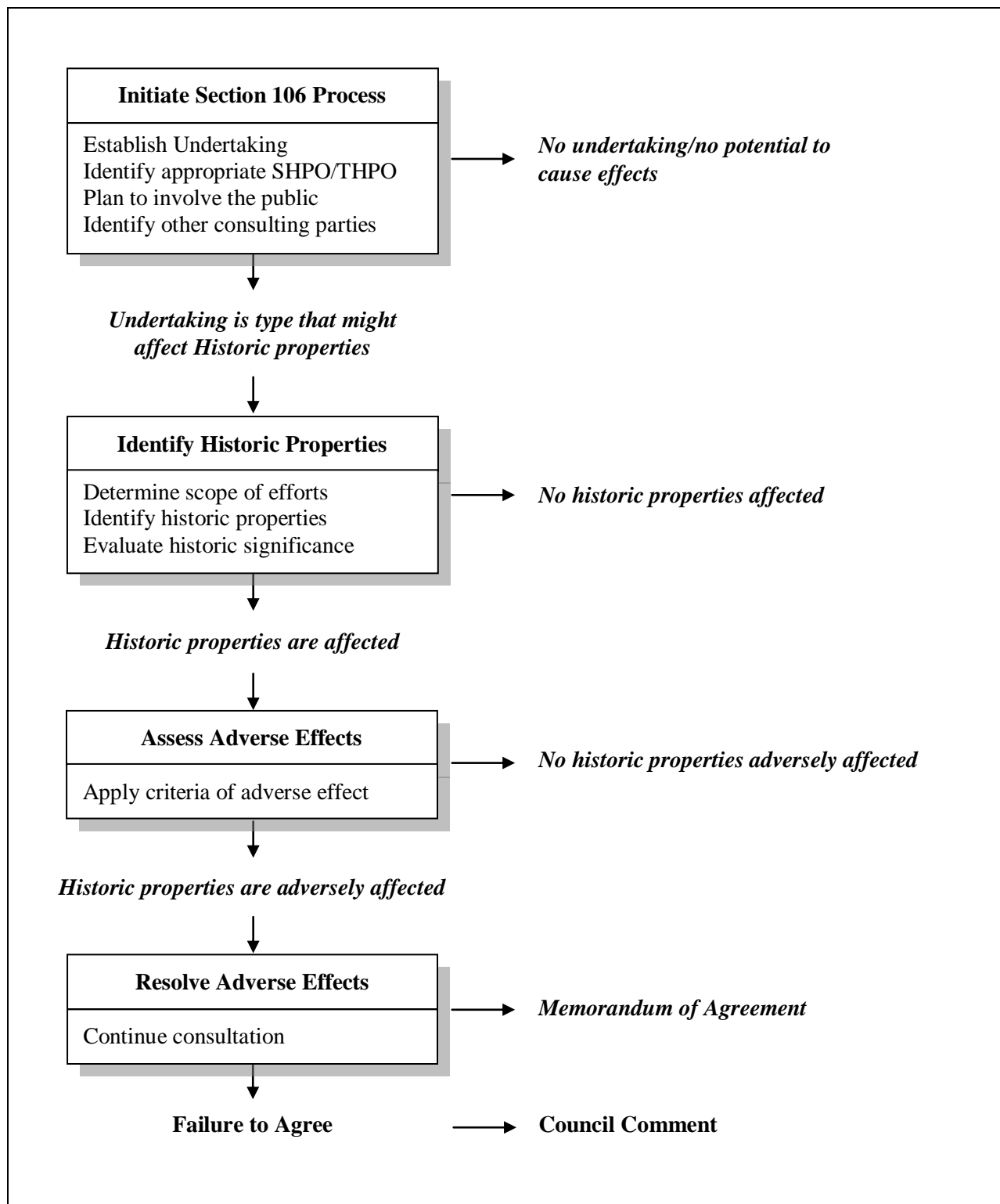
If the agency finds that historic properties are present, it proceeds to assess possible adverse effects.

- **Assess adverse effects.** *The agency, in consultation with the SHPO/THPO*, makes an assessment of adverse effects on the identified historic properties based on criteria found in ACHP's regulations.*

If they agree that there will be **no adverse effect**, the agency proceeds with the undertaking and any agreed-upon conditions.

- *If they find that there is an **adverse effect**, or if the parties cannot agree and ACHP determines within 15 days that there is an adverse effect, the agency begins consultation to seek ways to avoid, minimize, or mitigate the adverse effects.*
- **Resolve adverse effects.** *The agency consults to resolve adverse effects with the SHPO/THPO* and others, who may include Indian tribes and Native Hawaiian organizations, local governments, permit or license applicants, and members of the public. ACHP may participate in consultation when there are substantial impacts to important historic properties, when a case presents important questions of policy or interpretation, when there is a potential for procedural problems, or when there are issues of concern to Indian tribes or Native Hawaiian organizations.*

Consultation usually results in an MOA, which outlines agreed-upon measures that the agency will take to avoid, minimize, or mitigate the adverse effects. In some cases, the consulting parties may agree that no such measures are possible, but that the adverse effects must be accepted in the public interest.



Source: <http://www.achp.gov/regsflow.html>

Figure I-1. Section 106 Regulations Flow Chart

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- **Implementation.** *If an MOA is executed, the agency proceeds with its undertaking under the terms of the MOA.*
- **Failure to resolve adverse effects.** *If consultation proves unproductive, the agency or the SHPO/THPO*, or ACHP itself, may terminate consultation. If a SHPO terminates consultation, the agency and ACHP may conclude an MOA without SHPO involvement. However, if a THPO* terminates consultation and the undertaking is on or affecting historic properties on tribal lands, ACHP must provide its comments. The agency must submit appropriate documentation to ACHP and request ACHP's written comments. The agency head must take into account ACHP's written comments in deciding how to proceed.*
- **Tribes, Native Hawaiians, and the public.** *Public involvement is a key ingredient in successful Section 106 consultation, and the views of the public should be solicited and considered throughout the process.*

The regulations also place major emphasis on consultation with Indian tribes and Native Hawaiian organizations, in keeping with the 1992 amendments to NHPA. Consultation with an Indian tribe must respect tribal sovereignty and the government-to-government relationship between the Federal Government and Indian tribes. Even if an Indian tribe has not been certified by NPS to have a THPO who can act for the SHPO on its lands, it must be consulted about undertakings on or affecting its lands on the same basis and in addition to the SHPO.

Timing: The timing for identification surveys and evaluations in support of Section 106 undertakings will vary depending on the size and nature of the resources that may be affected by the undertaking, and the state of current knowledge (e.g., previous investigations) completed with the undertaking's Area of Potential Effect (APE). The CRM can anticipate 4 to 6 months to complete investigations involving small numbers of buildings or small land parcels, and longer for projects involving large numbers of buildings or larger land parcels.

Resolution of adverse effects (mitigation) could require an additional 6 to 12 months, depending on the complexity of the situation. In most cases, an MOA is developed. See **Appendix J** on agreement documents.

Stakeholders in the process include Tribes and the public.

I.2.2 Emergencies

Per 36 CFR 800.12 (emergency situations), the timeline for Section 106 review of renovations and repairs to historic buildings can be substantially reduced if the renovation or repair is required as a result of an emergency situation (e.g., flooding, tornados, earthquakes, or hurricanes). **The reduction of the timeline only applies in those situations where the President or the Governor has declared an official state of emergency.** The CRM notifies the ACHP, the SHPO/THPO, and any other interested parties of the project; these parties then have 7 days rather than the traditional 30 days to comment on the undertaking. As a proactive measure, the KYARNG could also work with the ACHP, SHPO/THPO, and interested parties to develop a PA (see **Appendix J**) outlining streamlined procedures for emergency situations.

Procedures: The CRM will ensure that all reasonable efforts are made to avoid or minimize disturbance of significant cultural resources during emergency operations and will communicate with applicable KYARNG personnel and SHPO/THPO/Tribes regarding potential effects on significant cultural resources that could occur in association with such activities.

Upon notification of a proposed emergency operation, the CRM will notify the ACHP and consult with the SHPO and THPO/Tribes, as appropriate, regarding the known or likely presence of cultural resources in the area of the proposed operation. The ACHP, SHPO/THPO/Tribes are expected to reply (Tribes do not have approval authority) in 7 days or less. Notification may be verbal, followed by written communication. This applies only to undertakings that will be implemented within 30 days after the need for disaster or emergency has been formally declared by the appropriate authority. An agency may request an extension of the period of applicability prior to the expiration of the 30 days. The CRM will ensure that the heads of all units involved in the project are briefed regarding the protocol to be followed in the case of the inadvertent discovery of cultural resources during emergency operations.

Once the emergency has passed, the CRM will complete all appropriate actions to complete the Section 106 process, including submittal of any reports or correspondence documenting the actions taken.

I.2.3 BRAC Actions

The 2005 Base Realignment and Closure (BRAC) Commission issued 190 separate DoD recommendations, including 837 distinct and identifiable BRAC "close" or "realign" actions. The purpose of BRAC actions is to save money and promote jointness between the Services. What BRAC means to the KYARNG cultural resources program is that all closures or realignments approved by the BRAC Commission affecting NRHP eligible or listed properties in the KYARNG real property inventory should be reviewed as Section 106 undertakings. The exception to this statement is closure of RCs (Armories); the BRAC language very specifically identifies the decision to close an RC as part of the realignment of forces within the KYARNG virtual installation as a state, rather than a federal action and, therefore, not subject to Section 106 review. State or local preservation laws and regulations could still apply to the RC closures, however. The language of the BRAC Commission reads, "The new Armed Forces Reserve Center (AFRC) in xxxx, xx shall have the capability to accommodate the xxNational Guard units from the following xxARNG Readiness Centers: (Readiness Centers listed), IF THE STATE DECIDES TO RELOCATE THOSE NATIONAL GUARD UNITS."

I.2.4 Section 110 of the National Historic Preservation Act and Executive Order 13287 "Preserve America"

It is the Department of the Army's responsibility to provide the report to the ACHP by 30 September of each year. The data are obtained from the Army IFS and ARNG PRIDE databases. Each state CRM is responsible for updating the PRIDE database and responding to annual AEDB-EQ data calls to provide accurate data for this report. The specific reporting requirements outlined in EO 13287 (which cite Section 110 of the NHPA) include

- a. Accurate information on the state of federally owned historic properties is essential to achieving the goals of this order and to promoting community economic development through local partnerships. Each agency with real property management responsibilities shall prepare an assessment of the current status of its inventory of historic properties required by Section 110(a)(2) of the NHPA (16 U.S.C. 470h-2(a)(2)), the general condition and management needs of such properties, and the steps underway or planned to meet those management needs. The annual assessment shall also include an evaluation of the suitability of the agency's types of historic properties to contribute to community economic development initiatives, including heritage tourism, taking into account agency mission needs, public access considerations, and the long-term preservation of the historic properties.
- b. Each agency with real property management responsibilities shall review its regulations, management policies, and operating procedures for compliance with Sections 110 and 111 of the

NHPA (16 U.S.C. 470h-2 & 470h-3) and make the results of its review available to the ACHP and the Secretary of the Interior. If the agency determines that its regulations, management policies, and operating procedures are not in compliance with those authorities, the agency shall make amendments or revisions to bring them into compliance.

- c. Each agency with real property management responsibilities shall, by 30 September 2005, and every third year thereafter, prepare a report on its progress in identifying, protecting, and using historic properties in its ownership and make the report available to the ACHP and the Secretary of the Interior. The ACHP shall incorporate these data into a report on the state of the federal government's historic properties and their contribution to local economic development and submit this report to the President by 15 February 2006, and every third year thereafter.
- d. Agencies may use existing information-gathering and reporting systems to fulfill the assessment and reporting requirements of subsections 3(a)-(c) of this order.
- e. The head of each agency shall designate a senior policy level official to have policy oversight responsibility for the agency's historic preservation program and notify the ACHP and the Secretary of the Interior of the designation. This senior official shall be an assistant secretary, deputy assistant secretary, or the equivalent, as appropriate to the agency organization. This official, or a subordinate employee reporting directly to the official, shall serve as the ACHP federal preservation officer in accordance with Section 110(c) of the NHPA. The senior official shall ensure that the federal preservation officer is qualified consistent with guidelines established by the Secretary of the Interior for that position and has access to adequate expertise and support to carry out the duties of the position.

Note – Policy limits NRHP nominations only to those properties the Army plans to develop for public use or transfer out of federal management through privatization efforts. Other nominations will be considered only when justified by exceptional circumstances.

I.3 Regulatory Requirements for Tribal Consultation

I.3.1 National Environmental Policy Act

The purposes of tribal consultation under NEPA are to identify potential conflicts that would not otherwise be known to the KYARNG, and to seek alternatives that would resolve the conflicts. It should be clear to all that NEPA's charge to "preserve important historic, cultural, and natural aspects of our national heritage" cannot be fully met without informed consideration of American Indian heritage.

An administratively key purpose is to develop documentary records sufficient to demonstrate that the KYARNG has taken adequate steps to identify, consult with, and weigh the interests of federally recognized tribes and Native Hawaiian organizations in its decisionmaking. **Figure I-2** provides a flowchart summarizing Native American consultation in support of NEPA.

An infringement of religious freedom, or a burden on religious practice, or a loss of religiously significant resources cannot be "mitigated" in the usual sense of the word (i.e., to lessen, soften, lighten). It is possible, however, to deal with potential infringement, burden, or loss by developing alternatives or management options that would avoid the specific impact. Avoiding an impact by not taking a certain action or parts of an action fits within the meaning of mitigation as defined in NEPA.

I.3.2 National Historic Preservation Act

The NHPA requires the identification and consideration of potential adverse effects on properties that might be significant due to their traditional or historic importance to a federally recognized tribes and Native Hawaiian organizations. The specific requirement for consultation relative to Section 106 of the NHPA is in Section 101(d)(6), added by amendments passed in 1992. **Figure I-3** provides a flowchart of how consultation with Tribes is integrated into the Section 106 review process.

Consultation for Section 106 purposes is limited to federally recognized tribes and Native Hawaiian organizations. It focuses (1) on identifying properties with tribal religious or cultural significance that are potentially eligible for inclusion in the NRHP, and (2) on taking into account the effects a proposed federal undertaking might have on them.

The 1992 NHPA amendments add significant new provisions concerning American Indian tribal participation in historic preservation. Regarding consultation, besides Section 101(d)(6) discussed above, Section 110(a)(2) directs federal agencies' programs to ensure

“(D) that the agency’s preservation-related activities are carried out in consultation with other Federal, State, and local agencies, Indian tribes, [and others] carrying out historic preservation planning activities. . . and . . .

“(E) that the agency’s procedures for compliance with Section 106—

“(ii) provide a process for the identification and evaluation of historic properties . . . and the development and implementation of agreements, in consultation with State Historic Preservation Officers, local governments, [and] Indian tribes . . . regarding the means by which adverse effects . . . will be considered”

The language in Section 101(d)(6), requiring agencies to consult with federally recognized tribes and Native Hawaiian organizations that attach religious and cultural significance to traditional properties that may be eligible for the NRHP, reinforces procedures.

Under Section 101(d)(6)(B) and Section 110(E)(ii), consultation may be called for when data recovery is being considered to mitigate adverse effects on a property’s scientific importance, if the property also has ascribed religious and cultural significance.

Where appropriate, such consultation opportunities may be used to meet the separate consultation requirements of 43 CFR 7.7 and Section 3(c) of NAGPRA, as well as those of Sections 101 and 110 of the NHPA.

I.3.3 Archaeological Resources Protection Act

ARPA, Section 4(c), requires notification of the appropriate federally recognized tribes and Native Hawaiian organizations before approving a cultural resource use permit for the excavation (testing and data recovery) of archaeological resources (more than 100 years old), if the responsible CRM determines that a location having cultural or religious importance to the Tribe could be harmed or destroyed. **Figure I-4** outlines the permitting process and consultation requirements for emergency excavations under ARPA.

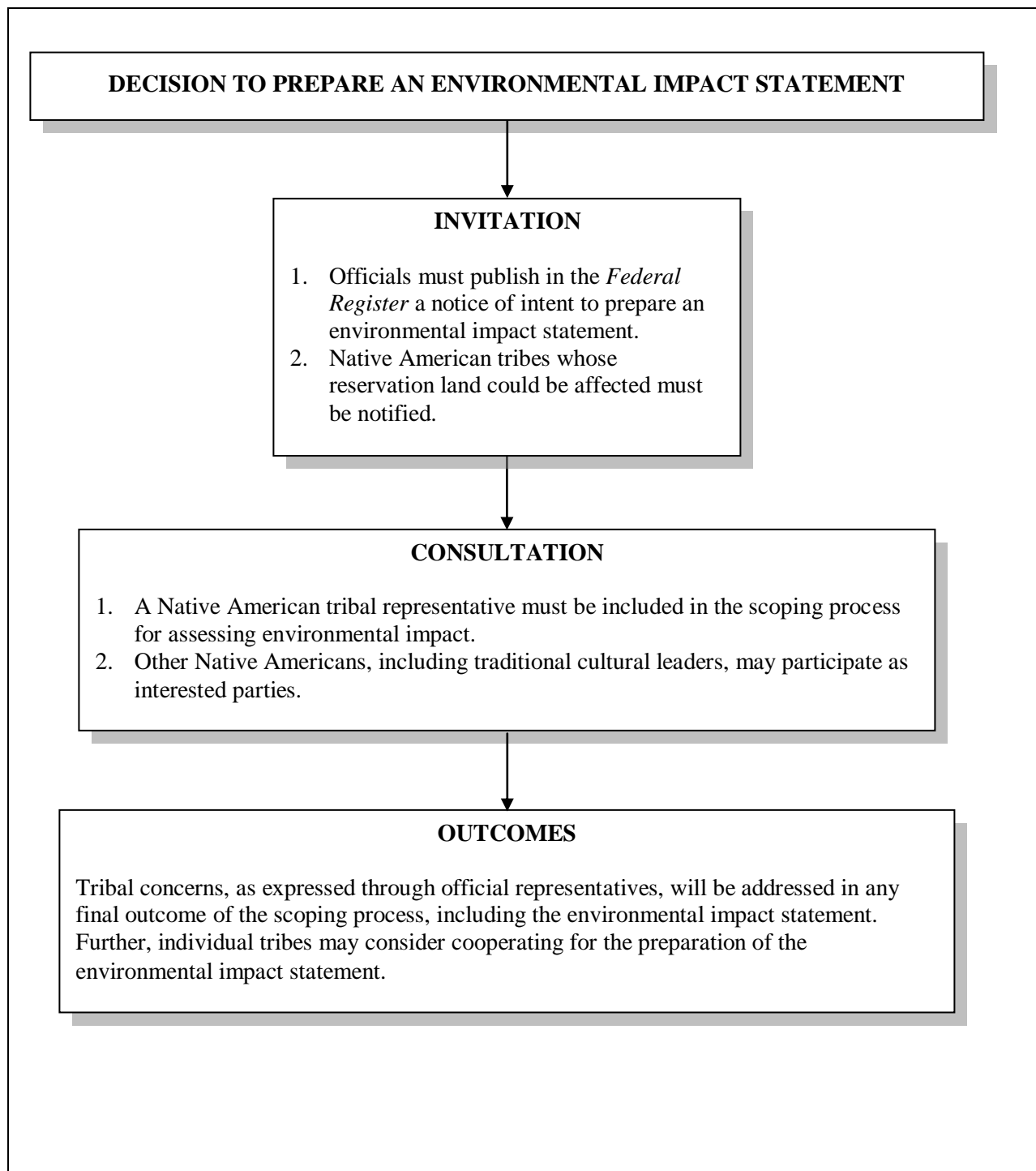
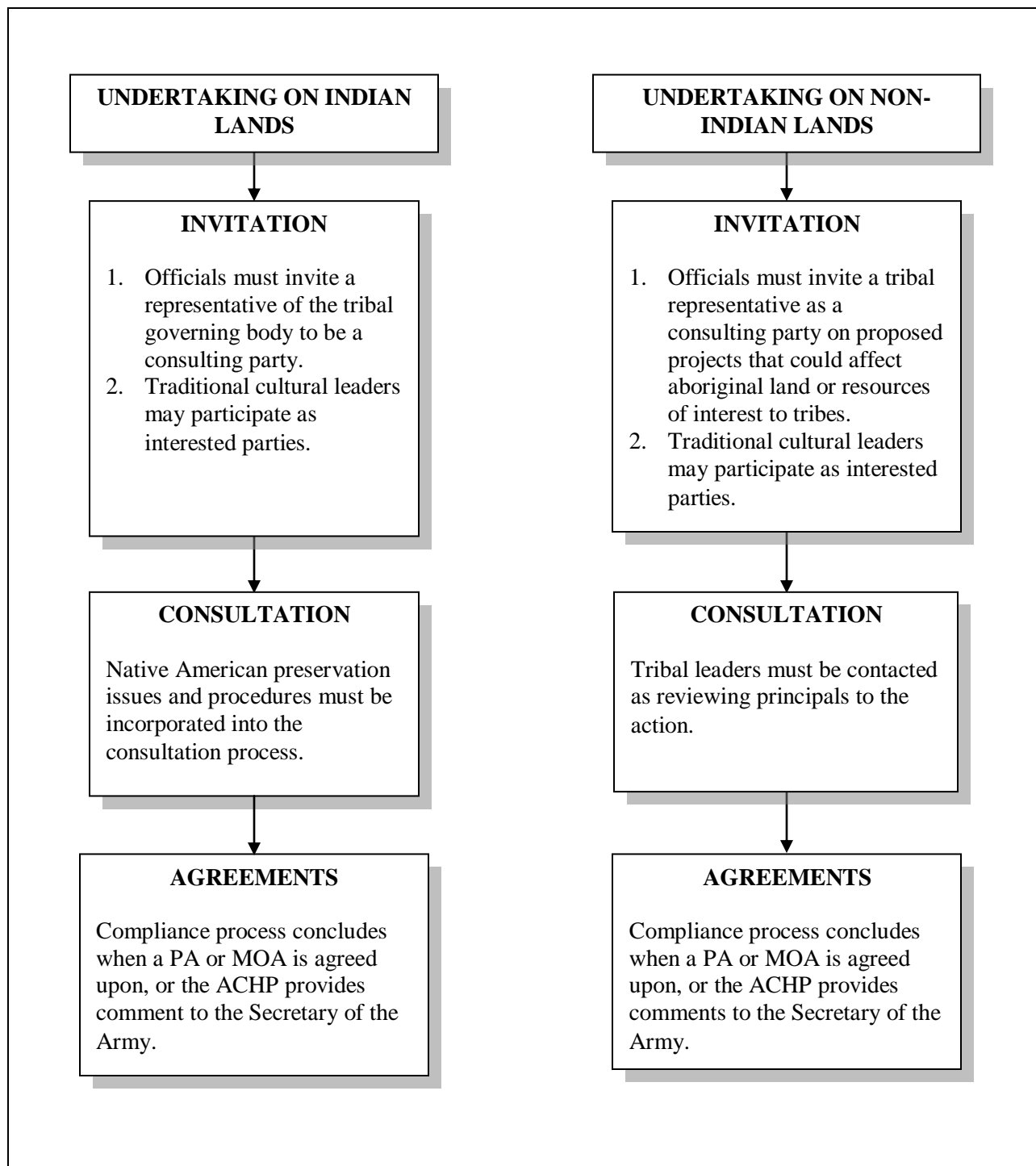


Figure I-2. Native American Consultation in Support of the National Environmental Policy Act



**Figure I-3. National Historic Preservation Act Section 106 Compliance
(16 U.S.C. 470(f)) Consultation**

The uniform regulations implementing ARPA include a provision that the KYARNG may also give notice to any other American Indian group known to consider potentially affected locations as being of religious or cultural importance (43 CFR 7.7(a)(2)).

I.3.4 Native American Graves Protection and Repatriation Act

The purpose of consultation under NAGPRA is to reach agreement as to the treatment and disposition of the specific kinds of “cultural items” defined in the act: Native American human remains, funerary objects, sacred objects, and objects of cultural patrimony.

The KYARNG is required to consult with the appropriate federally recognized tribe, Native Hawaiian organization, or lineal descendant under four circumstances:

- *A summary of KYARNG holdings, dating from before the act, indicates that unassociated funerary objects, sacred objects, or objects of cultural patrimony are present*
- *An inventory of KYARNG holdings, dating from before the act, finds human remains or associated funerary objects*
- *The KYARNG is processing an application for a permit that would allow the excavation and removal of human remains and associated funerary objects from federal lands*
- *Items covered by the act have been disturbed unintentionally.*

Only the last two of these circumstances are discussed here.

Intentional Removal

Under NAGPRA, the KYARNG must consult with appropriate federally recognized tribes, Native Hawaiian organizations, or individuals prior to authorizing the intentional removal of American Indian human remains and funerary objects found with them.

Documentation to show that consultation pursuant to Section 3(c) of NAGPRA has occurred must be included and maintained in the decision record.

A cultural resource use permit or equivalent documentation is generally required before human remains and artifacts covered by the act may be excavated or removed from federal lands. Permit-related notification and consultation, if it is requested, are required by ARPA Section 4 and 43 CFR 7.7.

When permit-related consultation will be taking place, it should be appropriate in most cases to use that opportunity to consult prospectively with respect to NAGPRA, to develop procedures to be followed in case human remains and cultural items are discovered. In any event, consultation for NAGPRA purposes must occur before the excavation or removal of human remains and cultural items may be authorized.

Unintended Disturbance

Human remains or cultural items subject to NAGPRA discovered as a result of an ARNG or ARNG-authorized activity, such as construction or other land-disturbing actions, are to be handled in the manner described in the “inadvertent discovery” procedures found at Section 3(d) of NAGPRA.

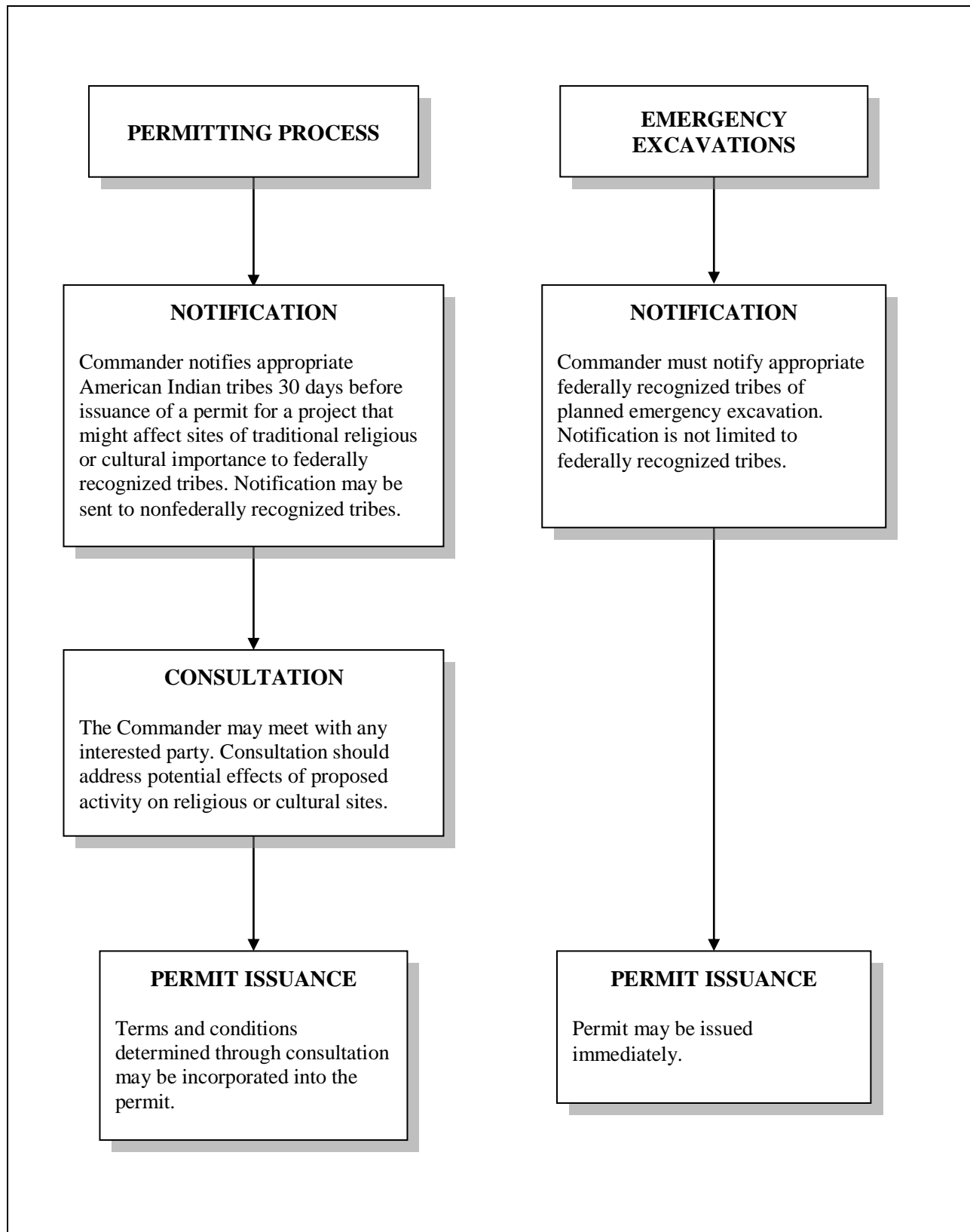


Figure I-4. Archaeological Resources Protection Act

Where there is a reasonable likelihood of encountering undetected cultural items during a proposed land use, agreements should be negotiated with Tribes or groups before the project is authorized to provide general guidance on treatment of any cultural items that might be exposed. Having these agreements in place saves time and confusion during the action (see **Appendix J**). In particular, the KYARNG should make provisions repatriation of human remains and funerary objects to the appropriate Tribes or living descendants, if they can be identified.

I.3.5 American Indian Religious Freedom Act

The primary purpose of AIRFA was to establish a policy of federal protection for traditional American Indian religious freedoms. Therefore, consultation for purposes of AIRFA is specifically directed at identifying the concerns of traditional American Indian religious practitioners relative to proposed KYARNG actions.

Traditional religious practitioners are frequently not tribal officials or governmental leaders.

Consultation pursuant to AIRFA should be initiated as soon as land uses are proposed that have the potential to affect American Indian religious practices.

The CRM must make reasonable efforts to elicit information and views directly from the American Indians whose interests would be affected. All potentially interested Tribes and groups should be contacted by letter and telephone to request their direct participation and input. This would include Tribes and groups that live near or use the lands in question, and also those known to have historical ties to the lands but now live elsewhere.

In any such communication, it must be clear that the purpose of the request is to learn about places of traditional religious importance that cannot be identified without the Tribe's or group's direct assistance, so that the KYARNG can know to protect the places from unintended harm and to provide for appropriate American Indian access.

Following initial mail or telephone contact, if there is reason to expect that places of religious significance to the federally recognized tribe or Native Hawaiian organization are likely to be affected by KYARNG actions, the district manager or an authorized representative should initiate face-to-face personal contact with appropriate officials of the Tribe or group or with traditional religious leaders.

The purpose of such personal contact is to seek mutually acceptable ways to avoid or minimize disturbance of traditional religious places or disruption of traditional religious practices.

Specific requests to obtain and consider information during planning or decisionmaking must be thoroughly documented, both as part of the administrative record and as a basis for determining if further inventory or consultation will be needed in subsequent KYARNG actions.

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APPENDIX J

CULTURAL RESOURCES MANAGER'S GUIDANCE

Cultural Resources Manager's Guidance

This appendix provides guidance and procedures for the CRM to implement the ICRMP and meet cultural resources compliance requirements. This chapter is presented in three sections. The first section provides overarching guidance and procedures that implement the ICRMP and achieve ICRMP objectives programwide. The second section provides guidance for project-specific or resource-specific tasks and actions. These sections also provide timelines for completing these tasks. The third section provides references and information sources that the CRM might find useful or that have been referenced throughout the text.

The KYARNG is capable of implementing this ICRMP Revision and fulfilling projects in Chapter 2. However, implementation of this ICRMP Revision is no guarantee that funds will be available. Unfunded work might have to be scheduled for later years.

The Army designated a percentage of environmental funding to NGB to support state ARNG federal requirements. Though funds are not fenced specifically for cultural resource projects, state cultural resource projects requested through the STEP funding request process are rolled into the amount request from Army by NGB. The DA allotted amount is then distributed by NGB according to the state's listed priority for cultural resources projects supporting federal missions. Some discretion is allowed the TAG at the state level to account for short-term mission priority changes. Some projects are paid for by the proponent such as ITAM. The STEP Project Catalog for cultural resources projects is provided in **Appendix K**. The STEP policy and guidance can be used for estimating cultural resources projects.

J.1 Program-Wide Guidance

This section provides guidance and procedures for ongoing and programwide cultural resource management. Project-specific guidance is provided in section J.2.

J.1.1 Cultural Resources Manager Reports and Annual Review of ICRMP

The CRM is responsible for the various reports and updates to maintain a current cultural resource management program. **Table J-1** lists the reports and due dates.

Table J-1. Cultural Resources Reporting and Review Requirements

Activity Requirement	Date Due
ICRMP Annual Review	On anniversary of signing of the FNSI for the original ICRMP EA
Army Environmental Database – Environmental Quality (AEDB-EQ)	Quarterly, or as data calls come through to NGB
Input projects into STEP Tool	Once each year (~1 March – 30 April)
Update PRIDE database	On anniversary of signing of the FNSI for the original ICRMP EA, as well as after each new inventory or evaluation effort is completed and SHPO has concurred with eligibility determinations

ICRMP Annual Review

In accordance with AR200-1, the annual report on the status of implementing the ICRMP over the previous year is required. The purpose of the Annual Report is to provide NGB a progress report on implementation of CRM program and ICRMPs. A template for the Annual Report is provided in **Appendix G**. Per NGB's Draft ICRMP Implementation Guidance, the Annual Report should include the following elements:

- *Compare stated mission, goals, and objectives in ICRMP with current mission, goals, and objectives, focusing on expected changes to impacts on cultural resources.*
- *Review the status of cultural resources and Master Planning projects: Past, Present and Future*
- *Review and update external contact information: SHPOs, THPOs, or any interested parties*
- *Provide a summary of highlights, key achievements, hot issues, and points of interest*

The **ACTUAL DUE DATE** for the report is **15 calendar days AFTER** the date of the signing of the FNSI for the EA or the date of the signing of the ICRMP Revision if a REC was submitted. For example, if your FNSI or ICRMP was signed on 1 May, then your annual report is due by or on 16 May.

Submission of the Annual Report also is tracked in the State Performance Indicator Report System (SPIRS) on a quarterly basis. The SPIRS is submitted to the state Chief of Staff from NGB. It provides the TAG a brief picture on how NGB sees state compliance with various requirements. The submission of the Annual Report is one of the requirements reported through the NGB-ARE CRM Team. Reporting is based on the fiscal year; the quarters and associated dates are listed in **Table J-2; please note that these dates may vary on an annual basis and check with NGB.**

Table J-2. SPIRS Timelines

Quarter	Months Covered	Date SPIRS Reported to TAGs	Final Date for Annual Report Submission
1st	October to December;	26 January	15 January
2nd	January to March	26 April	15 April
3rd	April to June	26 July	15 July
4th	July to September	26 October	15 October

The report is published on the 26th of the month following the completion of the quarter. Hence if you have submitted your annual report on time, you will be rated as **Green** for the next year. If you do not get your report in on time, then your state will go to **Red** and you may hear from your TAG. An **Amber** rating can occur if you submit an incomplete report and not supplied the additional information by the deadline.

Your Annual Report is related to the SPIRS by the FNSI date. So for the example above, if your FNSI or ICRMP Revision was signed on 1 May, then you SPIRS reporting period is 3rd quarter. Hence if you don't get your Annual Report in by the 15th of May, you'll be getting a reminder email. You then have essentially two months to get your report in so your state will report **Green** on the quarterly SPIRS report. Of course, **ALL** states should get their Annual Report in by **15 calendar days AFTER** their FNSI/ICRMP Revision date.

ICRMP Implementation

NGB has outlined the following steps for CRMs to take in implementing their ICRMP or ICRMP Revision once the document has been certified as legally sufficient. Draft guidance on this document is provided in **Appendix K**.

- *Align project lists (see Chapter 2) with STEP Projects*
- *Develop Soldier's Cards containing cultural resources information for Training Installations*
- *Develop Maintenance and Treatment Plans for eligible buildings or historic districts*
- *Distribute SOPs to Internal Stakeholders (consider a training session)*
- *Network with other ARNG CRMs*
- *Update the ICRMP as needed, but annually at a minimum*
- *Know your resources and planned projects; identify if agreement documents would help streamline your program.*

Programming and Budgeting

The STEP Tool serves as a source document in programming, budgeting, and allocating resources needed to execute the ARNG environmental program. It is used to show past accomplishments and expenditures; to indicate the status of current projects; to refine and validate requirements for the budget year; and to support planning, programming, and budgeting for the out years. The STEP Tool is used by the CRM when requirements are identified. NGB-ARE-C reviews the requirements for accuracy and validates the projects. There are approximately 13 cultural resources project “types” identified in the STEP Tool project catalog (see **Appendix K**). Projects need to be linked with operational goals and needs.

Timing: The programming and budgeting must be completed once a year (15 March – 15 July) and submitted to NGB-ARE-C.

Army Environmental Database – Environmental Quality (AEDB-EQ)

The AEDB-EQ is a World Wide Web-based data system that serves as a primary source of information for conveying the Army's environmental status to the senior Army leadership, DoD, and Congress. Its primary focus is to track Army compliance with environmental laws for multi-media reporting and management areas through inspections, enforcement actions, fines and penalties, and other program parameters on a quarterly basis. Primary reports for these data are the Quarterly Army Performance Review (to Secretary of the Army), and the semi-annual DoD Environmental Quality In Progress Review (IPR) (to Deputy Under Secretary of Defense), the fall IPR being the Army's input to the DoD AEDB-EQ to Congress (RCS 1997). In addition to the quarterly reports, the AEDB-EQ data calls in the fall and spring also include requirements for additional data required by the semi-annual DoD in IPRs and other reports that HQDA submits.

The AEDB-EQ is a process for auditing the status of the environment. It is the CRM's responsibility at the state/territory level to provide this information to NGB at a minimum on an annual basis, or as requested. The CRM completes this task in a minimum of two ways: (1) by updating PRIDE on the anniversary of the signing of the FNSI for the original ICRMP EA or the anniversary of the signing of this ICRMP Revision and (2) by completing the Cultural Resources Questionnaire and submitting it to NGB (see **Appendix K**).

Army Historic Preservation Campaign Plan

The goals of the Army Historic Preservation Campaign Plan are to promote cost effective historic building management and to improve the balance between NHPA compliance and the mission of the Army. The goals are approached through Army policy and guidance actions, and through regulatory and legislative actions. The Army's existing programming and reporting mechanisms include the AEDB-EQ, integrated facilities system (IFS) into which PRIDE feeds, and the Installation Status Report (ISR). These existing programming and reporting mechanisms are used for upward reporting of resource requirements and status of various aspects of the program. The existing reporting systems are leveraged extensively for reporting on the success indicator metrics of this campaign plan. The plan can be found at www.aec.army.mil.

J.1.2 Geographic Information System and Data Management

Integrating KYARNG cultural resources management data with a statewide GIS program allows the KYARNG cultural resources program to more efficiently support the KYARNG's mission of readiness. Minimally, GIS layers should be developed for historic buildings, archaeological sites, predictive archaeological models, and the location of the geographic area where Tribes and Native Hawaiian organizations have ancestral ties. Ideally, historic buildings survey data should be stored within a database that can be related to a GIS theme. GIS can facilitate application of the cultural landscape approach to cultural resource management and integration of cultural resource best management practices into installationwide planning and projects. To aid in the integration of cultural resources information into overall KYARNG installations and statewide planning and management, layers summarizing all known cultural resource sites and larger cultural landscapes, ground disturbance, and archaeological sensitivity (predictive modeling) will be developed within the GIS. Development of these layers should be based on

- *Maps and reports supplied from the SHPO or Tribes*
- *Extant GIS information compiled (e.g., the built environment at ARNG installations)*
- *Existing and future cultural resource surveys and evaluations.*

GIS layers and themes depicting archaeological resources and sacred sites are considered sensitive and will not be released to the general public. These layers should be password protected.

When preparing the scope of work (SOW) for contracts addressing cultural resources issues, results of cultural resources surveys and evaluations should be delivered in GIS format to include survey areas, transects, and cultural sites and properties and eligibility status. Within the SOW, reference the latest Army/NGB guidance regarding GIS file formats and standards, and include that **all data created or modified in this contract will adhere to the Spatial Data Standards (SDS) and the Federal Geographic Data Standards (FGDC) metadata standards.**

Maps should include, at a minimum, a north arrow, legend, map creator, map purpose, and creation date.

GIS themes depicting buildings and other facility types should be attributed with the appropriate keys to align with the PRIDE database. This will enable the query and display of the cultural resources information stored within PRIDE through GIS. For example, a map can be created showing whether or not a building has been evaluated, is eligible, or is listed in the NRHP, or as a national landmark; or if the building is a contributing resource to a district that is eligible or listed in the NRHP.

J.1.3 Standard Operating Procedures

SOPs have been prepared to assist KYARNG personnel who are not responsible for cultural resources management, but whose areas of responsibility could affect cultural resources. Chapter 3 includes these SOPs. SOPs should be made available to all personnel including any tenants, contractors, and occasional users. Include an overview in the orientation packet for tenants and occasional users, and include appropriate SOPs in contracts. SOPs can also be featured on the facility web site. Flow charts and procedures for inadvertent discovery can also be included in Trainers' Guides and Soldiers' Cards.

Procedures: The CRM will distribute these SOPs to all KYARNG personnel and provide guidance and training, as necessary (CRMs should complete a log documenting SOP distribution; see **Appendix F**).

J.1.4 Cultural Resources Training

Training for various staff is a prerequisite for properly implementing the ICRMP and for good stewardship of cultural resources. Many training opportunities are available for environmental staff, as well as nonenvironmental staff. Preferably the CRM shall have a basic knowledge of CRM and education in a related field, or at least a CRM introductory training certificate.

Training for CRM personnel could include laws and regulation overview, Section 106, maintenance of historic property, preservation of cultural landscapes, NAGPRA, agreement documents, tribal consultation, and curation. CRM training courses usually range from 3 to 5 days. Register and plan in advance.

For the CRM, training recommendations include

- **Primary Training** – *Section 106, Native American consultation workshop, NGB CRM 101 class (offered every 2 years), and ICRMP workshop if available (offered every 4 or 5 years)*
- **Secondary Training** – *Agreement documents, NAGPRA, and ICRMP workshop*
- **Tertiary Training** – *Integrating GIS and cultural resources, and advanced Section 106.*

For environmental staff and the CRM, training opportunities include

- *NGB annual workshop (topics vary) – gko/ngb.army.mil, and regional consultation workshops (two per year)*
- *Department of Defense (Denix) DoD Conservation Workshop (every 2 years)*
- *Advisory Council on Historic Preservation – www.achp.gov*
- *U.S. Army Corps of Engineers, Seattle District – www.nws.usace.army.mil*
- *National Preservation Institute – www.npi.org*
- *Civil Engineer Corps Officers School – www.cecos.navy.mil.*

For nonenvironmental KYARNG personnel, training is crucial to ensure compliance with environmental laws and policies and protection of cultural resources. By interfacing with field commanders, project planners, facility managers, and TAG staff, the CRM can develop solutions and programs that blend with existing training opportunities and the KYARNG mission (see **Table 2-6**).

The CRM should provide a training program in conjunction with, and supported by, operations for training site managers, field commanders and their troops, maintenance staff, and others who might encounter cultural resources. Training subjects can include understanding SOPs in Chapter 3, introduction to cultural resources regulations and management, and identification of cultural resources. Information from the training program can be summarized and included with training site information packages for soldiers, and can be placed on bulletin boards at historic facilities as reinforcement to training. A sample training brief is included in **Appendix K**.

J.1.5 Professional Qualification Standards

ARNG CRMs typically are not trained historians, archaeologists, ethnographers, or architectural historians, but are more often individuals assigned the CRM position as a collateral duty. Although CRMs are required to undergo training, as outlined in section J.1.4, most will not reach a level of training equivalent to prevailing professional standards. Accordingly, the CRM will need to hire consultants to complete inventory and evaluation projects. To ensure that the consultants being hired have the appropriate professional qualifications, they must meet the standards used by the NPS and published in 48 FR 44716 (September 1983). The qualifications define minimum education and experience required to perform identification, evaluation, registration, and treatment activities. In some cases, additional areas or levels of expertise might be needed, depending on the complexity of the task and the nature of the historic properties involved.

J.2 Project-Specific and Resource-Specific Guidance

This section provides guidance and procedures for ongoing project-specific, and resource-specific cultural resources management.

J.2.1 Archaeological Investigations

Because the KYARNG manages land as well as buildings and structures, and conducts actions that can result in ground disturbance, the KYARNG will have requirements under Sections 106 and 110 of the NHPA to identify and evaluate archaeological resources on the land areas that it manages. The following sections outline the range of identification and evaluation investigations that could be completed by the CRM as part of the KYARNG's management of archaeological resources.

Archaeological Predictive Models

Analysis of spatial relationships of known cultural resources can assist in determination of nonrandom patterns of prehistoric land use. Predictive models where archaeological surveys have not been completed can be useful for planning purposes to determine sensitive areas and additional project needs for avoidance or mitigation, prediction of future impacts and alternative development, tribal consultation, and development of training scenarios that avoid sensitive resources. Also, archaeological surveys can be stratified to focus more (not exclusively) on high-sensitivity areas when 100 percent intensive surveying and testing is cost- or time-prohibitive.

Modeling can be completed as a separate project, or as part of the research phase of a specific archaeological survey project. Areas of high, medium, or low probability to yield sites are modeled and then tested in the field to support the model theory. The SHPO or State Archaeological Society might have existing predictive models or predictive modeling parameters such as topography, elevation, proximity to water, and vegetation types to assist with modeling KYARNG lands.

Appendix C contains a summary of previous planning level surveys and predictive models. For specific archaeological surveys, include language in task orders for use of the cultural landscape approach and existing predictive models during surveys and to include a conclusion in the report about the accuracy of the model. Areas surveyed and survey results should also be illustrated in a GIS layer.

Development of a KYARNG lands statewide predictive model will require, at a minimum, the expertise of an archaeologist and a GIS technician with tribal consultation. A simple model can be developed using the established parameters or criteria for each region provided in the State Historic Preservation Plan (The 2010-2014 Kentucky Historic Preservation Plan), as well as plotting areas of previous disturbance. These parameters can be located on a map and predictive ratings assigned. It is recommended that a GIS layer be developed for this model. In most cases, the models will not replace the requirement for surveys, but as more data are collected about actual archaeological or cultural site distribution, these models can be tested and refined to assist with planning, reduce the level or amount of surveying, and provide a more effective use of program funding. Also, each year additional surveys on or near KYARNG property could be conducted, new discoveries could be made, and information and theories developed regarding former inhabitants and their lifeways. The GIS must be updated as new information becomes available to stay current and remain a useful manager tool. Therefore, the model will need periodic review to determine its validity and keep data current.

Archaeological Inventories and Evaluations

Inventories and evaluations are a required step for undertakings and compliance with Section 106 of the NHPA – undertakings on federal property (lands or buildings) or state property with federal actions (such as funding or permits). Results can be integrated with the NEPA process as needed but, in most cases, archaeological work must be initiated at the earliest planning phase of any project that has the potential to affect archaeological properties. Testing and excavations are more involved processes, and are generally used to further define an archaeological site and mitigate for adverse effects. For Section 106 compliance surveys, identifying the area of potential effect (APE) for a project and scoping of the survey or evaluation effort should be coordinated with the SHPO and any interested Tribes. Section 110 survey and evaluation efforts can also be coordinated with the SHPO and interested Tribes, to help identify priority areas for investigation, applicable research questions to be investigated, and methodology to be applied. Archaeological surveys must be conducted by qualified personnel, see section J.1.5.

Note: federal funding cannot be used for archaeological inventories on lands being acquired with state funds.

The following are very general definitions that apply to archaeological inventories:

Constraints analysis: A constraints analysis is completed when a party is interested in knowing what might be on a property in the most general way. A record search/literature search with sometimes a field visit for reconnaissance is conducted. A letter report is prepared to document overall impressions and concerns with recommendations, as appropriate. This type of analysis is also referred to as a reconnaissance survey, Phase Ia (eastern U.S.), or Class I (western U.S.). Check with the SHPO for levels of analysis and surveys and survey requirements.

Survey: Survey involves a record search/literature review, systematic coverage of a property, recording or updating of all discovered sites, and a report. Surveys sometimes involve some excavation depending on the level of information that is needed or state requirements. Excavation can be shovel scrapes or shovel test pits. Surveys can be collection or noncollection. Federal agencies generally prefer noncollection surveys. Collection requires cataloguing and additional maps for the sites that are complex and require curation (see section J.2.6).

Generally, a survey involves preparation of a work plan that describes how the work will be done and by whom. The survey interval is generally between 5 to 20 meters between team members and depends on terrain, vegetation coverage, and resources types. All sites located during a survey have to be recorded and mapped. A general assessment of the kind of site it is and perhaps the overall potential of the site can be suggested after a survey.

The survey report provides an environmental setting, culture history, a description of the site, methodologies, research questions, survey results, recommendations, and any additional state requirements. All discovered sites are treated as eligible for listing on the NRHP until determination of eligibility is final (see evaluation below). Recommendations are crafted based on a proposed project or action. If there are no immediate plans for a property, recommendations might include avoiding the site. These surveys are often referred to also as Phase I and Phase II. Check with the SHPO for levels of surveys and survey requirements.

Evaluation: Evaluation or testing of sites is extremely variable. There are guidelines for sparse lithic scatters that allow this type of site to be addressed in an expedient manner; however, for other site types there are a number of approaches. Many tests involve shovel test pits, shovel scrapes, drill holes, and sample excavation units with surface mapping, collection, and special studies. The number of units will vary greatly depending on the size of the site and how many units will be necessary to analyze the sections of the site that are not subjected to units, gather information to address research questions, and make conclusions about the site.

Upon completion of excavation, a report is prepared to summarize the testing and make a recommendation of eligibility.

Data Recovery: If a historic property will be impacted by an action or undertaking, there must be mitigation, and data recovery is a form of mitigation for archaeological sites. Data recovery requires preparation of an action/work plan, which describes the site, what information is hoped to be gained by the data recovery, study questions, sample design, catalog methods, special studies, and report preparation. This plan is carefully reviewed by the SHPO or state archaeologist and Tribes prior to field efforts. Data recovery efforts vary greatly in size and scope. The approach to a data recovery depends greatly on the site, geographic location, type of project, archaeologist, and timing. All collected items from federal land must be curated in a federally approved facility.

Procedures: Ensure that the scope of work clearly defines the type of survey or excavation; federal and state regulations to be met; the project objectives; a description of the deliverables, including GIS; and qualifications for those performing the work.

Determine if permits are necessary. Stakeholders include Tribes.

Archaeological Permits

In some instances, archaeological investigations may require federal or state permits. The most common categories of permits are described below.

Archaeological Resources Protection Act Permits. ARPA permits are required when the following three criteria are met:

- *The project is on federal land*
- *Digging or collection of artifacts will occur*
- *The participants are not directly contracted to or by the KYARNG.*

ARPA permits for archaeological investigations that could result in the excavation or removal of American Indian human remains and other cultural items as defined in NAGPRA, or in the excavation of archaeological resources that are of religious or cultural importance to federally recognized tribes and Native Hawaiian organizations, will be issued in accordance with AR 405-80 and AR 200-1. The KYARNG supporting U.S. Army Corps of Engineers (USACE) District Real Estate Office will issue the permit after the KYARNG commander conducts consultation in accordance with 43 CFR 10.5 and 32 CFR 229.7 with the culturally affiliated Indian tribes. The KYARNG commander provides the USACE district with approval to issue the permit by means of a report of availability prepared after necessary consultation and compliance actions have been met. ARPA permits shall provide for the disposition of NAGPRA cultural items in accordance with NAGPRA subsections 3(a) and 3(b) and 43 CFR 10. The KYARNG commander will ensure that documentation of consultation with culturally affiliated Indian tribes is prepared and maintained as part of the record of each such permit.

The KYARNG will ensure that ARPA permits:

1. Comply with the requirements of 32 CFR 229, 43 CFR 10
2. Require that any interests that federally recognized tribes or Native Hawaiian organizations have in the permitted activity are addressed in a manner consistent with the requirements of the NHPA and NAGPRA prior to issuance of the permit
3. Require that permitted activities be performed according to applicable professional standards of the Secretary of the Interior
4. Require that the excavated archaeological artifact collection and associated records are permanently curated in a curation facility that meets the requirements of 36 CFR 79.

Archaeological resources, objects of antiquity, and significant scientific data from federal installations belong to the installations, except where NAGPRA requires repatriation to a lineal descendant, federally recognized tribe, or Native Hawaiian organization. Archaeological resources, objects of antiquity, and significant scientific data from nonfederal land belong to the state, territory, or landowner. Such resources from lands used by the KYARNG, but for which fee title is held by another agency, are the property of the agency designated as the land manager in the land-use instrument (e.g., public land order, special use permit). KYARNG commanders should ensure that land use instruments allowing for military use are reviewed to determine proper roles and responsibilities.

KYARNG staff or contractors carrying out official duties associated with the management of archaeological resources who meet the professional qualifications and whose investigations meet the requirements of 32 CFR 229.8 are not required to obtain a permit under ARPA or the Antiquities Act for the investigation of archaeological resources on a federally owned or controlled installation, including situations where cultural items as defined by NAGPRA could be excavated.

However, in situations where NAGPRA cultural items or NHPA historic properties could be encountered during intentional excavation of archaeological resources, the requirements of NAGPRA and 43 CFR 10, and NHPA and 36 CFR 800 must be met prior to such archaeological excavations.

For the purposes of KYARNG compliance with ARPA, the KYARNG commander is considered the federal land manager as defined in 32 CFR 229.3(c). As the federal land manager, the KYARNG commander may determine that certain archaeological resources in specified areas under his jurisdiction, and under specific circumstances, are not or are no longer of archaeological interest and are not considered archaeological resources for the purposes of ARPA (in accordance with 32 CFR 229.3(a)(5)). All such determinations shall be justified and documented by memorandum and shall be formally staffed

for review through the NGB to HQDA prior to final determination. HQDA uses technical and legal guidance from AEC to review the draft document.

The KYARNG commander will ensure that military police; installation legal staff; the installation PAO; and the fish, game, and recreation management staff are familiar with the requirements and applicable civil and criminal penalties under ARPA. Also in accordance with ARPA Section 9, the KYARNG commander may withhold information concerning the nature and location of archaeological resources from the public under Subchapter II of Chapter 5 of Title 5 of the *United States Code* or under any other provision of law. ARPA permits can take up to 6 months to acquire.

J.2.2 Inadvertent Discoveries

Inadvertent Discovery of Human Remains or Funerary Objects – Native American Graves Protection and Repatriation Act

In the event of discovery of human remains, funerary objects, sacred objects, or objects of cultural patrimony, the CRM will ensure that all appropriate measures are implemented to protect the remains and any other protected cultural items; all appropriate tribes and agencies will be promptly notified of the find, and all applicable federal, tribal, and state procedures will be followed.

For ground-disturbing activities, project planners, engineers, soldiers, tenants, and construction personnel should be informed of types of cultural resources potentially existing at the KYARNG site or training installation, and they should be briefed on the provisions in SOP 5.

Prior to field troops, construction crews, or non-KYARNG personnel commencing activities at any KYARNG property, they should be briefed on the following procedures (flowchart provided in **Figure J-1**).

1. Ensure that activities have ceased at the discovery site and that the site has been secured from human and natural forces.
2. Notify the SHPO of the discovery. This notification should be by telephone, to be followed immediately by written notification.
3. If human remains are known or suspected to be present, also promptly notify the state police and medical examiner, and if federal property, the FBI. Notify the KYARNG JAG, operations manager in the Directorate of Operations (DSCOPs), and PAO.
4. Visit the location of the discovery within 24 hours of the find. The services of appropriate technical experts (e.g., archaeologists, specialists in human osteology, forensic anthropologists) may be retained to participate in the field visit.
5. If the CRM has reason to believe that American Indian human remains, funerary objects, sacred objects, or objects of cultural patrimony have been discovered, the CRM must provide immediate telephone notification of the discovery, along with written notification by certified mail, to NGB.
6. If known, as much information as possible concerning the cultural resource (such as type, date, location, any indicators of ethnicity, and circumstances of the discovery) should be provided to NGB. NGB, in consultation with the KYARNG and appropriate interested parties, will determine the significance and origin of the remains.
7. The CRM will obtain certification of notification from NGB. Federally recognized tribes and Native Hawaiian organizations would be notified by telephone with written confirmation within

3 days after certification. This notification must include pertinent information as to kinds of human remains, funerary objects, sacred objects, or objects of cultural patrimony, their condition, and the circumstances of discovery.

8. The CRM will follow NAGPRA procedures and consult with interested parties (SHPO, Tribes, property owner) to discuss disposition of remains and mitigation measures. The CRM, in consultation with the SHPO and American Indian groups, as appropriate, will determine the procedures for disposition and control of any American Indian cultural items excavated or removed as a result of inadvertent discoveries.

Activities in the area of discovery will resume 30 days after certification of notification is received, or sooner, if a signed binding agreement is reached. Keep the PAO informed throughout the process. Phone numbers and the names of contacts are provided in **Appendix F**. Before the original action can resume, NGB must approve that the NAGPRA process has been implemented properly and that the KYARNG is in a legal position to proceed with the project in the area of discovery

One management tool is for the KYARNG to develop a CA prior to the encounter of a burial to agree upon procedures and streamline the process.

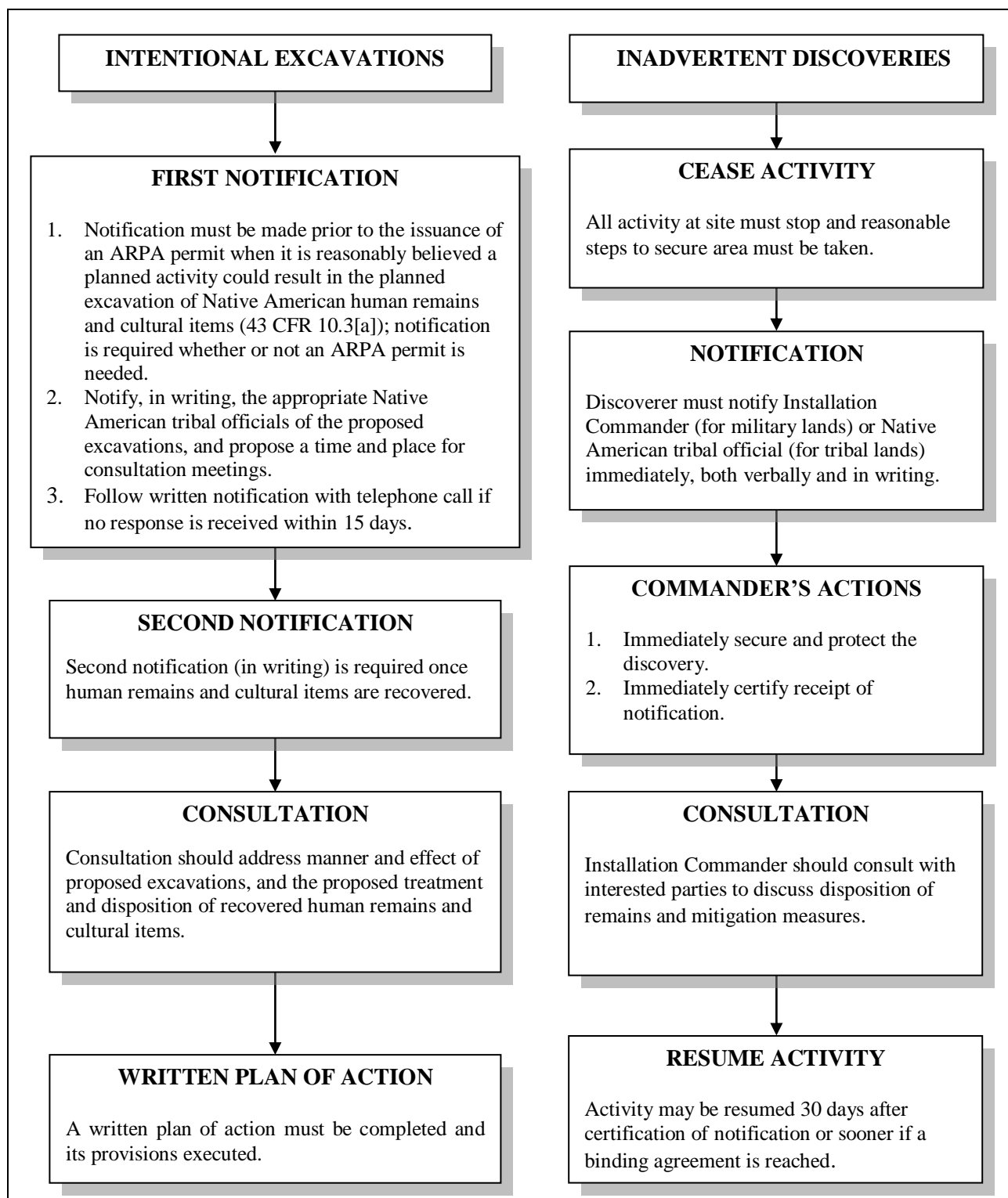


Figure J-1. Policies for Archaeological Excavation under Native American Graves Protection and Repatriation Act 25 USC 3001-3013

Inadvertent Discovery of Archaeological Artifacts

The CRM shall ensure that, in the event of the inadvertent discovery of archaeological resources (excluding items covered under NAGPRA), measures are taken promptly to protect the find from disturbance, assess the significance of the discovery, and implement appropriate mitigative measures for significant resources.

1. Ensure that activities have ceased at the discovery site, and that the site has been secured from human and natural forces.
2. The CRM will promptly notify the SHPO of the discovery.
3. Begin recording the site if the site can be avoided.
4. Prepare full documentation of the resource and a report summarizing the results of the investigation. This documentation and the report will be submitted to the SHPO and Tribes.

J.2.3 Curation

[Note: AR 200-1, 2-7 (a) and (b) – The installation commander will ensure that all collections are possessed, maintained, and curated in accordance with the requirements of 36 CFR 79. Generally, installations should not establish archaeological curation facilities on the installation due to the permanent recurring costs and personnel requirements to maintain such repositories to the minimum standards in 36 CFR 79 in perpetuity].

In accordance with the requirements of 36 CFR 79, *Curation of Federally Owned and Administered Archaeological Collections*, AR 200-1 requires TAG of the ARNG to ensure that all archaeological collections and associated records, as defined in 36 CFR 79.4(a), are processed, maintained, and preserved.

Collections are material remains that are excavated or removed during a survey, excavation, or other study of a prehistoric or historic resource, and associated records that are prepared or assembled in connection with the survey, excavation, or other study (36 CFR 79.4[a]).

Associated records are original records (or copies thereof) that are prepared or assembled, that document efforts to locate, evaluate, record, study, preserve, or recover a prehistoric or historic resource (36 CFR 79.4([2])).

The CRM should consider long-term and the ongoing cost of permanent collection curation and include this in the budgets for archaeological investigation projects in STEP.

Collections from federal lands should be deposited in a repository that meets the standards outlined in 36 CFR 79, to ensure that they will be safeguarded and permanently curated in accordance with federal guidelines. Collections from state owned property that have title vested in the KYARNG should be curated in facilities that meet the requirements of the SHPO.

A curation facility is specifically designed to serve as a physical repository where collections and records are sorted, repackaged, assessed for conservation needs, and then placed in an appropriate, environmentally controlled, secure storage area. Proper curation also includes a review and update of all paper records. An important component of artifact curation is the selection of artifacts for site-specific reference collections. Artifact data are entered into a database, which is an important management and research tool. The overall goal of the federal curation program, as set forth in 36 CFR 79, is to ensure the

preservation and accessibility of cultural resource collections and documents for use by members of the public interested in the archaeology and history of the region.

Procedures:

- *Before permanent curation, all artifacts recovered on KYARNG sites and training installations will be analyzed using commonly accepted methods for artifacts in the region. Artifact analyses will be consistent with current archaeological research objectives for the region.*
- *Cleaning, curation, and storage of artifacts and associated documents will meet professional standards.*
- *Artifacts and associated documents will be stored in clean, spacious, temperature-controlled facilities while on the installation and kept in archival-quality bags, folders, or boxes.*
- *The KYARNG may choose to negotiate a memorandum of understanding (MOU) or similar agreement with the SHPO or other state repository, museum, or university; or other approved curation facility for final curation of all artifacts.*
- *All field, laboratory, and other project records will be reproduced on archival-quality paper.*

36 CFR 79 Reporting and Inspection Requirements

The annual Secretary of the Interior's report to Congress requires an assessment of archaeological records and materials in federal repositories.

The CRM shall determine, on an annual basis, the volume of records and materials held by the KYARNG installation or curated on its behalf at a curation facility.

Inspections of federally curated archaeological collections shall be conducted periodically in accordance with the Federal Property and Administrative Services Act (40 U.S.C. 484), and its implementing regulation (41 CFR 101). Consistent with 36 CFR 79.11(a), the CRM shall

- *Maintain a list of any U.S. Government-owned personal property (i.e., artifacts, documents, as defined in 36 CFR 79) received by the CRM*
- *Periodically inspect the physical environment in which all archaeological materials are stored for the purpose of monitoring the physical security and environmental control measures*
- *Periodically inspect the collections in storage for the purposes of assessing the condition of the material remains and associated records, and of monitoring those remains and records for possible deterioration and damage*
- *Periodically inventory the collection by accession, lot, or catalog record for the purpose of verifying the location of the material remains and associated records*
- *Periodically inventory any other U.S. Government-owned personal property in the possession of the CRM.*

J.2.4 Records Management

The proper management of official records is Army policy and typically a mandated function of the KYARNG historian, if one has been assigned. It is important that the CRM be cognizant of Army records management programs, though, because the custodianship of historical records can fall to the CRM or an

associated office. Also, the CRM holds unique cultural resources-related records that are not represented in other facets of the installation. The preservation of these records is important.

Due to the fact that the KYARNG is in the unique position of having both state and federally mandated roles, the management of both state and federal records is discussed below.

Federal Records

Army records management policy is set forth in various documents. Secretary of the Army Memorandum of 22 February 2005: *Preservation of Army Records* states that “[o]fficial records of the US Army are of enduring significance for ensuring complete, accurate, and objective accounting of the Army’s activities” and “all elements of the US Army must ensure that official records of both peacetime and wartime activities are preserved.” Moreover, the preservation of agency records and their management is stipulated in federal regulations in 44 U.S.C. chapters 21, 29, 31, 33, and 101.

Records management requirements are delineated in AR 25-1, *Army Knowledge Management and Information Technology*, and AR 25-400-2; the Army Records Information Management System (ARIMS). A Web site dedicated to ARIMS is located at: <https://www.arims.army.mil/arimsnet/site/aersmain.aspx>. There are three avenues through which the KYARNG CRM can ensure the protection of important records.

First, if an installation records officer exists, the KYARNG should contact this individual to develop a records management program for the records generated and stored by his/her office and make sure that the cultural resources program records are managed in such a way that they comply with installation and Army policy.

Second, there are a variety of other sources for guidance if an installation records officer does not exist. Within the Army these include the Army Records Management and Declassification Agency (RMDA) whose mission is to provide oversight and program management for the Army’s Records Management Program, along with establishing programs for records collection and operating and sustaining the Army electronic archives.

The Records Management and Declassification Agency can be contacted at rmda@rmda.belvoir.army.mil. The division’s Web site can be accessed at: <https://www.rmda.belvoir.army.mil/rmdaxml/>. The Army records officer will be able to provide direction on the management of KYARNG records. Contact information is

Department of Defense
Department of the Army
Army Records Management Division
ATTN: AHRC-PDD-R
Casey Building, Room 102
7701 Telegraph Road
Alexandria, VA 22315-3860

Third, the National Archives and Records Administration has a very active program in which they assist agencies in developing record management programs that help to ensure the conservation and eventual archiving of important records while considering mission needs and other circumstances. The KUARNG CRM can contact the College Park, Maryland, branch of the National Archives and Records Administration to assist in the appraisal and management of the KYARNG records under his/her control.

State Records

State records fall into two categories, those that are maintained by the KYARNG historian and those that are transferred to the State Archives. The KYARNG historian can provide guidance on what types of records are archived by each agency. The state's records management statutes are codified in the 1958 Act for establishment and operation of the Kentucky Department for Libraries & Archives (KRS 171.420 & KRS 171.670). The state program is similar to the federal program, but applies to state records. The State Archives provide technical assistance to agencies so that they can meet legal, fiscal, and administrative functions for records retention.

Kentucky Department For Libraries & Archives

300 Coffee Tree Road

P.O. Box 537

Frankfort, Kentucky 40602-0537

J.2.5 Historic Structures

A building is created principally to shelter any form of human activity. "Building" can also be used to refer to a historically and functionally related unit, such as a courthouse and jail or a house and barn. Buildings eligible for the NRHP must include all of their basic structural elements. Parts of buildings, such as interiors, facades, or wings, are not eligible independent of the rest of the existing building. The whole building must be considered, and its significant features must be identified.

The term "structure" is used to distinguish those constructions created for functions other than human shelter. Structures nominated to the NRHP must include all of the extant basic structural elements. Parts of structures cannot be considered eligible if the whole structure remains. For example, a truss bridge is composed of the metal or wooden truss, the abutments, and supporting piers, all of which, if extant, must be included when considering the property for eligibility.

Buildings and structures of historic age, which is considered to be 50 years or older, should be inventoried and evaluated. An inventory is generally a physical documentation of the building that includes construction date, original and current function, a physical description of the building or structure and its current condition, and description of changes over time. The evaluation is to determine the significance of the building or structure and if it is eligible for listing in the NRHP. Generally, the inventory and evaluation are conducted concurrently.

Evaluations are conducted using NRHP criteria, as listed in 36 CFR 60.4. To be listed in, or considered eligible for, the NRHP, a cultural resource must meet at least one of the four following criteria:

- *The resource is associated with events that have made a significant contribution to the broad pattern of history (Criterion A)*
- *The resource is associated with the lives of people significant in the past (Criterion B)*
- *The resource embodies distinctive characteristics of a type, period, or method of construction; represents the work of a master; possesses high artistic value; or represents a significant and distinguishable entity whose components might lack individual distinction (Criterion C)*

- *The resource has yielded, or might be likely to yield, information important in prehistory or history (Criterion D).*

In addition to meeting at least one of the above criteria, a cultural resource must also possess integrity of location, design, setting, materials, workmanship, feeling, and association. **Integrity** is defined as the authenticity of a property's historic identity, as evidenced by the survival of physical characteristics it possessed in the past and its capacity to convey information about a culture or group of people, a historic pattern, or a specific type of architectural or engineering design or technology.

Location refers to the place where an event occurred or a property was originally built. Design considers elements such as plan, form, and style of a property. Setting is the physical environment of the property. Materials refer to the physical elements used to construct the property. Workmanship refers to the craftsmanship of the creators of a property. Feeling is the ability of the property to convey its historic time and place. Association refers to the link between the property and a historically significant event or person.

Certain kinds of properties are not usually considered for listing in the NRHP, including

- *Religious properties (Criterion Consideration A)*
- *Moved properties (Criterion Consideration B)*
- *Birthplaces or graves (Criterion Consideration C)*
- *Cemeteries (Criterion Consideration D)*
- *Reconstructed properties (Criterion Consideration E)*
- *Commemorative properties (Criterion Consideration F)*
- *Properties that have achieved significance within the past 50 years (Criterion Consideration G).*

These properties can be eligible for listing only if they meet special requirements, called Criteria Considerations (see above). A property must meet one or more of the four Criteria for Evaluation (A through D) and also possess integrity of materials and design before it can be considered under the various Criteria Considerations.

Historic Districts. Sites or structures that might not be considered individually significant could be considered eligible for listing on the NRHP as part of a historic district. According to the NRHP, a historic district possesses a significant concentration, linkage, or continuity of sites, buildings, structures, or objects that are historically or aesthetically united by plan or physical development.

A district derives its importance from being a unified entity, even though it is often composed of a wide variety of resources. The identity of a district results from the interrelationship of its resources, which can convey a visual sense of the overall historic environment or be an arrangement of historically or functionally related properties. For example, a district can reflect one principal activity, such as a mill or a ranch, or it can encompass several interrelated activities, such as an area that includes industrial, residential, or commercial buildings, sites, structures, or objects. A district can also be a grouping of archaeological sites related primarily by their common components; these types of districts often will not visually represent a specific historic environment.

A district can comprise both features that lack individual distinction and individually distinctive features that serve as focal points. It can even be considered eligible if all of the components lack individual distinction, provided that the grouping achieves significance as a whole within its historic context. In either case, the majority of the components that add to the district's historic character, even if they are individually undistinguished, must possess integrity, as must the district as a whole.

A district can contain buildings, structures, sites, objects, or open spaces that do not contribute to the significance of the district. The number of noncontributing properties a district can contain yet still convey its sense of time and place and historical development depends on how these properties affect the district's integrity. In archaeological districts, the primary factor to be considered is the effect of any disturbances on the information potential of the district as a whole.

A district must be a definable geographic area that can be distinguished from surrounding properties by changes such as density, scale, type, age, style of sites, buildings, structures, and objects; or by documented differences in patterns of historic development or associations. It is seldom defined, however, by the limits of current parcels of ownership, management, or planning boundaries. The boundaries must be based upon a shared relationship among the properties constituting the district.

Department of Defense Historic Status Codes

In 2005, in response to the requirements of EO 13327, DoD introduced the Historic Status Codes used to identify real property assets on the NRHP or facilities that should be evaluated for NRHP eligibility. This list was subsequently updated in 2007. **Table J-3** provides a list and explanation of the DoD Historic Status Codes.

Table J-3. DoD Historic Status Codes

Code	Title	Definition
NHLI	Individual National Historic Landmark	An individual facility that is individually listed on the NRHP and has been further declared and NHL by the Secretary of the Interior due to its prominent importance in our Nation's history. The designation of an NHL is coordinated by the Secretary of the Interior in consultation with the Federal Preservation Officer (FPO).
NRLI	Individual National Register Listed	An individual facility that has been determined to meet the National Register criteria of eligibility, and has been formally listed in the NRHP by the Keeper of the National Register. The formal evaluation and nomination process of individual facilities involves the review, approval, and signature of the FPO, SHPO, or THPO (as appropriate), and the Keeper of the National Register.
NREI	National Register Eligible - Individual	A facility that is determined to meet the National Register criteria of eligibility but that has not gone through the formal nomination process. An eligible facility is treated the same as a facility listed in the NRHP pursuant to the NHPA and 36 CFR 800 "Protection of Historic Properties." Facilities are determined to be eligible for listing in the NRHP through installation determinations as concurred with by the SHPO or THPO (as appropriate), or by a formal determination of eligibility from the Keeper of the National Register.
NCE	Non-Contributing Element of NHL/NRL/NRE District	Facilities within the designated boundaries of a National Historic Landmark District or NRHP listed or eligible District that have been evaluated and determined not to contribute to the historic or architectural significance of the District.

Code	Title	Definition
DNE	Determined Not Eligible for Listing	A facility that has been evaluated using the National Register criteria and is determined not to meet any of the requirements for eligibility. This determination is carried out by the installation staff in consultation with the SHPO or THPO (as appropriate).
NEV	Not Yet Evaluated	A facility that has not yet been evaluated for historic status.
DNR*	NHLI/NHLC/NREI/NREC National Register Property – Designation rescinded	A facility formerly classified as NHLI/NHLC/NREI/NREC that has been determined by the Keeper of the National Register to lack sufficient integrity to maintain its eligibility as a historic property. The formal removal process of NREI/NREC properties involves the review, approval, and signature of the FPO, SHPO, or THPO (as appropriate), and the Secretary of the Interior.
NHLC	National Historic Landmark District – Contributing element	An individual facility that is identified as a contributing element of a District listed in the NRHP and also designated an NHL District by the Secretary of the Interior. The designation of an NHL is coordinated by the Secretary of the Interior in consultation with the FPO.
NRLC	National Register Listed District – Contributing element	An individual facility that is identified as a contributing element of a District formally listed in the NRHP. The formal evaluation and nomination process of contributing elements involves the review, approval, and signature of the FPO, the SHPO, or THPO (as appropriate); and the Keeper of the National Register.
NREC	National Register Eligible District – Contributing Element	An individual facility that is identified as a contributing element of a larger District determined eligible for listing in the NRHP. An eligible District is treated the same as a District listed on the NRHP, pursuant to the NHPA and 36 CFR 800 “Protection of Historic Properties.” The evaluation of contributing elements is carried out by the installation in consultation with the SHPO or THPO (as appropriate), or by an official determination of eligibility from the Keeper of the National Register.
ELPA*	Eligible for the purposes of a Program Alternative	An individual facility that is treated as eligible for listing in the NRHP by consensus of the FPO, SHPO, or THPO (as appropriate); and the ACHP during development of a Program Alternative (Comment) as defined in 36 CFR 800 “Protection of Historic Properties,” section 14: “Federal Agency Program Alternatives.” An example includes all Capehart-Wherry housing, determined eligible for the purposes of a 2002 Program Comment process.

Maintenance and Care of Historic Buildings and Structures

Under Section 106 of the NHPA (see **Appendix I**), the following actions have the potential to have an adverse effect on buildings and structures that are eligible for or listed in the NRHP:

- *Operations and maintenance*
- *Renovations and upgrades*

- *Demolition or replacement, or relocation*
- *Property lease, transfer, or sale.*

This requirement applies to undertakings on federal property (lands or buildings) or state property with federal actions (such as funding or permits). Actions on state property (i.e., readiness centers [armories]) with no federal component do not require NHPA compliance; however, check state and local laws (**Appendix I**).

Upon being advised by the project proponent of proposed operations or maintenance activities, renovations or upgrades, demolition, transfer, replacement, relocation, or sale or lease of property that might affect a property which is 45 years old or older and has an undetermined historic status, the CRM must determine its eligibility for the NRHP. If the property is determined eligible, the project represents an undertaking that has the potential to effect historic properties and must be reviewed under Section 106 of the NHPA. CRMs must also review projects involving ground disturbance (landscaping, utility excavations, building demolition or construction) to determine the potential for the project to affect archaeological sites.

The following maintenance and repair activities, **when conducted as part of a federal undertaking**, are determined to have no adverse effect on historic properties and, under the Nationwide Readiness Center PA now being utilized by the KYARNG, will be exempted from further Section 106 review. **It must be remembered that use of this exemption list does not negate the need for the CRM to review project to determine whether the exemption(s) apply.** Non-federal actions involving state-owned buildings are not subject to review under Section 106, but may require review under state laws.

Note: If the building is part of a local historic district, local zoning ordinances and historic preservation ordinances could restrict these actions or require local approval.

1. Exterior:

- Painting on previously painted surfaces using similar color
- Paint removal by nondestructive means that will not affect the historical fabric of the building
- Repair or replacement of existing walkways with like materials
- Repair or replacement of existing parking areas within the existing footprint and not involving lighting and landscaping changes associated with parking area
- Repair or replacement of existing above ground fuel storage facilities
- Placement of temporary barriers for compliance with DoD Minimum Antiterrorism Standards for Buildings (UFC 4-010-01 8 October 2003)
- Repair of the building exterior when repair or replacement matches existing details, form, and materials.

2. Interior:

- Replace insulation (ceilings, attics, basement spaces, walls, plumbing pipes, hot water heaters, and ductwork) when only the insulation material is physically affected
- Replace non-historic or character defining plumbing as defined in the original determination documentation when only the insulation material is physically affected

- Replace non-historic or character defining heating, ventilation, and air conditioning systems and units as defined in the original determination documentation when only such systems are physically affected
- Replace electrical systems without altering historic fabric
- Replace telecommunications equipment as defined in the original determination documentation when only such equipment is physically affected
- Replace security systems as defined in the original determination documentation when only such systems are physically affected
- Replace fire suppression systems as defined in the original determination documentation when only such systems are physically affected
- Asbestos removal and abatement when it does not involve removal of the historic fabric of buildings and structures as defined in the original determination
- Nondestructive lead paint abatement when it does not involve removal of historic fabric other than paint.

It must be remembered that use of this exemption list does not negate the need for the CRM to review projects. There are guidelines for the treatment and preservation of historic properties contained in *The Secretary of the Interior's Standards for the Treatment of Historic Properties*. The standards can be viewed on the Internet at <http://www2.cr.nps.gov/tps/tax/rhb/index.htm>.

Maintenance and Treatment Plans

A maintenance and treatment plan can be developed as a component of the cultural resources management program and in some cases used to comply with Section 106 of the NHPA. A Maintenance and Treatment Plan (MTP) identifies the historic properties (buildings, structures, landscapes, and districts), their character defining features and contributing elements, building materials and condition, and promotes the preservation of these resources through planning, design, cyclic maintenance, and appropriate treatments for repair, rehabilitation, and restoration. An MTP is a 5-year management plan that provides guidance to the CRMs. The CRMs in turn use this information to work with the maintenance and facilities personnel working with historic structures to address problems of deterioration or failure of building materials and systems and addresses repair and renovation materials that will continue to maintain historic significance of the historic property.

An MTP covers a grouping of buildings that is generally site-specific due to the complexity of each site and overlaying construction periods, and should focus on a range of alternatives and treatments from stabilization to restoration.

Disposal or Demolition of Excess Property

Mission requirement changes sometimes result in the removal, replacement, or disposal of buildings and structures. These actions can have an effect on a historic property under Section 106 of the NHPA. When buildings are to be removed, replaced, or disposed of, determine if the building is 50 years old and has been evaluated for eligibility to be listed in the NRHP. If the building is 50 (or near 50) years old, initiate the Section 106 process (see Appendix I). If necessary, evaluate the building for eligibility. **It should be noted that transfers of property between federal agencies or transfers of property from a state agency to anyone are not considered undertakings with the potential to adversely affect historic properties; accordingly, these actions are not typically subject to Section 106 review.**

If removal or replacement is being considered, conduct an economic analysis on replacement of the building. When rehabilitation costs exceed 70 percent of a building's replacement cost, replacement construction can be used. However, "the 70% value may be exceeded where the significance of a specific structure warrants special attention if warranted by the life-cycle cost comparisons".

If the projects will affect an eligible property, mitigation measures can be developed that reduce effects to a nonadverse level. The measures might include avoidance, preservation in place, rehabilitation, or data recovery. If data recovery is chosen, it is suggested that HABS or Historic American Engineering Record (HAER) documentation be prepared prior to implementation of any activity that could affect the character or integrity of the historic district. The SHPO or NPS Regional Office, in coordination with the KYARNG, would select the acceptable level of documentation for mitigation purposes.

Even if the building itself is not historic, but is within a historic district, replacement could have an adverse effect on the historic district. If this is the case, consult with the SHPO. If the building to be removed is in, or a contributing element to, a historic district, the goals are to retain the character-defining features, design, and workmanship of buildings, structures, and landscape. If mission requirements cause the demolition and replacement of significant buildings or structures, the replacement design should be compatible with other buildings within and contributing to the historic district. Changes to the landscape should convey the historic pattern of land use, topography, transportation patterns, and spatial relationships.

Force Protection and Antiterrorism Standards

The intent of DoD Minimum Antiterrorism Standards for Buildings (UFC 04-010-01) is to minimize the possibility of mass casualties in buildings or portions of buildings owned; leased; privatized; or otherwise occupied, managed, or controlled by or for KYARNG. These standards provide appropriate, implementable, and enforceable measures to establish a level of protection against terrorist attacks for all inhabited ARNG buildings where no known threat of terrorist activity currently exists. The standards apply to any KYARNG building that uses federal funding for new construction, renovations, modifications, repairs, restorations, or leasing and that meets the applicability provisions will comply with these standards (section 1-6 of Standards, also see exemptions, section 1-6.7). In general, it is applicable to inhabited buildings routinely occupied by 50 or more DoD personnel.

The overarching philosophy of this policy is that an appropriate level of protection can be provided for all KYARNG personnel at a reasonable cost. The philosophy of these standards is to build greater resistance to terrorist attack into all inhabited buildings. The primary methods to achieve this outcome are to maximize standoff distance, to construct superstructures to avoid progressive collapse, and to reduce flying debris hazards.

Implementation of this policy, however, shall not supersede the KYARNG's obligation to comply with federal laws regarding cultural resources to include the NHPA and ARPA. KYARNG personnel need to determine possible adverse effects on a historic structure or archaeological resource prior to antiterrorism standard undertakings and consult accordingly. Conversely, historic preservation compliance does not negate the requirement to implement DoD policy.

In a project sponsored by the DoD Legacy Resources Management Program, the U.S. Army Construction Engineering Research Laboratory (USACERL) conducted a study to identify common circumstances in which UFC 4-010-01 undertakings would conflict with the requirements of the NHPA, and develop specific guidelines that would help installation command, AT, cultural resources, and facilities personnel to rapidly resolve those conflicts in a way that satisfies both sets of requirements. The final technical report, available at https://www.denix.osd.mil/denix/Public/Library/NCR/Documents/RPT_03-176.pdf,

interprets UFC 4-010-01 and presents technologies commonly used for UFC compliance. It also identifies AT undertakings that may conflict with the Secretary of the Interior's rehabilitation standards and suggests ways to satisfy dual AT/HP requirements.

The report, **Antiterrorism Measures for Historic Properties** (Webster *et al.* 2006), proposes guidelines for making historic buildings compliant with UFC 4-010-01, while also meeting or being in the spirit of the Secretary of the Interior's Rehabilitation Standards. A number of recommendations are suggested by the authors, including the following:

- *Consider broader environment of base and beyond in assessing needs and designing solutions*
- *Consider historic building's building materials, structural design, and component in assessing needs and designing solutions*
- *Consider building use and functions within it in assessing needs and designing solutions*
- *Integrate security measures in siting and landscaping of historic building. Low retaining walls, decorative fences, trees and vegetation, boulders, and street furniture can serve security benefit.*

The decision to demolish a historic building rather than attempting to retrofit it must be justified with a cost analysis and discussion of alternatives examined.

Economic Analysis

The KYARNG is required to conduct an economic analysis of historic buildings and structures that are being considered for demolition and replacement (AR PAM 200-4 section 2-4G(1)(2)). The NHPA requires that historic buildings and structures be reused to the maximum extent possible. However, this must be justified through a life-cycle economic analysis.

Replacement construction may be used when the rehabilitation costs exceed 70 percent of the building's replacement cost. However, the 70 percent value may be exceeded if the structure warrants special attention or if justified by the life-cycle cost comparisons.

The assessment of new construction must include life-cycle maintenance costs, utility costs, replacement costs, and all other pertinent factors in the economic analysis. Replacement costs must be based on architectural design that is compatible with the historic property or district. Potential reuses of the historic structure must be addressed prior to making the final decision to dispose of the property.

The KYARNG must also consider costs associated with the contracting of qualified archaeologists, if needed, or the services of professionals to carry out historic building inspections.

Software is available to aid the KYARNG in the economic analysis of building maintenance costs related to layaway/mothballing, renovation and reuse, and demolition. There is also software for the analysis of window replacement costs.

The program is designed to estimate costs over a 20-year time period. The economic analyses included in the program are

- *The cost of each alternative over the life-cycle of the building*
- *The possible alternatives and additional costs incurred*
- *The point at which one alternative becomes a more viable option than others.*

There is also a Window Econometric Computer Program to provide life-cycle cost comparisons associated with the repair or replacement of windows. The Layaway Economic Analysis Tool Software is available on CD by contacting the AEC at 1-800-USA-3845, or online at <http://www.aec.army.mil/usaec/cultural/software.html>. The Layaway Economic Analysis Tool, Version 2.04 developed by the U.S. Army Engineer Research and Development Center / Construction Engineering Research Laboratories, is a Windows 95/98 NT-based software tool available to DoD users in CD-ROM format.

J.2.6 Cultural Landscapes

A cultural landscape is “a geographic area, including both cultural and natural resources and the wildlife or domestic animals therein, associated with a historic event, activity, or person or exhibiting other cultural or aesthetic values (*Cultural Resource Management Guidelines*, NPS-28).” A cultural landscape can be a

- **Historic site:** *the location of a significant event or activity, or a building or structure, whether standing, ruined, or vanished, where the location itself possesses historic, cultural, or archaeological value regardless of the value of any existing structure*
- **Historic designed landscape:** *a landscape having historic significance as a design or work of art because it was consciously designed and laid out by a landscape architect, master gardener, architect, or horticulturist according to design principles, or by an owner or other amateur using a recognized style or tradition in response or reaction to a recognized style or tradition; has a historic association with a significant person or persons, trend, or event in landscape gardening or landscape architecture; or a significant relationship to the theory and practice of landscape architecture*
- **Historic vernacular landscape:** *a landscape whose use, construction, or physical layout reflects endemic traditions, customs, beliefs, or values in which the expression of cultural values, social behavior, and individual actions over time is manifested in the physical features and materials and their interrelationships, including patterns of spatial organization, land use, circulation, vegetation, structures, and objects; and in which the physical, biological, and cultural features reflect the customs and everyday lives of people*
- **Ethnographic landscape:** *a landscape traditionally associated with a contemporary ethnic group, typically used for such activities as subsistence hunting and gathering, religious or sacred ceremonies, and traditional meetings.*

Cultural landscapes, as defined here, are a type of historic property addressed in terms of National Register eligibility and should not be confused with the “cultural landscape approach”. The cultural landscape approach is a comprehensive planning approach that incorporates historic properties along with all other categories of cultural resources.

Under Section 106 of the NHPA (see Appendix I), the following actions have the potential to have an adverse effect:

- *Renovations and upgrades to contributing components of the cultural landscape*
- *Demolition or replacement, and/or relocation of contributing components of the cultural landscape*
- *Modern elements added or constructed into a cultural landscape*

- *Property lease, transfer, or sale.*

Upon being advised by the project proponent of proposed operations or maintenance activities, renovations or upgrades, demolition, new construction, major landscaping projects, transfer, replacement, relocation, or sale or lease of property that could affect a property that is 45 years old or older and has an undetermined historic status, the CRM must determine its eligibility for the NRHP. If the property is determined eligible, the project represents an undertaking that has the potential to effect historic properties and must be reviewed under Section 106 of the NHPA. CRMs must also review projects involving ground disturbance (landscaping, utility excavations, building demolition or construction) to determine the potential for the project to affect archaeological sites.

If the KYARNG is managing cultural landscapes, the CRM should consider developing an agreement document with the SHPO or Tribes, as well as the development of an SOP (Chapter 3). Refer to section J.2.4 for inadvertent discoveries.

There are guidelines for the treatment and preservation of historic properties contained in The Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for the Treatment of Cultural Landscapes. The standards can be viewed on the Internet at <http://www2.cr.nps.gov/hli/introguid.htm>. Information is also available in the National Park Service publication, Preservation Brief #36: Protecting Cultural Landscapes.

J.3.7 Other Cultural Resources

Other cultural resources include places or objects that a community of people value for their role in sustaining a community's cultural integrity. These places that are important to a community tradition or activities could be eligible for listing in the NRHP and should be evaluated.

Even in those instances where evaluation of a resource considered important to a community or to Tribes results in a determination that the resource is not eligible for listing on the NRHP, potential impacts to the resource can still be considered under NEPA. NEPA procedures offer the public a chance for comment on projects that might affect places of community significance.

Sacred Sites

According to EO 13007, a "sacred site" is "any specific, discrete, narrowly delineated location on Federal land that is identified by an Indian tribe, or Indian individual determined to be an appropriately authoritative representative of an Indian religion, as sacred by virtue of its established religious significance to, or ceremonial use by, an Indian religion; provided that the tribe or appropriately authoritative representative of an Indian religion has informed the agency of the existence of such a site."

Restricting access to information regarding sacred sites is recommended and will ensure a positive working relationship with Tribes. Refer to section 2.5 regarding information restriction requirements.

Consultation with Tribes should be conducted to identify their cultural resources management concerns, specifically with sacred sites. If sacred sites have been suspected during a survey, local federally recognized Tribes should be notified. Refer to the POC List of federally recognized Tribes in **Appendix F**.

Per AIRFA and EO 13007, Tribes have the right to access and use sacred sites on KYARNG-controlled lands. Reasonable terms, conditions, and restrictions regarding access to sacred sites will be agreed upon in order to protect personal health and safety and to avoid interference with the military mission or with

national security. Sacred sites may be used for ceremonies that take place one or more times during a year. Reasonable notice should be given by the KYARNG if mission actions prohibit Tribes access to a sacred site.

Avoid adversely affecting the physical integrity of sacred sites. If the site is adversely affected or has potential of being adversely affected, NHPA Section 106 procedures must be complied with. See **Appendix I** regarding Section 106 procedures.

Cemeteries

For assessing the significance of cemeteries, and gathering information that can be used for their subsequent preservation and protection, the CRM should follow the guidelines outlined in the National Register Bulletin “Guidelines for Evaluating and Registering Cemeteries and Burial Places” and (KRS 381.697) which deals with ownership of cemeteries; and (KRS 381.715) which addresses burial rights and abandonment of cemeteries.

The Army management responsibilities with respect to cemeteries located on an installation depends on whether the facility is a National Cemetery Administration (NCA), Department of Veterans Affairs (VA) cemetery; Army National Cemetery; post cemetery; or private cemetery. For these categories of cemetery (i.e., burials in designated and marked cemeteries), CRMs should follow the guidance in AR 210-190, found at http://www.army.mil/usapa/epubs/pdf/r210_190.pdf (see **Appendix I**).

CRMs should also note that many states have laws relating to cemeteries and unmarked graves; for example, Arkansas Act 753 of 1991, as amended, makes it a class D felony offense to knowingly disturb a human grave.

The KYARNG has no plans to disturb the cemeteries on its lands. Known cemeteries on KYARNG lands are fenced for protection, monitored periodically for integrity, and are identified on site and training installation plans as sensitive resource areas to be avoided.

Historic Objects

Historic objects can include records, photographs, artifacts, and donated private collections that are associated with the KYARNG’s military history. These objects should be inventoried and ownership determined. The Army currently does not provide funding for preservation and conservation of historic objects in its inventory, apart from those in designated museums. CRMs should coordinate with the KYARNG historian, if one has been assigned, or with the NGB historians in the Public Affairs Office, regarding procedures for dealing with historic objects. In this case, in keeping with the instructions of the Constitution of the Commonwealth of Kentucky that the General Assembly “shall provide for the safe-keeping of the public arms, military records, relics, and banners of the Commonwealth of Kentucky,” the Kentucky Department of Military Affairs and the Kentucky Historical Society have mutually agreed to operate the Kentucky Military History Museum to be located in the 1850 State Arsenal Building on East Main Street, Frankfort, Kentucky, as provided in (KRS. 171.345). The mission of the museum will be the preservation and interpretation of the marshal heritage of the Commonwealth of Kentucky, with emphasis upon the history of the Kentucky Militia and National Guard.

J.3 Tribal Consultation

The NHPA, EO 13007, EO 13175, Presidential Memorandum for Heads of Executive Departments and Agencies dated 29 April 1994: Government-to-Government Relations with Native American Tribal Governments, DoDI 4710.02, and the Annotated Policy Document for DoD American Indian and Alaska

Native Policy, dated 27 October 1999, require federal agencies to consult with federally recognized American Indian tribes.

Consultation takes on many forms. The KYARNG might need to consult on a project basis for proposed actions that might affect cultural resources of interest to Tribes. If KYARNG activities have the potential to affect tribal properties or resources, all interested Tribes will be consulted early in the planning process and their concerns will be addressed to the greatest extent possible. Establishing a permanent relationship with Tribes will lead to better understanding of each party's interests and concerns and development of a trust relationship. This will streamline future project-based consultation and streamline the inadvertent discovery process.

It is the goal of the consultation process to identify both the resource management concerns and the strategies for addressing them through an interactive dialogue with appropriate American Indian communities.

J.3.1 Issues and Concerns

Issues are both general and particular. On the one hand, traditional American Indians might attach religious and cultural values to lands and resources on a very broad scale, such as recognizing a mountain or a viewshed as a sacred landscape, and they could be concerned about any potential use that would be incompatible with these values. On the other hand, issues could be specific to discrete locations on public lands, such as reasonable access to ceremonial places, or to the freedom to collect, possess, and use certain regulated natural resources such as special-status species.

Many American Indian issues and concerns, although associated with KYARNG lands and resources, are based on intangible values. Intangible values are not amenable to "mitigation" in the same way that a mitigation strategy can be used to address damage to, or loss of, physical resources.

Some of the issues that frequently surface in consultation are briefly discussed here to illustrate the relationship of American Indian interests and concerns to KYARNG land and resource management decisions.

Access. Free access to traditionally significant locations can be a difficult issue for KYARNG managers when there would be conflicts with other management obligations. For example, individuals' age or infirmity often combine with distance or terrain to make motorized vehicle access the only practical means for some American Indians to reach locations of religious importance. This presents a dilemma to managers where public lands are being managed as sensitive riparian habitat or for their wilderness character, for example, and motorized vehicle access is accordingly restricted or prohibited. The KYARNG can end up in the contradictory situation of trying to protect resources and landscapes—the continuing existence of which is essential to traditional American Indian practices—from the American Indian practitioners themselves.

Use. One of the more tangible issues with potential for resource conflict is American Indian collection and use of plants and animals for traditional religious or cultural purposes. Some species regulated under the Endangered Species Act could have religious or cultural significance. Collection of other resources, such as plant products, minerals, and gemstones, might be regulated under other statutory authority and/or KYARNG policy.

Sacredness. American Indian attribution of sacredness to large land areas is one of the most difficult issues for KYARNG managers to reconcile with other management responsibilities. From the viewpoint of traditional religious practitioners, a particular land area could be regarded as a hallowed place devoted

to special religious rites and ceremonies. Practitioners might perceive any secular use or development in such a place to be injurious to its exceptional sacred qualities or a sacrilege and, therefore, unacceptable from their view. Nevertheless, the KYARNG manager might be put in the position of having to weigh a proposal for a legally and politically supported use such as mineral development in an area regarded as sacred and inviolate.

Mitigation. Strategies to reduce impacts of proposed federal actions or the effects of proposed undertakings generally follow models related to NEPA, the NHPA, and their implementing regulations (40 CFR Parts 1500–1508 and 36 CFR Part 800). Where American Indian cultural and religious concerns are involved, however, conventional methods of mitigation generally do not appropriately address the consequences felt by American Indian practitioners.

The fact that the CRMs are frequently the ones assigned to do the staff work for certain American Indian issues could lead to some misunderstanding that American Indian issues are cultural resources issues. From there it could be mistakenly deduced that American Indian issues might often be resolved through mitigation methods such as archaeological data recovery. Such ideas would misinterpret the majority of American Indian issues that managers must consider in decision-making.

It is feasible, where some issues of American Indian use are involved, that mitigation procedures could work. For example, mitigation could work in cases where common natural products are the object, and either the KYARNG proposal or the American Indian use is flexible.

That is, it could be possible for a KYARNG proposal to be modified to allow continuing traditional resource use, or it might be acceptable for the American Indian use to be moved outside the proposed affected area. In contrast, however, more abstract, nonresource issues surrounding belief and practice could be a much different matter.

Consultation as Conflict Identification. Consultation is sometimes approached apprehensively, with a view that talking with American Indians will result in more intractable problems than existed before. This view can be relieved by awareness that many American Indian issues and concerns are not much different from public issues and concerns that the KYARNG deals with on a regular basis, and that the means for dealing with them are basically the same.

It is possible for the KYARNG to address many of the concerns for gaining access to sites, attaining needed materials, and protecting American Indian values, within the normal scope of multiple use management. Solutions can include: (1) providing administrative access to sensitive areas; (2) making special land use designations; (3) developing cooperative management agreements with American Indian communities; (4) stipulating for continuing American Indian uses in leases, permits, and other land use authorizations; (5) diverting or denying clearly incompatible land uses; and (6) similar affirmative management solutions.

Consultation should identify not only American Indian interests and concerns, but also their suggestions for potentially effective approaches to address them.

Consultation is incomplete and largely pointless unless it is directed toward the identification of mutually acceptable solutions.

When a proposed KYARNG decision poses potential consequences for lands and resources valued by American Indians, consultation with the community that holds the values and identified the consequences can generate strategies for an appropriate management response.

A list of tribal representatives and POCs is included in **Appendix F**.

Timing for Native American consultation will vary depending on the consultation methods, the nature of the ongoing relationship, and the purpose of the consultation. Consultation to develop understanding of interests and concerns with land and resource management, and establishing procedures for working together, is a continuous and ongoing process.

For project-specific consultation, the CRM should send appropriate reports and documentation to potentially affected THPO/Tribes describing the proposed action and analysis of effects (either Section 106 or NEPA documents) and request comments and input. After 30 days, the CRM should follow up with THPO/Tribes for input if no correspondence has been received. A thorough MFR must be kept. For projects of particular interest to THPOs/Tribes, the CRM could consider a site visit and meeting with affected THPOs/Tribes.

J.3.2 Consultation Resources

The following agencies can provide useful information and guidance on how to identify Tribes with interests in the lands within the KYARNG virtual installation and how to consult with Tribes under AIRFA, NHPA, NEPA, ARPA, and NAGPRA. Representatives from these agencies are also often available to facilitate consultations.

Bureau of Indian Affairs: www.doi.gov/bureau-indian-affairs.html

National Association of Tribal Historic Preservation Officers: www.nathpo.org

DoD Tribal Liaison Office: <https://www.denix.osd.mil/denix/Public/Native/native.html>

J.4 Stakeholder and Public Involvement Plan

Stakeholder and public involvement and community outreach can be driven by regulation in project-specific cases, or can be a proactive method of partnering with interested parties to achieve long-range goals and solicit program support. The following section describes some methods to involve stakeholders and the public for projects or programs.

Stakeholders can include

- *SHPO*
- *Tribes/THPOs*
- *Veterans organizations*
- *Interested public*
- *Federal and state agencies*
- *Special interest groups*
- *Local historical committees and societies*
- *Tenants, lessees, and land users (hunters, fishermen, boy scouts, police)*
- *Neighbors*
- *Landowners*
- *Contractors*
- *NGB*
- *Integrated Readiness Training*
- *Reserve Officer Training Corps (ROTC)*

- *ODEP/AEC.*

Consultation with Tribes is required by several cultural resources laws, regulations, and EOs; and DoD policy and is good stewardship of cultural resources. Tribal consultation is addressed in section J.3 and Appendix I.

J.4.1 Public and Stakeholder Involvement and Outreach

Public participation and involvement are required for most environmental programs, including cultural resources. Regulation 36 CFR 800.2(d) requires that the KYARNG seek and consider public views in its undertakings that could have an effect on historic properties. For tribal consultation see section J.3. Benefits of public involvement to the KYARNG include

- *Opening the decisionmaking process to the public and building credibility*
- *Assisting with the identification of issues*
- *Enhancing mutual understanding of stakeholder values and KYARNG management challenges*
- *Making better decisions*
- *Minimizing delays and enhancing community support.*

If KYARNG plans have the potential to affect a historic property and an EA or EIS is deemed unnecessary, public involvement is still expected. Under Section 106 regulations, federal agencies are required to involve the public in the Section 106 process. This includes the identification of appropriate public input and notification to the public of proposed actions, consistent with 36 CFR 800.2(d). The KYARNG may choose to follow the same process as stipulated in NEPA for EAs.

The regulations also state that, to streamline the process, the public involvement requirements under NEPA should be incorporated into cultural resource planning and projects when activities require the development of an EA or an EIS.

Note: For any adverse effect, it is the KYARNG's responsibility to determine which stakeholders may have an interest e.g., local historic preservation groups, statewide nonprofit preservation organizations, and determine the level of public involvement needed. However, in accordance with 32 CFR part 651.28, a REC can be used if the SHPO concurs with the action.

Timing: For Section 106 projects and EAs, anticipate approximately 6 to 9 months to complete the compliance process, more complex projects can take longer. If an EIS is required, plan for 12 to 16 months to complete. Again, a complex or controversial project could take up to 3 years to complete. Public Involvement requirements are included in these time estimates.

Distribution of Documents

Public notices can be posted in places where people gather or visit such as the local post office or grocery stores. Public notices should also be placed in the local newspaper.

While interacting with private newspapers, it is important to recognize that the audience might not appreciate the military mission or community. Whenever possible, points should reflect positively on the ARNG and be made in a clear and noncontroversial manner.

Special efforts will be made to use newspapers to acquaint the surrounding communities with the overall cultural resources program at the various KYARNG sites and training installations. It is to the benefit of

the KYARNG to inform the public of these programs. This can be achieved through press releases. In addition to the newspaper, press releases can be sent to local magazines or Web-based news sites.

Libraries are excellent repositories to allow for public access to documents for review. Most communities, schools, and universities have libraries.

J.4.2 Public Involvement Opportunities

Education can promote awareness of important KYARNG cultural resources projects and the rationale behind them. Actions such as selling a historic building require effective communication to get positive support and, perhaps more importantly, to avoid adverse impacts and reactions from various public groups. A preservation awareness program must be directed to both KYARNG and external interests if it is to be effective.

J.4.3 Special Events

Special events with local and national significance offer excellent opportunities to educate the public on cultural resources preservation. Events such as Earth Day (22 April), Fourth of July, Veteran's Day, National Historic Preservation Week (third week in May), National Public Lands Day (last Saturday in September), and local town celebrations are opportunities for the ARNG to help educate people about cultural resources and preservation principles. Section J.7 contains Web sites that can aid KYARNG in this task.

J.4.4 Executive Order 13287 (Preserve America)

In addition to the reporting requirements outlined in section J.1.3, EO 13287 encourages federal agencies to preserve America's heritage by actively advancing the protection, enhancement, and contemporary use of the historic properties owned by the federal government; promoting intergovernmental cooperation and partnerships for the preservation and use of historic properties; inventorying resources; and promoting heritage tourism. Some ideas for promoting this EO include

- *Virtual tours of historic facilities or sites*
- *Partnerships*
- *Museum and exhibits*
- *Veteran's history project*
- *Traveling exhibits*
- *Walking tours.*

J.4.5 Other Opportunities for Outreach

Other methods for reaching external stakeholders include

- *Public forums*
- *Web sites*
- *Scoping meetings*
- *Questionnaires and feedback sheets*
- *Public notices*
- *Presentations at various forums and gatherings*
- *Cross training the KYARNG staff to be a liaison*
- *Society meetings.*

By knowing who the interested public is, other methods will come to light.

J.4.6 Public Affairs Office

The PAO performs more of an oversight and guidance role with respect to public involvement issues. The PAO maintains liaison with the project proponent, CRM, JAG, and other NGB offices. In support of NEPA and NHPA actions, the Public Affairs Environmental Office assists the project proponent in the preparation of press releases, public notices, and other information. The PAO environmental office provides guidance for planning and coordination, conducts public meetings or hearings for the KYARNG, supports the project proponent during the NEPA process, and reviews all NEPA documents.

Any public involvement plans, outreach, special events, or informational briefings should be developed and implemented by the KYARNG PAO. If such activities do not originate in the PAO, the office should approve them.

Public notices published in support of EAs should be submitted to the PAO in the form of a three-column commercial advertisement and should be published at least 3 consecutive days. The PAO should insist on a tear sheet from the newspaper or a notarized copy of the public notice advertisement to ensure the ad has run and the program manager or the PAO has proof of publication.

J.5 Agreement Documents

In some cases, streamlining Section 106 regulations, addressing issues under NHPA, NAGPRA, and EO 13175; and the consultation process can be accomplished through the use of an MOA, PA, CA, or plan of action and MOU.

MOAs are agreement documents for specific undertakings on how the effects of the project will be taken into account (36 CFR 800.5(e)(4)), and, in general, used as a mitigation agreement document for the adverse effects of a single undertaking. The agency, the ACHP, the SHPO/THPO/Tribes, and possibly other consulting parties negotiate MOAs. These agreement documents govern the implementation of a particular project and the resolution of particular effects of that project.

PAs are, in general, used to govern the implementation of a particular program or the resolution of adverse effects from certain complex projects or multiple undertakings. PAs are negotiated between the agency, the ACHP, the SHPO/THPO/Tribes, and possibly other consulting parties. These agreement documents may be used when

- *Effects on historic properties are similar and repetitive or are multistate or regional in scope*
- *Effects on historic properties cannot be fully determined prior to approval of an undertaking*
- *Nonfederal parties are delegated major decisionmaking responsibilities*
- *Routine maintenance activities are undertaken at federal installations, facilities, or other land management units*
- *Circumstances warrant a departure from the normal Section 106 process.*

CAs are similar to a PA structure and used to establish the repatriation process under NAGPRA. CAs are negotiated between the agency, the THPOs/Tribes, and possibly other claimant groups or parties. These agreement documents can govern the notification process, reburial procedures, limitations, custody procedures, and monitoring plans. CAs are particularly useful when it is known upfront that remains or funerary objects are likely to be encountered.

A plan of action is prepared after an inadvertent discovery under NAGPRA is made (e.g., human remains or items of cultural patrimony) and is prepared after a consultation meeting(s) with the appropriate Tribe(s). The plan is a presentation of the verbal agreements that are made during the consultation regarding the extraction of the remains, length of time out of the ground, disposition while out of the ground, who the remains will be repatriated to and in what manner, information about the public notice that must be published (e.g., in the newspaper four weeks before repatriation, in two notices, one week apart), and a description of the repatriation process.

MOUs in general, are used to clarify protocols and roles and responsibilities. The agency, the SHPO/THPO/Tribes, and other consulting parties can negotiate MOUs. These documents are used as a tool to ensure that all involved parties are informed of, and agree upon, the details of a particular cultural resources management program.

Procedures for PAs and MOAs are outlined in PAM 200-4. NGB can provide sample documents. Draft MOAs, PAs, CAs, and plans of action must be reviewed by NGB and ODEP/AEC. Development of agreement documents requires public and stakeholder involvement.

The following is the list of attachments accompanying all types of draft agreement documents to be sent to the NGB, as appropriate to the action:

1. Cost estimate
2. Form 420 R or 1391 – signed
3. State JA Email stating he/she has reviewed the draft MOA
4. Any supporting documents as applicable.

Timing: Preparation and review time for agreement documents will vary with complexity of issues and the number of parties involved. The review process is as follows:

- *KYARNG drafts the agreement document*
- *NGB (including NGB-JA and other divisions) reviews, any comments are sent back to the KYARNG for incorporation*
- *ODEP and AEC reviews and submits comments to NGB to the KYARNG for incorporation*
- *NGB reviews for legal sufficiency (2nd review)*
- *NGB, Chief, ARE signs, if no changes needed*
- *KYARNG representative signs (i.e., TAG, CFMO) signs*
- *SHPO signs*
- *Other signatories sign.*

At a minimum anticipate:

- *MOA – 4 to 6 months*
- *PA – 6 to 12 months*
- *CA – 6 to 12 months*
- *plan of action – 6 to 12 months*
- *MOU – 4 to 6 months.*

J.6 Sustainability in Cultural Resources Management

The federal government encourages agencies to take the lead in being stewards of the environment, to preserve today's resources for the future. EO 13423 *Strengthening Federal Environmental, Energy, and*

Transportation Management advocates a variety of approaches to assist agencies in reducing waste, saving resources, and promoting environmentally friendly design. The CRM should coordinate sustainability efforts with the KYARNG's Environmental Management System (EMS).

One of the primary focuses of stewardship within the DoD is the concept of sustainability; this concept applies to design, construction, operations, and resource conservation. Sustainability is responsible stewardship of the nation's natural, human, and financial resources through a practical and balanced approach. Sustainable practices are an investment in the future. Through conservation, improved maintainability, recycling, reduction and reuse of waste, and other actions and innovations, the KYARNG can meet today's needs without compromising the ability of future generations to meet their own.

Applying sustainability principles to cultural resources management, chapter 4 of the NPS publication *Guiding Principles of Sustainable Design*, notes that "sustainability has often been an integral part of the composition of both tangible and intangible cultural resources. Ecological sustainability and preservation of cultural resources are complementary. In large part, the historic events and cultural values that are commemorated were shaped by humankind's response to the environment. When a cultural resource achieves sufficient importance that it is deemed historically significant, it becomes a nonrenewable resource worthy of consideration for sustainable conservation. Management, preservation, and maintenance of cultural resources should be directed to that end." (http://www.nps.gov/dsc/d_publications/d_1_gpsd_4_ch4.htm#2)

J.6.1 Archaeological Sites

Archaeological sites offer a special challenge for implementation of sustainability initiatives for several reasons. The need to protect site locations has long been seen as a hindrance to training or Master Planning on installations, as it represents a competing land use requirement. Completion of archaeological predictive models and surveys help reduce the footprint of parcels where training or development is restricted; however, few ARNG parcels have been completely surveyed for archaeological resources. As installations are increasingly effected by encroachment, any restriction on land use within the installation is seen as counterproductive to the mission.

Archaeological sites provide a physical record how people have interacted with their environment in the past and what that tells us of how they led their lives. It is the product of ongoing change, stretching from the distant past into the present. Physically, this record is non-renewable – in each period, a combination of natural and cultural processes almost inevitably impacts the record of previous periods. Intellectually, the record is in a constant flux of discovery, redefinition and interpretation through archaeological investigation and dissemination. Present uses will provide grist for the archaeologists of the future - the physical record of how *we* have lived and treated our environment and how much of *our* past we pass on to our successors.

In an analysis of how archaeology could contribute to sustainable development initiatives (<http://www.britarch.ac.uk/conserv/ArchQOL.html>), the Council for British Archaeology concluded that archaeology and the historic environment are:

- the only source for understanding the development of human society in prehistoric and much of historic times
- a source of enjoyment and interest through intellectual and physical engagement and leisure-time pursuits, contributing to general mental, spiritual and physical health
- an important medium for general education, life-long learning and personal development
- a vital basis of people's awareness of historical and cultural identity, sense of community and place, and a key source of perspective on social change

- a non-renewable record of people's long-term social, spiritual and economic relationships and their interaction with all parts of the environment
- a fundamental determinant of environmental character, bio-diversity and cultural diversity
- a catalyst for improving the distinctive qualities of places where people live and work or which they visit
- a means of understanding long-term environmental change in relation to sustainability
- a source of evidence about past use of renewable energy and recyclable resources such as water, timber, mineral resources, and organic waste
- a source of added value in economic and social regeneration
- a major source of revenue through tourism and recreation.

These benefits can be maximized by enhancing people's awareness of archaeology and the historic environment and developing a culture, within government and the private sector and in their dealings with others, of promoting active involvement, care and appreciation for the benefit of present and future generations.

Archaeology and the historic environment contribute significantly to people's quality of life. The ARNG has a responsibility for stewardship of this environment so that it can continue to inform present and future populations about our shared past. At the same time, stewardship must be integrated into the ARNG mission. In addition to promoting public awareness of archaeological information and the benefits of preservation to the larger installation community (see Public Outreach and Awareness discussion elsewhere in this appendix), there are a number of new initiatives being explored to integrate archaeology into the success of the mission.

The Cultural Resources Program at Fort Drum, for example, has pioneered the following initiatives as part of a DoD Legacy Resources Management Program project:

- A program to "harden" historic archaeological sites for the dual purposes of protecting sites from natural erosion and facilitating their use for military training; this program involves covering sites with geotextile fabric, sand, and gravel, and then allowing units to park vehicles within the site for various training exercises. The program has received approval from the New York SHPO and is completed with ITAM funds.
- A program to create models of archaeological features, of the types likely to be encountered by soldiers mobilized in the Middle East, for use during training exercises. This program educates the soldier in how to identify cultural features and maneuver within the environment of an archaeological site in a manner that reduces or avoids damage to significant resource areas.
- A program to develop training scenarios that include archaeological sites and protection issues (e.g., halting looting or damage) to provide more realistic training for soldiers before they are mobilized overseas, and to increase awareness of archaeological issues at home
- Development of playing cards with archaeological content for distribution to units being mobilized overseas. The cards include information on the prehistory of the areas (Iraq and Afghanistan) where the units will operate, identify important features of the landscape, and present information on preservation and protection issues related to archaeological sites in these countries.

Appendix K includes slides from a Power Point presentation given by the Fort Drum cultural resources staff on the site hardening program, and an example of a training scenario developed for use at Fort Drum. Copies of other materials developed by Fort Drum are available on DENIX, or by contacting the cultural resources staff at Fort Drum.

J.6.2 Building Renovation and Repair

Renovation of older buildings, compared to new construction, could result in considerable energy savings and reductions in materials used, thus benefiting the environment. In addition to reducing project costs, there might also be significant savings in time and money associated with reduced regulatory review and approvals. Additional reduced costs can occur with sustainable aspects of site and construction debris management.

In the event that buildings aren't suitable for renovation, salvage as much as possible from the building(s) being demolished. Salvage of historic materials reduces landfill pressure, preserves important character-defining features of historic buildings, and saves natural resources. Typical examples of salvageable materials include lumber, millwork, certain plumbing fixtures, and hardware. Make sure these materials are safe (test for lead paint and asbestos), and don't sacrifice energy efficiency or water efficiency by reusing old windows or toilets.

Sustainable renovations also could provide opportunities for enhanced cooperation with local regulatory authorities, as well as providing site enhancement potential. The alternatives could be less expensive, more environmentally responsible, and potentially more aesthetically pleasing.

A comprehensive job-site waste-recycling program should be part of any renovation plan. Some construction waste materials can be sold, thus recovering the investment in separation and separate storage. More significant savings are often achieved through avoided expense of landfill disposal. In large projects, the savings can be dramatic. A flyer regarding salvage of historic materials is included in **Appendix K**.

Additional guidance related to green building design and building operations can be found in AR Engineering Technical Letter 1110-3-491 "Sustainable Design for Military Facilities (2001)." The KYARNG seeks to meet LEEDS Silver standards for all new construction.

J.6.3 Landscape Design

Sustainability principles also apply to preservation of landscape elements and undisturbed land that might contain archaeological or sacred sites. Some specific principles include

- *Integrate sustainability principles from the onset of project design. Involving technical experts such as archaeologists and landscape architects early in the site-planning process might reduce the need for (and cost of) plantings or landscape modification by identifying ways to protect existing site plantings or landscape features.*
- *Locate buildings to minimize environmental impact. Cluster buildings or build attached units to preserve open space and wildlife habitats, avoid especially sensitive areas including wetlands, and keep roads and service lines short. Leave the most pristine areas untouched, and look for areas that have been previously damaged to build on. Seek to restore damaged ecosystems.*
- *Situate buildings to benefit from existing vegetation. Trees on the east and west sides of a building can dramatically reduce cooling loads. Hedge rows and shrubbery can block cold winter winds or help channel cool summer breezes into buildings.*
- *Value site resources. Early in the siting process carry out a careful site evaluation, including solar access, soils, vegetation, water resources, important cultural landscape elements, pristine or protected natural areas, and let this information guide the design.*

J.6.4 Education

Finally, the KYARNG should make education a part of its daily practice: Use the design and construction process to educate leadership, employees, subcontractors, and the general public about environmental impacts of buildings and infrastructure and how these impacts can be minimized.

J.7 Additional Resources

DRAFT Nationwide Readiness Center (Armory) Programmatic Agreement. In accordance with 36 CFR Part 800.14 (b), a nationwide PA is being developed to help streamline the Section 106 process for federal undertakings at readiness centers (armories).

Conservation Handbook. The Conservation Handbook will link to any specific law or regulation.

J.7.1 Web sites

The ACHP Web site provides current preservation news and links to laws and regulations concerning heritage preservation. <http://www.achp.gov>

DENIX – is the central platform and information clearinghouse for environment, safety and occupational health (ESOH) news, information, policy, and guidance. Serving the worldwide greater DoD community, DENIX offers ESOH professionals a vast document library, a gateway to Web-based environmental compliance tools, an interactive workgroup environment, a variety of groupware tools and an active membership community numbering thousands. <http://www.denix.osd.mil>

ICRMP Toolbox on DENIX

<https://www.denix.osd.mil/denix/public/esprograms/conservation/legacy/etb/etbwelcome.htm>

Save America's Treasures. www2.cr.nps.gov/treasures/

The U.S. Environmental Protection Agency Web site provides links to EPA news, topics, laws and regulations, and information sources. <http://www.epa.gov>

Guardnet. <http://guardnet.ngb.army.mil>

The DoD Legacy Resources Management Program Web site explains a Legacy project can involve regional ecosystem management initiatives, habitat preservation efforts, archaeological investigations, invasive species control, Native American consultations, and monitoring and predicting migratory patterns of birds and animals. <http://www.dodlegacy.org>

The NPS, *Links to the Past* Web page is a resource to find information on cultural resource subjects and cultural resource programs. <http://www.cr.nps.gov>

The NRHP Web site provides links to assist in registering a property to the NRHP among other various preservation topics and links. <http://www.cr.nps.gov/nr>

The National Trust for Historic Preservation has an informative Web site of how the private sector preserves America's diverse historic places and communities through education, advocacy, and resources. <http://www.nthp.org>

The Secretary of the Interior's Standards for Rehabilitation Web site describes the intent of the Standards, which is to assist the long-term preservation of a property's significance through the preservation of historic materials and features. <http://www2.cr.nps.gov/tps/tax/rhb/index.htm>

The U.S. Army Corps of Engineers lists links from civil works to historic preservation where they list managing and engineering solutions. <http://www.nws.usace.army.mil>

The USAEC Web site provides a link to the cultural resources that include Native American affairs, historic buildings and landscapes, archaeology, and the Army Historic Preservation Campaign Plan. <http://aec.army.mil/usaec/cultural/index.html>

The Bureau of Indian Affairs (BIA) Web site provides links to Tribal agencies and Tribal leaders, among other helpful links. <http://www.doi.gov/bureau-indian-affairs>

The Layaway Economic Analysis Tool Software – The mission of the Cost and Economics is to provide the Army decisionmakers with cost, performance, and economic analysis in the form of expertise, models, data, estimates, and analyses at all levels. Links include ACEIT, AMCOS, Cost and Economic Analysis, Cost Management/ABC. <http://www.ceac.army.mil/>.

The Kentucky Department of Military Affairs: <http://dma.ky.gov/ng/>

APPENDIX K

SAMPLE DOCUMENTS AND TRAINING BRIEF

CONTENT UPDATED: 21 AUG 07

Cultural Resources Consolidated Survey

Subsections

[CFO Act - Heritage Assets](#)

[Collections Curation](#)

[Archeology](#)

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[ICRMPs](#)

[Inventory of Archeological Resources](#)

[Inventory of Historic Buildings and Structures](#)

[Native American Cultural Resources](#)

[General](#)

The following questions are designed to address the Army's reporting requirements under various Federal laws and regulations. They are primarily divided according to the applicable laws or subject areas. Your answers provide necessary information to HQDA, IMCOM, NGB, and USAR headquarters staff to use in improving the Army cultural resources program and design programmatic compliance actions. Throughout the survey, the term "installation" is used; for the National Guard, this means the state (the "virtual installation"), and for the Reserve, it includes United States Army Reserve Installations and Regional Readiness Commands (RRC) (all RRCs should answer as one RRC, not by individual facility or state).

CFO Act - Heritage Assets

The purpose of this survey is to provide information to assist the Army to meet its financial and historic property reporting requirements under the Chief Financial Officers Act of 1990 and Executive Order 13287 and the annual year end survey for Measures of Merit and the Federal Archeological Report. Every federal agency is required to report data on several categories of "heritage assets" including accurate counts and the condition of the assets. Current accounting standards and financial reporting requirements require Federal agencies to improve the reliability of the data that is used to inform financial statements and to manage the data through a sustainable, integrated data management system to include archeological sites, information reported in the Federal Archeology Report and other reporting requirements. The annual report on heritage assets is forwarded to ASA-FM the first week of October for inclusion in the Army's Annual Financial Statement submitted to DoD.

IMPORTANT NOTE: ALL ANSWERS MUST REFLECT STATUS AS OF THE END OF THE CURRENT FY. SUBMIT ANSWERS ONLY WHEN YOU ARE SURE THERE WILL BE NO CHANGES TO DATA BEFORE 1 OCTOBER 2006. Data should reflect end of FY data for financial reporting purposes. Consequently the data call ends on the last working day of the financial year.

For reporting of this survey in the fall of 2007, the term "current FY" refers to FY 2007. A year later, this term will refer to FY 2008. The CFO Act questions (1-8) should only include properties on Federally-owned land.

1) How many recorded archeological sites (total) are on your installation? For the purposes of this survey, recorded archeological sites are those sites which have been officially identified and given identification numbers (trinomials). Cemeteries are not usually regarded as archeological sites, and are counted separately through the Integrated Facilities System. Please identify the number of all recorded archeological sites on Federally-owned land.

2) How many recorded archeological sites were added to the inventory in the current FY?

3) How many recorded archeological sites were removed from the inventory in the current FY? Please identify (if any) the number of recorded archeological sites that may have been removed from your inventory count. They may have been removed because they were destroyed, mitigated or for other reasons.

4) How many archeological sites have been determined eligible for listing or are listed on the National Register of Historic Places? Eligibility determinations are made in conjunction with the State Historic Preservation Officer, or through an official Determination of Eligibility from the Keeper of the National Register, against the eligibility criteria in NHPA. This number cannot be larger than the number of recorded sites.

5) How many sites were newly determined eligible or listed in the current FY? These sites are those which may or may not have been previously recorded sites but have been newly determined eligible or listed in the current FY and for which a determination of eligibility has been made.

6) How many if any that were previously determined eligible or listed on the NR were determined ineligible or delisted in the current FY? Sites may have been re-evaluated and determined ineligible, destroyed, mitigated or removed for other reasons.

7) Please identify the number of sacred sites that have been recorded on your installation. As defined by EO 13007, a sacred site is a specific delineated location on Federal land that is identified by an Federally-recognized Indian tribe or Indian individual determined to be an appropriately authoritative representative of an Indian religion, as sacred by virtue of its established religious significance to, or ceremonial use by, an Indian religion, and that has been identified by the tribe or individual to the Federal agency.

8) Please identify the number of sites of traditional religious or cultural importance to Native Americans or Native Hawaiians (as defined by NHPA) that have been recorded on your installation.

Collections Curation

Pursuant to 36 CFR 79.2, Federal agencies must ensure that archeological collections are deposited in educational and/or scientific institutions, such as museums, universities, or other Federal, state or local governmental agencies that can provide professional curatorial services on a long-term basis, or with the Indian tribes associated with the artifacts. Curation facilities or repositories established on Army installations usually do not meet these requirements due to the

long-term, permanent recurring costs and personnel requirements required by 36 CFR 79 for such repositories. The only exception to this policy is for Army archeological collections that are accepted for curation in an Army museum that has been certified pursuant to AR 870-20. For Army National Guard, collections include all artifacts recovered from federally-owned or federally funded projects on state, leased or special use permitted land.

9) Is there a Federal Archeological Collection associated with the installation? Installations are responsible for collections and records from Federal Army installations and from certain lands leased or withdrawn from other entities. An archeological collection (per 36 CFR 79) for the purposes of this survey is defined as a whole collection of Federal artifacts (associated with a Federally funded project or federal property) or material remains that are excavated or removed during surveys, excavations or other studies of prehistoric or historic resources, and associated records from all archeological sites on your installation. Not all installations may have a collection, but each installation/state for ARNG with a collection is considered to have only one (1) collection for the whole installation. A collection can be housed in multiple locations.

Yes

No

10) Are all collections at your installation curated in accordance with 36 CFR 79?

Yes

No

11) Identify the completion status of collections curation. Answer "complete" if the collections present have been curated in accordance with the standards set forth in 36 CFR 79. Answer "partially complete" if a collections curation has been initiated, but is not yet complete. Answer "not initiated" if the installation has collections, but has not yet initiated curation IAW 36 CFR 79.

Complete

Partially complete

Not initiated

12) How many cubic feet of archeological collections does the installation own? Any archeological items recovered during archeological projects on your installation are owned by the installation regardless of who has possession. This excludes items repatriated under NAGPRA.

13) How many cubic feet of collections require upgrading to 36 CFR 79 standards?

14) How many linear feet of records associated with stored archeological materials does the installation own? Any archeological items recovered during archeological projects on your installation are owned by the installation regardless of who has possession. This excludes items repatriated under NAGPRA.

15) How many linear feet of records associated with stored archeological materials require upgrading to 36 CFR 79 standards?

16) If you added or removed your Federal Archeological Collection in the current FY, please explain the reason. The answer should clearly explain the circumstance of the addition or deletion, which may include: if you did not report your collections last year or you now have a collection and previously had none or if for some reason your collection was deaccessioned or somehow does not classify as a Federal Archeological Collection per the definition above but was counted in the previous FY.

Archeology

The Archeological Resources Protection Act (ARPA) applies to archaeological sites over 100 years of age, and concerns criminal and civil penalties for damage or the attempt to damage archaeological sites without a permit. (For the ARNG, questions 17-20 apply to those sites on property listed in PRIDE under Category 1.)

17) Are known archeological sites present on the installation? Enter "yes" if the installation has any archaeological sites over 100 years old. Enter "no" if there are no archeological sites over 100 years old.

Yes

No

18) Are site protection procedures needed on your installation? Site protection measures can include actions such as site stabilization, monitoring programs, fencing, interpretation and physical barriers.

Yes

No

19) If yes, are site protection procedures in effect? If necessary site protection procedures are in effect, answer "yes". If they are necessary but not in effect, answer "no".

Yes

No

20) What is the total number of documented violations of ARPA this FY? Installation law enforcement officials must have formally recorded these violations.

Archeology on non-Federal Lands

For the next two questions, only discuss archeological sites not on Federally-owned land (to include state, leased, special use permitted land and any other land under other PRIDE categories for the ARNG). These numbers should not include the sites reported in the CFO section above.

21) How many sites were discovered on non-Federal lands as a result of Federally-funded or permitted activities during the last fiscal year?

22) How many sites on non-Federal land were determined eligible for the National Register of Historic Places as a result of Federally-funded or permitted activities during the last fiscal year?

Integrated Cultural Resources Management Plan

DoD Instruction 4715.3 and AR 200-4 require installations to develop an Integrated Cultural Resources Management Plan (ICRMP) as an internal compliance and management tool that integrates the entire cultural resources program with on-going mission activities. The ICRMP is based upon information derived from historic, archeological, ethnographic and architectural investigations. It specifies management strategies for known cultural resources, and methodologies for identification and evaluation of unknown resources. ICRMPs are to be updated every 5 years at a minimum; more frequent updates may be necessary if there are changes to the status of cultural resources and/or administrative activities.

23) Is the installation required to have an Integrated Cultural Resources Management Plan (ICRMP)? Installations with very limited or no cultural resources may request a variance from the requirement. If an installation has requested but not received a variance, they are to answer this question "yes" because the ICRMP is a requirement unless the variance has been received from HQDA. If an installation anticipates requesting a variance, they must answer "yes" to this question until such a request is made and the variance is received. A "no" response is not permitted until a variance has been granted by HQDA IAW AR 200-4, 4-1(d).

Yes

No

24) If a variance was received, in what year was it received?

Not applicable

FY98 or before

FY99

FY00

FY01

FY02

FY03

FY04

FY05

FY06

FY07

25) Is the installation operating under a completed ICRMP? Answer "Yes" if the installation is currently operating under an ICRMP, even if it is due for an update. Answer "No" if the installation is required to have an ICRMP, but has either not initiated the process, or is still completing its first plan

Yes

No

26) When will the ICRMP be finished or next updated? Indicate the FY in which the installation will either a) finish the ICRMP for the first time, or b) update its existing ICRMP within the 5-year cycle.

FY08

FY09

FY10

FY11

FY12

FY13 or beyond

27) the installation have an NHPA Programmatic Agreement (PA) for daily operations?

Yes

No

28) If yes, in what year was the PA signed?

CY 1998 or earlier

CY 1999

CY 2000

CY 2001

CY 2002

CY 2003

CY 2004
CY 2005
CY 2006
CY 2007

29) Does the PA have a sunset clause?

Yes
No

30) In what month does the PA expire?

Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec

31) In what year does the PA expire?

CY 2007
CY 2008
CY 2009
CY 2010
CY 2011
CY 2012
CY 2013
CY 2014
CY 2015
CY 2016
CY 2017

32) Please provide the title and consulting parties of the PA

Inventory of Archeological Resources

Archeological inventories are required for land that could be affected by undertakings under NHPA; an undertaking is defined as a project, activity, or program funded in whole or in part under the direct or indirect jurisdiction of a Federal agency, including those carried out by or on behalf of a Federal agency; those carried out with Federal financial assistance; and those requiring a Federal permit, license or approval. Archeological inventory involves actual field identification of archeological sites, sufficient to judge whether they are eligible for listing in the National Register of Historic Places. An archeological inventory includes examination of areas on the installation with reasonable potential for archeological sites, excluding such areas as impact or safety hazard zones. This includes Federally-owned, state, leased, special use permit, or other special circumstances land where the installation is required to implement NHPA

Section 106 review of the impacts a proposed undertaking would have on historic properties. For questions 30-33, consider all lands under the installation jurisdiction (i.e. the entire state for Army National Guard) as one property.

33) Is the installation responsible for the archeological inventory of the land it uses or owns? Answer 'yes' if the installation would have to conduct an archeological survey if that land would be affected by an undertaking, whether or not one is planned for the near term.

Yes

No

34) Identify the completion status of the archeological inventory of that land. Mark 'complete' if all available lands have been inventoried. Mark 'partially complete' if only a portion of the available lands has been inventoried. Mark 'not initiated' if lands have not been inventoried at all, but should be.

Complete

Partially complete

Not initiated

35) How many acres on your installation are accessible for archeological inventory? Lands accessible for inventory are the total acreage of the installation (or state or RRC, as applicable), minus surface danger zones, acreage underwater, or other inaccessible areas.

36) How many acres (total) on your installation have been inventoried for archeological resources?

Inventory of Historic Buildings and Structures

Historic Buildings and Structures Inventory involves actual field identification of historic buildings and structures, sufficient to judge whether they are eligible for listing on the National Register of Historic Places. Buildings over 50 years of age, as well younger buildings that may be eligible for the National Register under the exceptional importance criteria, are included in the inventory. For Army National Guard, this includes all buildings and structures coded within PRIDE that are Federally-owned or able to receive federal funds.

37) Is the installation responsible for the inventory of historic buildings or structures it uses or owns? Answer "yes" if the installation would have to conduct a building survey if those buildings would be affected by an undertaking, whether or not one is planned for the near term.

Yes

No

38) Identify the completion status of all historic building and structure inventories. Mark "complete" if all available buildings and structures over 50 years old have been inventoried. Mark "partially complete" if only a portion of the available buildings and structures over 50 years old has been inventoried. Mark "not initiated" if buildings and structures over 50 years old have not been inventoried at all, but should be

Complete

Partially complete

Not initiated

Native American Cultural Resources

Sacred sites are defined as any "specific, discrete, narrowly delineated location, identified by an Indian tribe, or Indian individual determined to be an appropriately authoritative representative of an Indian religion, as sacred by virtue of its established religious significance to, or ceremonial use by, an Indian religion" (EO 13007). Properties of traditional religious or cultural importance to an Indian tribe or Native Hawaiian organization may be determined to be eligible for inclusion on the National Register of Historic Places, as referenced in NHPA Section 101(d)(6).

39) List the Federally recognized Indian tribes or Native Hawaiian organizations that are associated with the installation.

40) Are access and protection procedures required and in place for Native American sacred sites (as defined in EO 13007) or properties of traditional, cultural or religious importance to Federally-recognized Indian tribes or Native Hawaiians (as defined in NHPA)? For the National Guard and Reserve, this includes sites and properties on both Federal and state land.

Yes

No

41) Does your installation have "cultural items" as defined by the Native American Graves Protection and Repatriation Act (NAGPRA) in collections in Federal possession or control? "Cultural items," as defined by NAGPRA, include human remains, funerary objects, sacred objects and objects of cultural patrimony that have been discovered on Federal lands.

Yes

No

42) If your installation has "cultural items" as defined by NAGPRA in collections, has consultation for repatriation been initiated for those items? Under NAGPRA, Federal agencies must consult with tribes affiliated with the area in which the cultural items were found, in order to repatriate or otherwise handle the items. If the installation has "cultural items" as defined by NAGPRA, determine if consultation for repatriation has been initiated, and answer "yes" or "no".

Yes

No

Section 6 summaries under NAGPRA are required to have been completed by museums and Federal agencies with possession or control over holdings or collections of Native American unassociated funerary objects, sacred objects, or objects of cultural patrimony. Summaries were to be completed by November 16, 1993 and should have been followed by consultation with tribal government and Native Hawaiian organization leaders and traditional religious leaders.

43) Is your installation required to do a NAGPRA summary per Section 6 of the Act and 43 CFR 10.8?

Yes

No

44) Has your installation completed its NAGPRA summary per Section 6 of the Act and 43 CFR 10.8?

Yes

No

45) Has your installation performed the required consultation for NAGPRA summaries per 43 CFR 10.8(d)?

Yes

No

46) Has your installation completed the notification requirements for NAGPRA summaries per 43 CFR 10.8 (f)?

Yes

No

Section 5 inventories under NAGPRA were to have been completed by November 16, 1995, by museums and Federal agencies which have possession or control over holdings or collections of Native American human remains and associated funerary objects using information possessed by the museum or Federal agency, identifying, to the extent possible, the geographical and cultural affiliation of such item(s). Inventories should be completed in consultation with tribal government and Native Hawaiian organization officials and traditional religious leaders.

47) Is your installation required to do a NAGPRA inventory per Section 5 of the Act and 43 CFR 10.9?

Yes

No

48) Has your installation completed a NAGPRA inventory per Section 5 of the Act and 43 CFR 10.9?

Yes

No

49) Has your installation performed the required consultation for NAGPRA inventories per 43 CFR 10.9(b)?

Yes

No

50) Has your installation completed all notification requirements per 43 CFR 10.9(e)?

Yes

No

51) If your installation has completed its NAGPRA summary and inventory as required by 43 CFR 10.8 and 10.9, has your installation subsequently received a new holding or collection or located a previously unreported current holding or collection that may include human remains, funerary objects, sacred objects or objects of cultural patrimony as defined by NAGPRA?

Yes

No

NA

General

52) In the past year, has the installation or one or more stakeholders sought the intervention of the Advisory Council on Historic Preservation on a contested historic preservation issue?

Yes

No

53) Please provide any comments on changes in any of the data from previous fiscal year, or other issues, that will assist in HQDA's review of the data.

SAMPLE
MEMORANDUM OF AGREEMENT

AMONG
THE NATIONAL GUARD BUREAU,
XXXX ARMY NATIONAL GUARD

AND
THE XXXX STATE HISTORIC PRESERVATION OFFICE
FOR THE
XXXXX (Title of the project) PROJECT
(insert year)

WHEREAS, the National Guard Bureau (NGB), as a federal agency, is required to comply with the National Historic Preservation Act (16 U.S.C. §470f) (NHPA), and the NGB provides federal funding and guidance to state Guard organizations; and

WHEREAS, the XXXX Army National Guard (XXARNG) intends (discuss the project) located in (City), (County), (State), using both federal and state funding sources. The buildings were constructed (indicate the construction date(s)), is owned and operated by the state of XXXX; and

WHEREAS, the XXARNG has evaluated the (building name) as eligible for inclusion in the National Register of Historic Places (NRHP) and received concurrence with this evaluation from the XXXX State Historic Preservation Office (XX SHPO). The building(s) are eligible for the NRHP due to (insert reason), and that the XXARNG has determined that the (discuss project) will thus have an adverse effect upon this historic property; and

WHEREAS, the XXARNG has consulted with the XX SHPO pursuant to Section 800.6(b) of (36 CFR Part 800), *Protection of Historic Properties* implementing §106 of the NHPA; and

WHEREAS, the XXARNG has determined that there are no Federally recognized Indian tribes that attach traditional religious and cultural importance to the structure and landscape within the area of potential effects. (note: If the undertaking will affect such sites, additional WHEREAS clauses and stipulations will need to be included to reflect proper tribal consultation and resolution of adverse effects with tribal involvement); and

WHEREAS, the NGB will follow the stipulations outlined in the Programmatic Memorandum of Agreement among the United States Department of Defense, The Advisory Council on Historic Preservation and the National Conference of State Historic Preservation Officers dated 07 Jun 86 for the demolition of World War II Temporary Buildings, as amended on 05 May 91; and

WHEREAS, the XXARNG has afforded the public an opportunity to comment on the mitigation plan for the (insert project title) through completion of (indicate type of NEPA documentation ex. REC, EA or EIS) pursuant to the National Environmental Policy Act (40 CFR Part 1500-1508); (note: if a REC is prepared, the installation must make additional efforts at including the public in the process, and should insert language indicating what those efforts were example verbiage -in the case of a REC the XXARNG will invite to comment, by letter, the organizations determined to have an interest in this project) and

WHEREAS the XXARNG in consultation with (insert state name) SHPO, established the area of potential effect (APE) as defined at 36 CFR §800.16(d), identified and evaluated (insert buildings) within the APE as being eligible for the National Register, and determined that the proposed undertaking would

adversely affect such buildings. There are no other properties within the APE considered eligible for the National Register; and

WHEREAS the XXARNG by letter dated (insert date of letter sent to ACHP) invited the Advisory Council on Historic Preservation (ACHP) to participate in this consultation per 36 CFR §800.6 (a) (1) and the ACHP has declined/agreed (select one) to participate in consultation by letter dated (insert date ACHP declined/agreed (select one) to participate); and

(use for demolition projects only) WHEREAS the XXARNG has determined that adaptive reuse or any other alternative to save (insert building name and number(s)) is not economically feasible; and

WHEREAS the XXARNG, in consultation with the XX SHPO, has determined that there are no prudent or feasible alternatives for the project scope or location.

NOW, THEREFORE, the XXARNG and the XX SHPO agree that the undertaking shall be implemented in accordance with the following stipulations in order to take into account the effect of the undertaking on historic properties.

STIPULATIONS

The XXARNG will ensure that the following measures are implemented:

I. Mitigation of Adverse Effects on (insert title of project)

A. Public Participation. The NEPA process will be used to solicit public participation. The XXARNG shall ensure that the following measures are carried out in order to afford the public an opportunity to participate in the mitigation to be carried out under Stipulation B:

1. The XXARNG will invite, by letter, the (insert organization(s) name(s) invited to participate) to participate in the project. The XXARNG will, upon request, provide additional information to the public about this project and arrange meetings with individuals or groups to provide more information about the proposed (renovation, demolition, etc.) prior to implementation of this MOA.

B. After consultation with the (insert state) SHPO a determination will be made regarding the appropriate Historic American Building Survey (HABS) level will be performed. (if applicable insert other mitigation measures agreed upon).

1. Recordation Report will include the following:
2. The XXARNG shall ensure that all mitigation listed in (1) above is completed and submitted to the XX SHPO and the (insert the name of the concurring party as applicable) prior to the (insert project type ex. demolition, renovation, etc) of the (insert building(s) types). Creation of (insert mitigation agreed upon).
 - a. Preparation of a historic context for the (insert the building(s) name(s)) and the history of the XXARNG in (insert site location), to be based on information obtained from existing literary and archival sources.

b. (Insert mitigation agreed upon - ex. display, etc)

c. The XXARNG shall ensure that the (list mitigation) are completed prior to the (insert type of activity ex. demolition, renovation, etc) of the (insert type of building(s)).

C. Design Review of Plans for (insert building type). The XXARNG also will provide both the XX SHPO and the (insert consulting party as applicable) with the opportunity to review the designs for the new (insert building type) prior to those designs being put out for contractor bids. This design information is to be treated as confidential; disclosure, distribution, or sharing of the design information, in whole or in part, to any party that is not a signatory to this MOA, is strictly prohibited.

II. Administrative Stipulations

- A. Definition of signatories. For the purposes of this MOA the term "signatories to this MOA" means the NGB, XXARNG and the XX SHPO, each of which has authority under 36 CFR 800.6(c)(8) to terminate the MOA if agreement cannot be reached regarding an amendment.
- B. Professional supervision. The XXARNG shall ensure that all activities regarding research and reporting are carried out pursuant to this MOA are carried out by or under the direct supervision of a person or persons meeting at a minimum the *Secretary of the Interior's Professional Qualifications Standards for Architectural History* (36 CFR Part 61).
- C. Alterations to project documents. The XXARNG shall not alter any plan, scope of services, or other document that has been reviewed and commented on pursuant to this MOA, except to finalize documents commented on in draft, without first affording the signatories to this MOA the opportunity to review the proposed change and determine whether it shall require that this MOA be amended. If one or more such party (ies) determines that an amendment is needed, the signatories to this MOA shall consult in accordance with 36 CFR 800.6(c) (7) to consider such an amendment. The signatories will have thirty days to consider the amendment. The XXARNG will notify in writing everyone when the consultation with the signatories has been completed and the outcome of the consultation
- D. Anti-Deficiency Act compliance. All requirements set forth in this MOA requiring expenditure of Army funds are expressly subject to the availability of appropriations and the requirements of the Anti-Deficiency Act (31 U.S.C. Section 1341). No obligation undertaken by the Army under the terms of this MOA shall require or be interpreted to require a commitment to expend funds not appropriated for a particular purpose.
- E. Dispute Resolution.
 - 1. Should the XX SHPO object in writing to any actions carried out or proposed pursuant to this MOA, the XXARNG will consult with the XX SHPO to resolve the objection. If the XXARNG determines that the objection cannot be resolved, the XXARNG will request further comments from the ACHP pursuant to 36 CFR § 800.7. If after initiating such consultation the XXARNG determines that the objection cannot be resolved through consultation, the XXARNG shall forward all documentation relevant to the objection to the ACHP, including the XXARNG's proposed response to the objection. Within 30 days after receipt of all pertinent documentation, the ACHP shall exercise one of the following options:

- a. Advise the XXARNG that the ACHP concurs in the XXARNG's proposed response to the objection, whereupon the XXARNG will respond to the objection accordingly;
 - b. Provide the XXARNG with recommendations, which the XXARNG shall take into account in reaching a final decision regarding its response to the objection; or
 - c. Notify the XXARNG that the objection will be referred for advisory comments of the ACHP in accordance with 36 CFR 800.7(b).
2. Should the ACHP not exercise one of the above options within 30 days after receipt of all pertinent documentation, the XXARNG may assume the ACHP's concurrence in its proposed response to the objection.
3. The XXARNG shall take into account any of the advisory comments of the ACHP provided in accordance with this stipulation with reference only to the subject of the objection; the XXARNG's responsibility to carry out all actions under this MOA that are not the subjects of the objection shall remain unchanged.
4. At any time during implementation of the measures stipulated in this MOA, should an objection pertaining to this MOA or the effect of the undertaking on historic properties be raised by a member of the public, the XXARNG shall take the objection into account.

F. Termination.

1. If the XXARNG determines that it cannot implement the terms of this MOA, or if the NGB or XX SHPO determines that the MOA is not being properly implemented, the XXARNG, the NGB or the XX SHPO may propose to the other signatories to this MOA that it be terminated.
2. The party proposing to terminate this MOA shall so notify the other two signatories to this MOA, explaining the reasons for termination and affording them thirty (30) days to consult and seek alternatives to termination.
3. Should such consultation fail the XXARNG, NGB or the XX SHPO may terminate the MOA. Should the MOA be terminated, the XXARNG shall either:
 - a. Consult in accordance with 36 CFR 800.6 to develop a new MOA; or
 - b. Request the comments of the ACHP pursuant to 36 CFR 800.7.
4. If the terms of this agreement have not been implemented by (insert number of year(s)) after the date of the signatures in Section III below, this MOA shall be considered null and void. In such event the XXARNG shall so notify the signatories to this agreement, and if it chooses to continue with the undertaking, shall re-initiate review of the undertaking in accordance with 36 CFR Part 800.

G. Execution.

1. Until a signed copy of the MOA has been filed with the ACHP the MOA is not valid. A signed copy will also be sent to the Department of the Army, Assistant Chief of Staff for Installation Management for their files.
2. Execution of this MOA is intended to evidence the XXARNG's compliance with §106 of the NHPA. This fulfills Section 106 for this action.

SAMPLE
MEMORANDUM OF AGREEMENT

AMONG
THE NATIONAL GUARD BUREAU,
XXXX ARMY NATIONAL GUARD

AND
THE XXXX STATE HISTORIC PRESERVATION OFFICE
FOR THE
Insert Project Title
(insert year)

Signature Page

NATIONAL GUARD BUREAU

By: _____
JEFFREY G. PHILLIPS
Colonel, US Army
Chief, Environmental
Programs Division

Date: _____

XXXX ARMY NATIONAL GUARD

By: _____
xxxxx x. xxxxxxxxxxxxxx
Major General, XXXX Army National Guard
The Adjutant General

Date: _____

XXXX STATE HISTORIC PRESERVATION OFFICER

By: _____
xxxxxxx x. xxxxxxxxxxxxxx
State Historic Preservation Officer

Date: _____

CONCURRING PARTIES: (as applicable)

XXXXXX HISTORICAL COMMISSION or XXXX Federally recognized Indian tribe(s) or Native
Hawaiians

By: _____
xxxxxx x. xxxxxxxxxxxxxxxxxxxxxx
Title

Date: _____

A	FDID	State	Incident Date	Station	Incident Number	Exposure	NFIRS - 1 Basic
	AH008	DD	10/15/2016		1600057	0	

B Location	1 - Street address					
	3320		Cleaton		Road	
	Number/Milepost	Prefix	Street or Highway	Street Type	Suffix	
	Apt./Suite/Room	City	State	Zip Code		
	Census Tract	Cross street or directions, as applicable				

C Incident Type	E1 Dates & Times						E2 Shifts & Alarms				
	Midnight is 0000						Local Option				
111 - Building fires	Month	Day	Year	Hour	Min	Seconds	B	3	2		
Incident Type							Shift or platoon	Alarms	District		
D Aid Given or Received	Alarm						10/15/2016		05:53:39		
	Arrival						10/15/2016		06:00		
	Controlled										
	Last Unit Cleared						10/15/2016		10:34		
89464	KY	1600952								E3 Special Studies	
Their FDID	Their State	Their Incident Number								Local Option	
3 - Mutual aid given											
Type Aid Given or Received							Special Study ID#		Special Study Value		

F Actions Taken	G1 Resources		G2 Estimated Dollar Losses & Values		
	Check this box and skip this section if an Apparatus or Personnel form is used.		LOSSES: Required for all fires if known. Optional for non fires.		
	Apparatus	Personnel	Property	\$	
	Suppression	3	5	Contents	\$
58 - Operate apparatus or vehicle	EMS	0	0	PRE-INCIDENT VALUE: Optional	
11 - Extinguish	Other	0	0	Property	\$
76 - Provide water	Check box if resource counts include aid received resources.		Contents	\$	
Actions Taken					

H1 Casualties	H2 Detector
Deaths	
Injuries	
Fire Service	H3 Hazardous Materials Release
0	
0	
Civilian	I Mixed Use Property
0	
0	J Property Use
	891 - Warehouse

K1 Person/Entity Involved
Mr., Ms., Mrs. First Name MI Last Name Suffix
3320 Cleaton Road
Number Prefix Street or Highway Street Type Suffix
Post Office Box Apt./Suite/Room City
KY 42330 Re-tek INC
State Zip Code Business name (if applicable) Area Code Phone Number

K2 Owner
Mr., Ms., Mrs. First Name MI Last Name Suffix
3320 Cleaton Road
Number Prefix Street or Highway Street Type Suffix
Post Office Box Apt./Suite/Room City
KY 42330 Re-tek INC
State Zip Code Business name (if applicable) Area Code Phone Number

A

AH008

FDID

DD

State

MM

DD

YYYY

10/15/2016

Incident Date

Station

1600057

Incident Number

0

Exposure

NFIRS
Remarks

Remarks

R-3 was notified by Security of a mutual aid request from Central City Fire. Central Dispatch advised WHFRTC Fire that a county page had been submitted, requesting all available resources. Mclean County was also dispatched. R-3 & R-6 responded w/ CT-92 & T-93 to a large warehouse of rubber. Used Turrets and attack line from CT-92 to suppress B & C sides of building. Used water & foam. CT-92 was being supplied from Mclean County and T-93. Around 0730 C-shift arrived in E-91 to relieve B-shift. R-4 assumed WHFRTC operations, with R-7 & R-8. R-3 & R-6 checked out with I.C. and departed scene in E-91 at 0815. F-1 was notified by both R-3 & R-4 of status. Continued suppression operations using CT-92 and water shuttle with T93. All WHFRTC units where released by IC and departed the scene without further incident. WHFRTC apparatus used approx. 21000 gallons of water and 75 gals of AFFF foam.

M

Authorization

R-3

Officer in charge ID

Lonnie

Signature

Forst

Crew Chief

Position or rank

B-shiftOps

Assignment

10/15/2016

Month Day Year

R-4

Member making report
ID

Kyle

Signature

Wade

Crew Chief

Position or rank

C-shiftOps

Assignment

10/15/2016

Month Day Year

AGREEMENT FOR MUTUAL AID IN FIRE PROTECTION AND HAZARDOUS MATERIALS INCIDENT RESPONSE BETWEEN WENDELL H. FORD REGIONAL TRAINING CENTER FIRE/RESCUE AND CENTRAL CITY FIRE DEPARTMENT

1. This agreement, entered into this 25th day of January 2018, between the Secretary of the Army acting pursuant to the authority of *** section 4856a, title 42 U.S.C. *** and the Central City Fire Department (CCFD), is securing to each the benefits of mutual aid in fire prevention and hazardous materials incident response, in the protection of life and property from fire, hazardous materials incident and in fire fighting and rescue. The parties entering into this agreement shall provide the following services if it is available by the providing fire department: emergency services, including basic medical support and special rescue events involving vehicular and water mishaps, and trench, building collapse and confined space rescues.

It is agreed that:

1.1. On request to a representative of Wendell H. Ford Regional Training Center (WHFRTC) Fire/Rescue by a representative of the Muhlenberg County Central Dispatch Facility, firefighting equipment and personnel of WHFRTC Fire/Rescue will be dispatched to any point within the area for which CCFD normally provides fire protection or hazardous materials incident response as designated by the representatives of the CCFD.

1.2. On request to a representative of the Muhlenberg County Central Dispatch Facility by a representative of WHFRTC Fire/Rescue or Security, fire fighting equipment or hazardous materials incident response and personnel of CCFD will be dispatched to any point within the fire fighting or hazardous materials incident response jurisdiction of WHFRTC Fire/Rescue as designated by the representative of WHFRTC Fire/Rescue or Security..

1.3. The rendering of assistance under the terms of this agreement shall not be mandatory, but the party receiving the request for assistance shall immediately inform the requesting department if, for any reason, assistance cannot be rendered.

1.4. Any dispatch of equipment and personnel pursuant to this agreement is subject to the following conditions:

1.4.1. Any request for aid hereunder shall include a statement of the amount and type of equipment and personnel requested and shall specify the location to which the equipment and personnel are to be dispatched, but the amount and type of equipment and the number of personnel to be furnished shall be determined by a representative of the responding organization.

AGREEMENT FOR MUTUAL AID IN FIRE PROTECTION AND HAZARDOUS MATERIALS INCIDENT RESPONSE BETWEEN WENDELL H. FORD REGIONAL TRAINING CENTER FIRE/RESCUE DIVISION AND CENTRAL CITY FIRE DEPARTMENT

1.4.2. The responding organization shall report to the officer in charge of the requesting organization at the location to which the equipment is dispatched, and shall be subject to the orders of that official.

1.4.3. A responding organization shall be released by the requesting organization when the services of the responding organization are no longer required or when the responding organization is needed within the area for which it normally provides fire protection.

1.4.4. In the event of a crash of aircraft owned or operated by the United States or military aircraft of any foreign nation within the area for which CCFD normally provides fire protection, the chief of WHFRTC Fire/Rescue or his or her representative may assume full command on arrival at the scene of the crash.

1.5. CCFD may claim reimbursement for the direct expenses and losses that are additional fire fighting or hazardous materials incident costs above the normal costs incurred while fighting a fire or hazardous materials incident response as a result of this agreement as provided in **** 44 C. F. R., Part 151.****

1.6. Each party waives all claims against every other party for compensation for any loss, damage, personal injury, or death occurring as a consequence of the performance of this agreement. This provision does not waive any right of reimbursement pursuant to paragraph 1.5 above.

1.7. The chief fire officers and personnel of the fire departments of all parties to this agreement are invited and encouraged, on a reciprocal basis, to frequently visit each other's activities for guided familiarization tours consistent with local security requirements and, as feasible, to jointly conduct prefire planning inspections and drills.

1.8. The technical heads of the fire departments of the parties to this agreement are authorized and directed to meet and draft any detailed policies and procedures of operation necessary to effectively implement this agreement. Such policies and procedures of operations shall become effective upon ratification by the signatory parties.

AGREEMENT FOR MUTUAL AID IN FIRE PROTECTION AND HAZARDOUS MATERIALS INCIDENT RESPONSE BETWEEN WENDELL H. FORD REGIONAL TRAINING CENTER FIRE/RESCUE DIVISION AND CENTRAL CITY FIRE DEPARTMENT

1.9. All equipment used by CCFD in carrying out this agreement will, at the time of action hereunder, be owned by it; and all personnel acting for CCFD under this agreement will, at the time of such action, be an employee or volunteer member of CCFD.

1.10. This agreement shall become effective upon the date hereof and remain in full force and effect until cancelled by mutual agreement of the parties hereto or by written notice by one party to the other party, giving thirty (30) days notice of said termination. This agreement shall null and void any previous agreement prior to the date of agreement between the said parties.

1.11. All parties entering into this agreement shall ensure their departmental contact information is kept current with the other departments in this agreement.

For City of Central City, Ky.

By: [Signature] Date: 2-1-18
Hon. Barry Shaver, Mayor

For Central City Fire Department

By: Ricky King Date: 02/01/2018
Ricky King, Fire Chief

For Wendell H. Ford Regional Training Ctr

By: [Signature] Date: 25 January 2018
Frederick Bates, Lieutenant Colonel
Base Operations Manager
Kentucky Army National Guard

For WHFRTC Fire/Rescue

By: [Signature] Date: 25 January 2018
Rondal Hambrick, Fire/Rescue Chief

Procedures of Operations Necessary to Effectively Implement the Mutual Aid Agreement
with Graham Volunteer Fire Department
As per Section 1.8

1. Call from Muhlenberg County Central Dispatch Facility (MCCDF) for WHFRTC Fire/Rescue assistance shall be made to WHFRTC Security at **502-607-7898 or 7899**. WHFRTC Security shall notify WHFRTC Fire/Rescue for confirmation of response. WHFRTC Security shall notify MCCDF immediately if, for any reason, assistance cannot be rendered.

1a. If assisting, WHFRTC Fire/Rescue shall use MCCDF fire tactical 1 channel to verify response to emergency.

1b. WHFRTC Fire/Rescue shall be Station #9.

Its equipment is as follows:

Command #90- Command Vehicle

Engine #91- Wildland/Urban Interface 1,000gpm Pumper

Truck #92- ARFF Crash/Fire/Rescue Truck w/3,000gal water, 400gal

foam

Tanker #93 International 3000 gal pumper/tanker

Rescue #95 Freightliner Medium Rescue (delivered in 2018)

Brush Truck #98 Ford F450 300 gal water

Polaris 6x6 Ranger Brush/Rescue Unit

Boston Whaler Rescue Boat

1c. Unit Call Numbers

R-1 Rondal Hambrick- Fire Chief (**work # 502-607-7873**)

R-2 Kyle Wade- Crew Chief (**work # 502-607-7874**)

R-3 John Young- Crew Chief (**work # 502-607-7874**)

R-4

R-5 Shane Butler- Firefighter Driver/Operator

R-6 Troy Sherer- Firefighter Driver/Operator

R-7 Tyler Henderson- Firefighter Driver/Operator

R-8 Ean Weber – Firefighter/Driver Operator

2. Call from WHFRTC Fire/Rescue or Security for Graham Volunteer Fire Department's assistance shall be made to MCCDF by calling 911. MCCDF shall notify WHFRTC Security if, for any reason, assistance cannot be rendered.

CENTRAL CITY APPARATUS LIST:

ENGINE 20 – 1250 gpm pumper with 1000 gallon tank and 40 gallons of foam

ENGINE 21 – 1250 gpm pumper with 1000 gallon tank and 40 gallons of foam

LADDER 22 – 75 ft ladder, 500 gallons water storage, 1250 gpm

ENGINE 23 - 1250 gpm pumper with 1000 gallon tank and 40 gallons of foam

ENGINE 24 - 1250 gpm pumper with 1000 gallon tank and 40 gallons of foam

SQUAD 25 – Vehicle and Medical Rescue Unit with extrication.

SQUAD 26 – Vehicle and Medical Rescue Unit with extrication.

UNIT 27 – Support Vehicle

UNIT 28 – Chief Command Vehicle

UNIT 29 – Fire Inspector Vehicle

Cub Cadet 4x4 – Wildland vehicle with high pressure skid unit.

CENTRAL CITY OFFICER LIST:

201 – Chief Ricky King 270-543-1445/270-754-2345

202 – Deputy Chief James Moore, Sr. 270- 543-1996/270-754-2345

203 – Asst. Chief Lee Williams 270-543-2422/270-754-2345

~~204 – Captain Brandon Dwyer 270-677-5020/270-754-2345~~

205 – Major Keith Strode 270-543-2422/270-754-2345

206 – Firefighter Ean Weber 270-543-4904/270-754-2345

207 – Firefighter Zac Shemwell 270-608-4523/270-754-2345

AGREEMENT FOR MUTUAL AID IN FIRE PROTECTION AND HAZARDOUS MATERIALS INCIDENT RESPONSE BETWEEN WENDELL H. FORD REGIONAL TRAINING CENTER FIRE/RESCUE AND CITY OF GREENVILLE FIRE DEPARTMENT AND GREENVILLE VOLUNTEER FIRE DEPARTMENT

1. This agreement, entered into this 25th day of January 2018, between the Secretary of the Army acting pursuant to the authority of *** section 1856a, title 42 U.S.C.*** and the City of Greenville Fire Department (GFD) and Greenville Volunteer Fire Department (GVFD), is securing to each the benefits of mutual aid in fire prevention and hazardous materials incident response, in the protection of life and property from fire, hazardous materials incident and in fire fighting and rescue. The parties entering into this agreement shall provide the following services if it is available by the providing fire department: emergency services, including basic medical support and special rescue events involving vehicular and water mishaps, and trench, building collapse and confined space rescues.

It is agreed that:

1.1. On request to a representative of Wendell H. Ford Regional Training Center (WHFRTC) Fire/Rescue by a representative of the Muhlenberg County Central Dispatch Facility, firefighting equipment and personnel of WHFRTC Fire/Rescue will be dispatched to any point within the area for which GFD and/or GVFD normally provide fire protection or hazardous materials incident response as designated by the representatives of the GFD and/or GVFD.

1.2. On request to a representative of the Muhlenberg County Central Dispatch Facility by a representative of WHFRTC Fire/Rescue or Security, fire fighting equipment or hazardous materials incident response and personnel of GFD and/or GVFD will be dispatched to any point within the fire fighting or hazardous materials incident response jurisdiction of WHFRTC Fire/Rescue as designated by the representative of WHFRTC Fire/Rescue or Security..

1.3. The rendering of assistance under the terms of this agreement shall not be mandatory, but the party receiving the request for assistance shall immediately inform the requesting department if, for any reason, assistance cannot be rendered.

1.4. Any dispatch of equipment and personnel pursuant to this agreement is subject to the following conditions:

1.4.1. Any request for aid hereunder shall include a statement of the amount and type of equipment and personnel requested and shall specify the location to which the equipment and personnel are to be dispatched, but the amount and type of equipment and the number of personnel to be furnished shall be determined by a representative of the responding organization.

AGREEMENT FOR MUTUAL AID IN FIRE PROTECTION AND HAZARDOUS MATERIALS INCIDENT RESPONSE BETWEEN WENDELL H. FORD REGIONAL TRAINING CENTER FIRE/RESCUE DIVISION AND CITY OF GREENVILLE FIRE DEPARTMENT AND GREENVILLE VOLUNTEER FIRE DEPARTMENT

1.4.2. The responding organization shall report to the officer in charge of the requesting organization at the location to which the equipment is dispatched, and shall be subject to the orders of that official.

1.4.3. A responding organization shall be released by the requesting organization when the services of the responding organization are no longer required or when the responding organization is needed within the area for which it normally provides fire protection.

1.4.4. In the event of a crash of aircraft owned or operated by the United States or military aircraft of any foreign nation within the area for which GFD and GVFD normally provides fire protection, the chief of WHFRTC Fire/Rescue or his or her representative may assume full command on arrival at the scene of the crash.

1.5. GFD and GVFD may claim reimbursement for the direct expenses and losses that are additional fire fighting or hazardous materials incident costs above the normal costs incurred while fighting a fire or hazardous materials incident response agreement as provided in**** 44 C. F. R., Part 151.****

1.6. Each party waives all claims against every other party for compensation for any loss, damage, personal injury, or death occurring as a consequence of the performance of this agreement. This provision does not waive any right of reimbursement pursuant to paragraph 1.5 above.

1.7. The chief fire officers and personnel of the fire departments of all parties to this agreement are invited and encouraged, on a reciprocal basis, to frequently visit each other's activities for guided familiarization tours consistent with local security requirements and, as feasible, to jointly conduct prefire planning inspections and drills.

1.8. The technical heads of the fire departments of the parties to this agreement are authorized and directed to meet and draft any detailed policies and procedures of operation necessary to effectively implement this agreement. Such policies and procedures of operations shall become effective upon ratification by the signatory parties.

AGREEMENT FOR MUTUAL AID IN FIRE PROTECTION AND HAZARDOUS MATERIALS INCIDENT RESPONSE BETWEEN WENDELL H. FORD REGIONAL TRAINING CENTER FIRE/RESCUE DIVISION AND CITY OF GREENVILLE FIRE DEPARTMENT AND GREENVILLE VOLUNTEER FIRE DEPARTMENT

1.9. All equipment used by GFD and GVFD in carrying out this agreement will, at the time of action hereunder, be owned by it; and all personnel acting for GFD and GVFD under this agreement will, at the time of such action, be an employee or volunteer member of GFD and/or GVFD.

1.10. This agreement shall become effective upon the date hereof and remain in full force and effect until cancelled by mutual agreement of the parties hereto or by written notice by one party to the other party, giving thirty (30) days notice of said termination. This agreement shall null and void any previous agreement prior to the date of agreement between the said parties.

1.11. All parties entering into this agreement shall ensure their departmental contact information is kept current with the other departments in this agreement.

For City of Greenville, Ky.

By: Jan Yonts Date: 2/1/18
Hon. Jan Yonts, Mayor

For City of Greenville Fire Department
and Greenville Volunteer Fire Department

By: Jerry Sanders Date: 02-01-18
Jerry Sanders, Fire Chief

For Wendell H. Ford Regional Training Ctr.

By: Frederick Bates Date: 25 January 2018
Frederick Bates, Lieutenant Colonel
Base Operations Manager
Kentucky Army National Guard

For WHFRTC Fire/Rescue

By: Rondal Hambrick Date: 25 January 2018
Rondal Hambrick, Fire/Rescue Chief

Procedures of Operations Necessary to Effectively Implement the Mutual Aid Agreement
with Graham Volunteer Fire Department
As per Section 1.8

1. Call from Muhlenberg County Central Dispatch Facility (MCCDF) for WHFRTC Fire/Rescue assistance shall be made to WHFRTC Security at **502-607-7898 or 7899**. WHFRTC Security shall notify WHFRTC Fire/Rescue for confirmation of response. WHFRTC Security shall notify MCCDF immediately if, for any reason, assistance cannot be rendered.

1a. If assisting, WHFRTC Fire/Rescue shall use MCCDF fire tactical 1 channel to verify response to emergency.

1b. WHFRTC Fire/Rescue shall be Station #9.

Its equipment is as follows:

Command #90- Command Vehicle

Engine #91- Wildland/Urban Interface 1,000gpm Pumper

Truck #92- ARFF Crash/Fire/Rescue Truck w/3,000gal water, 400gal

foam

Tanker #93 International 3000 gal pumper/tanker

Rescue #95 Freightliner Medium Rescue (delivered in 2018)

Brush Truck #98 Ford F450 300 gal water

Polaris 6x6 Ranger Brush/Rescue Unit

Boston Whaler Rescue Boat

1c. Unit Call Numbers

R-1 Rondal Hambrick- Fire Chief (**work # 502-607-7873**)

R-2 Kyle Wade- Crew Chief (**work # 502-607-7874**)

R-3 John Young- Crew Chief (**work # 502-607-7874**)

R-4

R-5 Shane Butler- Firefighter Driver/Operator

R-6 Troy Sherer- Firefighter Driver/Operator

R-7 Tyler Henderson- Firefighter Driver/Operator

R-8 Ean Weber – Firefighter/Driver Operator

2. Call from WHFRTC Fire/Rescue or Security for Graham Volunteer Fire Department's assistance shall be made to MCCDF by calling 911. MCCDF shall notify WHFRTC Security if, for any reason, assistance cannot be rendered.

GREENVILLE FIRE DEPT. APPARATUS LIST:

ENGINE 40 – 1250 gpm pumper with 1000 gallon tank and 40 gallons of foam

ENGINE 41 – 1250 gpm pumper with 1000 gallon tank and 40 gallons of foam

TANKER 43 - 1250 gpm pumper with 3000 gallon tank and foam educator 10gal stored

ENGINE 44 - 1250 gpm pumper with 1000 gallon tank and 40 gallons of foam/rescue equipment

SQUAD 45 – Vehicle and Medical Rescue Unit with extrication.

SUPPORT 46 – Vehicle and Medical Rescue Unit.

BRUSH UNIT 47 – Wildland vehicle with high pressure skid unit.

RESCUE BOAT – Recovery Drag Bags

GREENVILLE PAID LIST:

1402 – Chief Jerry Aders	270-543-1402/270-338-3305
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1412 – Deputy Chief Phillip Groves	270- 619-2002/270-338-3305
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1417 – Asst. Chief Brian Jones	270-608-1196/270-338-3305
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1434 – Asst. Chief John Gore	270-820-4025/270-338-3305
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1436 – Asst. Chief Mike Wells	270-543-3256/270-338-3305
-------------------------------	---------------------------

1437 – Asst. Chief Jamie Reynolds	270-619-6342/270-338-3305
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GREENVILLE VOLUNTEER LIST:

1410 – Firefighter Mike Woodall

1413 – Firefighter Greg Martin

1414 – Firefighter Mike Groves

1416 – Firefighter Kyle Wade

1418 – Firefighter David Chappell

1419 – Asst. Chief Phil Harvell

1420 – Captain Robbie Stover

1425 – Firefighter Jeremy Crick
1428 – Firefighter Maranda Durall
1429 – Firefighter Heather Arnett
1430 – Firefighter Dallas Dukes
1431 – Firefighter Tommy Rose
1433 – Firefighter Greg Dietrich
1435 – Captain Chris Humphreys
1439 – Firefighter Allie Rolley
1440 – Firefighter Brandon Baize
1441 – Firefighter Mallory Thaxton
1445 – Firefighter Elisabeth Rolley
1446 – Firefighter Louis Mozone
1448 – Firefighter Ashley Watson
1449 – Firefighter Chris Watson

AGREEMENT FOR MUTUAL AID IN HAZARDOUS MATERIALS INCIDENT RESPONSE
BETWEEN WENDELL H. FORD REGIONAL TRAINING CENTER FIRE/RESCUE AND
MUHLENBERG COUNTY (EMA) EMERGENCY MANAGEMENT AGENCY

1. This agreement, entered into this 25th day of January, 2018, between the Secretary of the Army acting pursuant to the authority of *** 5121-5296 of 42 U.S.C.*** and Muhlenberg County EMA, is securing to each the benefits of mutual aid in hazardous materials incident response, in the protection of life and property from hazardous materials incident.

It is agreed that:

1.1. On request to a representative of Wendell H. Ford Regional Training Center (WHFRTC) Fire/Rescue by a representative of Muhlenberg County Emergency Management Agency (MC-EMA), hazardous materials incident response and personnel of WHFRTC Fire/Rescue will be dispatched to any point within the area for which MC-EMA normally provides hazardous materials incident response as designated by the representatives of the MC-EMA..

1.2. On request to a representative of MC-EMA by a representative of WHFRTC Fire/Rescue or Security, hazardous materials incident response and personnel of MC-EMA Haz/Mat Response Team will be dispatched to any point within the hazardous materials incident response jurisdiction of WHFRTC Fire/Rescue as designated by the representative of WHFRTC Fire/Rescue or Security.

1.3. The rendering of assistance under the terms of this agreement shall not be mandatory, but the party receiving the request for assistance shall immediately inform the requesting department if, for any reason, assistance cannot be rendered.

1.4. Any dispatch of equipment and personnel pursuant to this agreement is subject to the following conditions:

1.4.1. Any request for aid hereunder shall include a statement of the amount and type of equipment and personnel requested and shall specify the location to which the equipment and personnel are to be dispatched, but the amount and type of equipment and the number of personnel to be furnished shall be determined by a representative of the responding organization.

1.4.2. The responding organization shall report to the officer in charge of the requesting organization at the location to which the equipment is dispatched, and shall be subject to the orders of the Incident Commander with each agency having a person in charge of their personnel and equipment.

AGREEMENT FOR MUTUAL AID IN HAZARDOUS MATERIALS INCIDENT RESPONSE
BETWEEN WENDELL H. FORD REGIONAL TRAINING CENTER FIRE/RESCUE AND
MUHLENBERG COUNTY (EMA) EMERGENCY MANAGEMENT AGENCY

1.4.3. A responding organization shall be released by the requesting organization when the services of the responding organization are no longer required or when the responding organization is needed within the area for which it normally provides hazardous material response.

1.4.4. In the event of a crash of aircraft owned or operated by the United States or military aircraft of any foreign nation within the area for which MC-EMA Haz/Mat Response Team normally provides haz/mat incident response, the chief of WHFRTC Fire/Rescue or his or her representative may assume full command on arrival at the scene of the crash.

1.5. MC-EMA Haz/Mat Response Team may claim reimbursement for the direct expenses and losses that are additional hazardous materials incident costs above the normal costs incurred while fighting a hazardous materials incident response in agreement as provided in**** 44 C. F. R., Part 151.****

1.6. Each party waives all claims against every other party for compensation for any loss, damage, personal injury, or death occurring as a consequence of the performance of this agreement. This provision does not waive any right of reimbursement pursuant to paragraph 1.5 above.

1.7. All equipment used by MC-EMA Haz/Mat Response Team in carrying out this agreement will, at the time of action hereunder, be owned by it; and all personnel acting for MC-EMA Haz/Mat Response Team under this agreement will, at the time of such action, be an employee or volunteer member of MC-EMA Haz/Mat Response Team.

1.8. This agreement shall become effective upon the date hereof and remain in full force and effect until cancelled by mutual agreement of the parties hereto or by written notice by one party to the other party, giving thirty (30) days notice of said termination. This agreement shall null and void any previous agreement prior to the date of agreement between the said parties.

1.9. All parties entering into this agreement shall ensure their agencies contact information is kept current with the other agencies in this agreement.

AGREEMENT FOR MUTUAL AID IN HAZARDOUS MATERIALS INCIDENT RESPONSE
BETWEEN WENDELL H. FORD REGIONAL TRAINING CENTER FIRE/RESCUE AND
MUHLENBERG COUNTY (EMA) EMERGENCY MANAGEMENT AGENCY

For Muhlenberg County, Ky.

By: Laura Y. Hotz Date: 2/14/18

Rick Newman, Muhlenberg County
Judge/Executive

For Muhlenberg County EMA

By: Keith Putnam Date: 2/14/18
Keith Putnam, Muhlenberg County
Emergency Management Director

For Wendell H. Ford Regional Training Ctr.

By: Frederick Bates Date: 25 January 2018

Frederick Bates, Lieutenant Colonel
Base Operations Manager
Kentucky Army National Guard

For WHFRTC Fire/Rescue

By: Rondal Hambrick Date: 25 January 2018
Rondal Hambrick, Fire/Rescue Chief

Procedures of Operations Necessary to Effectively Implement the Mutual Aid Agreement
with Graham Volunteer Fire Department
As per Section 1.8

1. Call from Muhlenberg County Central Dispatch Facility (MCCDF) for WHFRTC Fire/Rescue assistance shall be made to WHFRTC Security at **502-607-7898 or 7899**. WHFRTC Security shall notify WHFRTC Fire/Rescue for confirmation of response. WHFRTC Security shall notify MCCDF immediately if, for any reason, assistance cannot be rendered.

1a. If assisting, WHFRTC Fire/Rescue shall use MCCDF fire tactical 1 channel to verify response to emergency.

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foam

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Boston Whaler Rescue Boat

1c. Unit Call Numbers

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2. Call from WHFRTC Fire/Rescue or Security for Graham Volunteer Fire Department's assistance shall be made to MCCDF by calling 911. MCCDF shall notify WHFRTC Security if, for any reason, assistance cannot be rendered.



STEVEN L. BESHEAR
GOVERNOR

LEONARD K. PETERS
SECRETARY

ENERGY AND ENVIRONMENT CABINET
DEPARTMENT FOR ENVIRONMENTAL PROTECTION
DIVISION OF WATER
200 FAIR OAKS LANE, 4TH FLOOR
FRANKFORT, KENTUCKY 40601
www.kentucky.gov

October 18, 2013

Matthew J Miller
KY National Guard Wendell H Ford Regional Training Center
100 Minuteman Pkwy
Frankfort, Kentucky 40601

KYR00 Coverage Acknowledgment
KPDES No.: KYR003209
KY National Guard Wendell H Ford Regional Training Center
Permit Type: Other
AI ID: 48494
Muhlenberg County, Kentucky

Dear Matthew J Miller:

Effective on October 18, 2013 the Division of Water has granted and/or extended coverage under the Industrial Stormwater General Permit for Other Facilities (KYR000000) for the referenced facility. Discharges from the outfalls listed in the following table are subject to the requirements of the general permit. A copy of the general permit by can be found on our website at: <http://water.ky.gov>.

Component Type	Designation	Description	Receiving Stream	Latitude	Longitude
OUTFALL	SW1	Stormwater Only	Unnamed Tributary 1 into Cypress Creek	37.255	-87.202
OUTFALL	SW2	Stormwater Only	Unnamed Tributary 1 into Cypress Creek	37.263	-87.211
OUTFALL	SW3	Commingled Stormwater and Approved Non-stormwater	Unnamed Tributary 1 into Cypress Creek	37.272	-87.208
OUTFALL	SW4	Commingled Stormwater and Approved Non-stormwater	Unnamed Tributary 1 into Cypress Creek	37.259	-87.201

Any questions concerning the general permit and its requirements should be directed to Surface Water Permits Branch (SWPB) Support at (502) 564-3410 or by e-mail at SWPBsupport@ky.gov.

Sincerely,

Mr. Dan Juett
Surface Water Permits Branch
Division of Water



7-87 2108 Degree



Constant flow with your choice of agent

Designed for single person operation and to pass easily through standard doorways. Badger regulated wheeled extinguishers are ideal for high risk fire hazards that dictate consistent agent discharge flow rates and ranges throughout a fire fighting evolution. Ideal for rugged industrial applications that desire quick and simple on-site equipment recharge capability.

Badger dry chemical extinguishing agents contain the highest percentage of essential base ingredients found in the fire extinguisher industry. The "Multipurpose" agent models are suitable for use on Class A, B and C fires. The "Regular" and "Purple K" agent models are suitable for Class B and C fires.

Features:

- Heavy-duty cylinder activation valves
- 16 inch rubber or 36 inch steel wheels with rubber coating for spark reduction
- Heavy-duty discharge nozzle
- UL Listed and approved—Meets D.O.T. requirements
- 12 year periodic hydrostatic test interval
- Six year warranty
- Equipped with 50' hose length

Regular BC and Purple K Dry Chemical:



ABC Multipurpose Dry Chemical:



Technical Data:

BADGER *Wheeled Dry Chemical Regulated Models*

MODEL	B150A-1	B150R-1	B125K-1	B150AL-1	B125KL-1
PART NUMBER	19900	19906	19915	19903	19921
WHEEL TYPE	16" semi-pneumatic	16" semi-pneumatic	16" semi-pneumatic	36" rubber-coated steel	36" rubber-coated steel
CAPACITY (lb.)	145	150	125	145	125
CAPACITY (kg)	65.7	68	56.7	65.7	56.7
UL FIRE RATING	40-A:240-B:C	240-B:C	240-B:C	40-A:240-B:C	240-B:C
AGENT TYPE	ABC	Regular	Purple K	ABC	Purple K
CYLINDER MATERIAL	Steel	Steel	Steel	Steel	Steel
VALVE MATERIAL	Brass	Brass	Brass	Brass	Brass
HANDLE/LEVER MATERIAL	n/a	n/a	n/a	n/a	n/a
EXPELLANT	110 cu. ft. N2	110 cu. ft. N2	110 cu. ft. N2	110 cu. ft. N2	110 cu. ft. N2
Operating Pressure @ 70° F	245	245	245	245	245
TEMPERATURE RANGE (° F)	-40 to 120	-40 to 120	-40 to 120	-40 to 120	-40 to 120
TEMPERATURE RANGE (° C)	-40.0 to 48.9	-40.0 to 48.9	-40.0 to 49	-40.0 to 48.9	-40.0 to 49
AGENT FLOW RATE (lb/sec)	3.0	3.0	2.5	3.0	2.5
AGENT FLOW RATE (kg/sec)	1.36	1.36	1.13	1.36	1.13
NOM. DISCHARGE TIME (sec)	43+/- 3.0 sec	43+/- 3.0 sec	43+/- 3.0 sec	43+/- 3.0 sec	43+/- 3.0 sec
DISCHARGE RANGE (ft.)	25 to 35	25 to 35	25 to 35	25 to 35	25 to 35
DISCHARGE RANGE (m)	7.6 to 10.6	7.6 to 10.6	7.6 to 10.6	7.6 to 10.6	7.6 to 10.6
UNIT HEIGHT (in.)	52	52	52	52	52
UNIT HEIGHT (cm)	132.1	132.1	132.1	132.1	132.1
UNIT WIDTH (in.)	27	27	27	27	27
UNIT WIDTH (cm)	68.6	68.6	68.6	68.6	68.6
UNIT DEPTH (in.)	39	39	45	45	45
UNIT DEPTH (cm)	99	99	114.3	114.3	114.3
SHIPPING WEIGHT (lb.)	435	440	415	485	465
SHIPPING WEIGHT (kg)	197	199	188	220	210
USCG APPROVAL	n/a	n/a	n/a	n/a	n/a

This information is subject to change without notice. Badger Fire Protection disclaims any liability for any errors or misinterpretations of the information contained therein. Contact Badger Fire Protection for your local distributor for assistance.

Distributed by:

Badger Fire Protection
944 Glenwood Station Lane, Suite 303
Charlottesville, VA 22901
Tel.: 434.964.3200 • Fax: 434.964.3202
www.badgerfire.com

SS B-016
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June 2013



Section 1: Identification of the substance/mixture and of the company/undertaking

Product identifier

Trade name or designation of the mixture Tridol S1
 Identification Number Not applicable.
 Registration number -

Synonyms Aqueous Film Forming Foam (AFFF)
 Product code 130-05
 Date of first issue 07-October-2010
 Version number 02
 Revision date 03-December-2014
 Supersedes date 07-October-2010

Relevant identified uses of the substance or mixture and uses advised against

Identified uses Fire fighting foam concentrate.
 Uses advised against None known.

Details of the supplier of the safety data sheet

Supplier

Company name Angus Fire Ltd
 Address Station Road
 Benthams, Lancashire, LA2 7NA
 e-mail Email: general.enquiries@angusuk.co.uk

SDS number

Reference number Not available.

Manufacturer/Supplier Angus Fire Ltd
 Station Road
 Benthams, Lancashire, LA2 7NA
 general.enquiries@angusuk.co.uk
 0044 (0)15 2426 4000
 Contact person: EH&S Manager

Emergency 0044 (0)15 2426 4000 (Standard office hours: Monday to Friday 8:30am - 4:30pm GMT)

Section 2: Hazards identification

Classification of the substance or mixture

Classification according to Directive 67/548/EEC or 1999/45/EC as amended

Classification Xi;R36

Classification according to Regulation (EC) No 1272/2008 as amended

Health hazards
 Serious eye damage/eye irritation Category 2 Causes serious eye irritation.

Hazard summary

Physical hazards Not classified for physical hazards.
 Health hazards Irritating to eyes. Occupational exposure to the substance or mixture may cause adverse health effects.
 Environmental hazards Not classified for hazards to the environment.
 Specific hazards May cause skin irritation. May cause respiratory tract irritation. May cause damage to the kidneys. May cause central nervous system effects.
 Main symptoms Symptoms can include irritation, redness, scratching of the cornea, and tearing. Symptoms may include redness, oedema, drying, defatting and cracking of the skin. Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting.

Label elements

Label according to Regulation (EC) No. 1272/2008 as amended

Contains: 2-(2-butoxyethoxy)-ethanol, Cocoamido propyl betaine



Signal word	Warning
Hazard statements	Causes serious eye irritation.
Precautionary statements	
Prevention	Wear eye/face protection. Wash hands thoroughly after handling.
Response	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
Storage	Store away from incompatible materials.
Disposal	Dispose of waste and residues in accordance with local authority requirements.
Supplemental label information	Not applicable.
Other hazards	Not a PBT or vPvB substance or mixture.

Section 3: Composition/information on ingredients

Mixture

General information

Chemical name	%	CAS-No. / EC No.	REACH Registration No.	INDEX No.	Notes
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2-(2-butoxyethoxy)-ethanol	20 - 40	112-34-5 203-961-6	-	603-096-00-8	#
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Classification: **DSD:** Xi;R36
 CLP: Eye Irrit. 2;H319

Ethylene glycol	10 - 20	107-21-1 203-473-3	-	603-027-00-1	#
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Classification: **DSD:** Xn;R22
 CLP: Acute Tox. 4;H302

Cocoamido propyl betaine	1 - 1,5	61789-40-0 263-058-8	-	-	
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Classification: **DSD:** Xi;R41, N;R50
 CLP: Eye Dam. 1;H318, Aquatic Acute 1;H400

Water	Balance	7732-18-5 231-791-2	-	-	
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Classification: **DSD:** -
 CLP: -

#: This substance has workplace exposure limit(s).

DSD: Directive 67/548/EEC.

CLP: Regulation No. 1272/2008.

Composition comments	The full text for all R-phrases is displayed in Section 16. All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.
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Section 4: First aid measures

Description of first aid measures

Inhalation	Move injured person into fresh air and keep person calm under observation. Get medical attention, if needed.
Skin contact	Wash the skin immediately with soap and water. Get medical attention if irritation develops and persists.
Eye contact	Immediately flush with plenty of water for up to 15 minutes. Remove any contact lenses and open eyes wide apart. Get medical attention if irritation persists after washing.
Ingestion	Immediately rinse mouth and drink plenty of water. Keep person under observation. If person becomes uncomfortable take to hospital along with these instructions. Only induce vomiting at the instruction of medical personnel.

Most important symptoms and effects, both acute and delayed

Symptoms include itching, burning, redness, and tearing of eyes. Symptoms may include redness, oedema, drying, defatting and cracking of the skin. Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting.

Indication of any immediate medical attention and special treatment needed

Provide general supportive measures and treat symptomatically.

Section 5: Firefighting measures**General fire hazards**

Product is an extinguishing media. It does not burn or support combustion.

Extinguishing media**Suitable extinguishing media**

No specific measures are required as this product is a fire extinguishing medium.

Unsuitable extinguishing media

Not applicable.

Special hazards arising from the substance or mixture

Not a fire hazard.

Advice for firefighters**Special protective equipment for firefighters**

Self-contained breathing apparatus, operated in positive pressure mode and full protective clothing must be worn in case of fire.

Special firefighting procedures

No specific precautions.

Section 6: Accidental release measures**Personal precautions, protective equipment and emergency procedures****For non-emergency personnel**

Avoid contact with skin and eyes. Avoid inhalation of mists or aerosols. Provide adequate ventilation. Wear protective clothing as described in Section 8 of this safety data sheet.

For emergency responders

Use personal protection recommended in Section 8 of the SDS.

Environmental precautions

For large (industrial) releases, prevent spill from entering a waterway.

Methods and material for containment and cleaning up

Absorb spillage with suitable absorbent material. Collect and dispose of spillage as indicated in Section 13.

Reference to other sections

For personal protection, see Section 8.
For waste disposal, see Section 13.

Section 7: Handling and storage**Precautions for safe handling**

Avoid contact with skin and eyes. Wear appropriate personal protective equipment. Wash hands after handling. Read and follow manufacturer's recommendations. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities

Store in original tightly closed container. Store at temperature below 40°C. Store above freezing. Read and follow manufacturer's recommendations. Store away from incompatible materials.

Specific end use(s)

Fire fighting foam concentrate.

Section 8: Exposure controls/personal protection**Control parameters****Occupational exposure limits****Austria. MAK List****Components****Type****Value**

2-(2-butoxyethoxy)-ethanol
(112-34-5)

MAK

97,5 mg/m3

STEL

10 ppm

15 ppm

Ethylene glycol (107-21-1)

Ceiling

101,2 mg/m3

20 ppm

52 mg/m3

MAK

26 mg/m3

10 ppm

Belgium. Exposure Limit Values.**Components****Type****Value****Form**

2-(2-butoxyethoxy)-ethanol
(112-34-5)

STEL

101,2 mg/m3

TWA

15 ppm

10 ppm

67,5 mg/m3

Belgium. Exposure Limit Values.

Components	Type	Value	Form
Ethylene glycol (107-21-1)	STEL	40 ppm	Aerosol
		104 mg/m3	Aerosol
	TWA	52 mg/m3	Aerosol
		20 ppm	Aerosol

Czech Republic. OELs. Government Decree 361

Components	Type	Value	
2-(2-butoxyethoxy)-ethanol (112-34-5)	Ceiling	100 mg/m3	
	TWA	70 mg/m3	
Ethylene glycol (107-21-1)	Ceiling	100 mg/m3	
	TWA	50 mg/m3	

France. Threshold Limit Values (VLEP) for Occupational Exposure to Chemicals in France, INRS ED 984

Components	Type	Value	Form
2-(2-butoxyethoxy)-ethanol (112-34-5)	VLE	101,2 mg/m3	
		15 ppm	
	VME	10 ppm	
		67,5 mg/m3	
Ethylene glycol (107-21-1)	VLE	40 ppm	Vapor.
		104 mg/m3	Vapor.
	VME	52 mg/m3	Vapor.
		20 ppm	Vapor.

Germany. TRGS 900, Limit Values in the Ambient Air at the Workplace

Components	Type	Value	
2-(2-butoxyethoxy)-ethanol (112-34-5)	AGW	100 mg/m3	
Ethylene glycol (107-21-1)	AGW	10 ppm	
		26 mg/m3	

Greece. OELs (Decree No. 90/1999, as amended)

Components	Type	Value	Form
Ethylene glycol (107-21-1)	STEL	125 mg/m3	Vapor.
		50 ppm	Vapor.
	TWA	125 mg/m3	Vapor.
		50 ppm	Vapor.

Hungary. OELs. Joint Decree on Chemical Safety of Workplaces

Components	Type	Value	
Ethylene glycol (107-21-1)	STEL	104 mg/m3	
	TWA	52 mg/m3	

Italy. OELs

Components	Type	Value	
2-(2-butoxyethoxy)-ethanol (112-34-5)	STEL	101,2 mg/m3	
		15 ppm	
		10 ppm	
Ethylene glycol (107-21-1)	STEL	67,5 mg/m3	
		40 ppm	
		104 mg/m3	
	TWA	52 mg/m3	
		20 ppm	

Netherlands. OELs (binding)

Components	Type	Value	Form
2-(2-butoxyethoxy)-ethanol (112-34-5)	STEL	100 mg/m3	
	TWA	50 mg/m3	
Ethylene glycol (107-21-1)	STEL	104 mg/m3	Vapor.
	TWA	52 mg/m3	Vapor.
		10 mg/m3	Mist.

Norway. Administrative Norms for Contaminants in the Workplace

Components	Type	Value	Form
2-(2-butoxyethoxy)-ethanol (112-34-5)	TLV	68 mg/m3	
Ethylene glycol (107-21-1)	Ceiling	10 ppm	
	TLV	25 ppm	Vapor.
		10 mg/m3	Dust.

Poland. MACs. Minister of Labour and Social Policy Regarding Maximum Allowable Concentrations and Intensities in Working Environment

Components	Type	Value	
2-(2-butoxyethoxy)-ethanol (112-34-5)	STEL	100 mg/m3	
Ethylene glycol (107-21-1)	TWA	67 mg/m3	
	STEL	50 mg/m3	
	TWA	15 mg/m3	

Hygiene Norm GN 2.2.5.2439-09. Maximum allowable concentration (MAC) of harmful substances in the air of working zones. Executive No. 76 of 30 april 2006. Including Appendixes No.1, 2, 3 and 4.

Components	Type	Value	Form
2-(2-butoxyethoxy)-ethanol (112-34-5)	Ceiling	10 mg/m3	Aerosol
Ethylene glycol (107-21-1)	Ceiling	10 mg/m3	Vapor and aerosol.
	TWA	5 mg/m3	Vapor and aerosol.

Spain. Occupational Exposure Limits

Components	Type	Value	
2-(2-butoxyethoxy)-ethanol (112-34-5)	STEL	101,2 mg/m3	
		15 ppm	
	TWA	10 ppm	
		67,5 mg/m3	
Ethylene glycol (107-21-1)	STEL	40 ppm	
		104 mg/m3	
	TWA	52 mg/m3	
		20 ppm	

Sweden. Occupational Exposure Limit Values

Components	Type	Value	
2-(2-butoxyethoxy)-ethanol (112-34-5)	STEL	200 mg/m3	
		30 ppm	
	TWA	15 ppm	
		100 mg/m3	
Ethylene glycol (107-21-1)	STEL	20 ppm	
		50 mg/m3	
	TWA	25 mg/m3	
		10 ppm	

Switzerland. SUVA Grenzwerte am Arbeitsplatz

Components	Type	Value	
2-(2-butoxyethoxy)-ethanol (112-34-5)	STEL	101,2 mg/m3	
		15 ppm	
	TWA	10 ppm	
		67 mg/m3	
Ethylene glycol (107-21-1)	STEL	20 ppm	
		52 mg/m3	
	TWA	26 mg/m3	
		10 ppm	

UK. EH40 Workplace Exposure Limits (WELs)

Components	Type	Value	Form
2-(2-butoxyethoxy)-ethanol (112-34-5)	STEL	15 ppm	
		101,2 mg/m3	
	TWA	10 ppm	
		67,5 mg/m3	
Ethylene glycol (107-21-1)	STEL	40 ppm	Vapor.

UK. EH40 Workplace Exposure Limits (WELs)

Components	Type	Value	Form
	TWA	104 mg/m3 10 mg/m3 20 ppm 52 mg/m3	Vapor. Particulate. Vapor. Vapor.
Recommended monitoring procedures	Follow standard monitoring procedures.		
DNEL	Not available.		
PNEC	Not available.		
Exposure controls			
Appropriate engineering controls	Ensure adequate ventilation, especially in confined areas. Observe occupational exposure limits and minimise the risk of exposure to a minimum.		
Individual protection measures, such as personal protective equipment			
General information	Personal protective equipment should be chosen according to the CEN standards and in discussion with the supplier of the personal protective equipment.		
Eye/face protection	Wear approved safety goggles.		
Skin protection			
- Hand protection	Wear suitable gloves. Butyl rubber gloves are recommended. Suitable gloves can be recommended by the glove supplier.		
- Other	Wear suitable protective clothing.		
Respiratory protection	In case of inadequate ventilation: Use respiratory equipment with combination filter, type A2/P2.		
Thermal hazards	Wear appropriate thermal protective clothing, when necessary.		
Hygiene measures	Handle in accordance with good industrial hygiene and safety practices. Routinely wash work clothing and protective equipment to remove contaminants.		
Environmental exposure controls	Contain spills and prevent releases and observe national regulations on emissions. Environmental manager must be informed of all major spillages.		

Section 9: Physical and chemical properties**Information on basic physical and chemical properties**

Physical state	Liquid.
Form	Liquid.
Colour	Pale yellow.
Odour	Organic.
Odour threshold	Not available.
pH	6,5 - 8 at 20 °C
Melting point/freezing point	Not available.
Boiling point, initial boiling point, and boiling range	100 °C (212 °F) at 760 mmHg
Flash point	> 98 °C (> 208,4 °F)
Auto-ignition temperature	Not applicable.
Flammability (solid, gas)	Not available.
Flammability limit - lower (%)	Not applicable.
Flammability limit - upper (%)	Not applicable.
Oxidising properties	Not applicable.
Explosive properties	Not applicable.
Explosive properties	Not applicable.
Vapour pressure	Not applicable.
Vapour density	Not applicable.
Evaporation rate	Not applicable.
Relative density	1,06
Solubility	Not available.
Partition coefficient (n-octanol/water)	No data available

Decomposition temperature	Not available.
Bulk density	Not applicable.
Pour point	Not applicable.
Viscosity	14 cSt at 20 °C
VOC (Weight%)	Not available.
Percent volatile	Not available.
Other data	
Flammability	Not applicable.
Other information	No relevant additional information available.

Section 10: Stability and reactivity

Reactivity	The product is stable and non reactive under normal conditions of use, storage and transport.
Chemical stability	Stable at normal conditions.
Possibility of hazardous reactions	Hazardous polymerisation does not occur.
Conditions to avoid	Contact with incompatible materials. Excessive heat. Freezing.
Incompatible materials	Alkali metals. Strong oxidising agents. Water reactive materials.
Hazardous decomposition products	Carbon oxides. Sulphur oxides. Hydrogen fluoride. Nitrogen oxides (NOx). Sodium oxides.

Section 11: Toxicological information

General information	The information in this section is for the individual ingredients that are expected to contribute to the potential health effects of this product.
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Information on likely routes of exposure

Ingestion	May cause dizziness, incoordination, headache, nausea, and vomiting.
Inhalation	May cause mild central nervous system effects.
Skin contact	May cause skin irritation. Prolonged or repeated skin contact may cause drying, cracking, or irritation.
Eye contact	Causes serious eye irritation.
Symptoms	Symptoms include itching, burning, redness and tearing. Symptoms may include redness, drying and cracking of the skin. Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting.

Information on toxicological effects

Acute toxicity	Irritating to eyes. May cause skin and respiratory tract irritation. May cause mild central nervous system effects.
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Components	Test results
Ethylene glycol (107-21-1)	Acute Dermal LD50 Rabbit: 9530 mg/kg Acute Oral LD50 Rat: 5,89 g/kg
2-(2-butoxyethoxy)-ethanol (112-34-5)	Acute Dermal LD50 Rabbit: 2700 mg/kg Acute Oral LD50 Rat: 4500 mg/kg
Cocoamido propyl betaine (61789-40-0)	Acute Oral LD50 Rat: 4900 mg/kg
Skin corrosion/irritation	May cause skin irritation.
Serious eye damage/eye irritation	Causes serious eye irritation.
Respiratory sensitization	No data available
Skin sensitization	Not a skin sensitiser.
Germ cell mutagenicity	No data available.
Carcinogenicity	No data available
Reproductive toxicity	No data available.
Specific target organ toxicity - single exposure	No data available
Specific target organ toxicity - repeated exposure	No data available.
Aspiration hazard	No data available

Mixture versus substance information	None known.
Other information	Persons with pre-existing skin disorders may be more susceptible to the effects of the product.

Section 12: Ecological information

Toxicity

Components	Test results
Ethylene glycol (107-21-1)	LC50 Fathead minnow (<i>Pimephales promelas</i>): 8050 mg/l 96 hours
2-(2-butoxyethoxy)-ethanol (112-34-5)	LC50 Bluegill (<i>Lepomis macrochirus</i>): 1300 mg/l 96 hours
Persistence and degradability	The product is readily biodegradable. COD: 0,945gg-1. BOD: 44% / 5 days.
Bioaccumulative potential	The product is not expected to bioaccumulate.
Mobility	The product is water soluble and may spread in water systems.
Environmental fate - Partition coefficient	No data available
Mobility in soil	No data available
Results of PBT and vPvB assessment	Not a PBT or vPvB substance or mixture.
Other adverse effects	The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Section 13: Disposal considerations

Waste treatment methods

Residual waste	Dispose of waste and residues in accordance with local authority requirements.
Contaminated packaging	Dispose of in accordance with local regulations. Empty containers should be taken to an approved waste handling site for recycling or disposal.
EU waste code	16 03 05* Waste codes should be assigned by the user based on the application for which the product was used.
Disposal methods/information	Dispose of waste and residues in accordance with local authority requirements.

Section 14: Transport information

ADR

Not regulated as dangerous goods.

RID

Not regulated as dangerous goods.

ADN

Not regulated as dangerous goods.

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code No information available.

Section 15: Regulatory information

Safety, health and environmental regulations/legislation specific for the substance or mixture

EU Regulations

Regulation (EC) No. 2037/2000 on substances that deplete the ozone layer, Annex I

Not listed.

Regulation (EC) No. 2037/2000 on substances that deplete the ozone layer, Annex II

Not listed.

Regulation (EC) No. 850/2004 on persistent organic pollutants, Annex I

Not listed.

Regulation (EC) No. 689/2008 concerning the export and import of dangerous chemicals, Annex I, part 1

Not listed.

Regulation (EC) No. 689/2008 concerning the export and import of dangerous chemicals, Annex I, part 2

Not listed.

Regulation (EC) No. 689/2008 concerning the export and import of dangerous chemicals, Annex I, part 3

Not listed.

Regulation (EC) No. 689/2008 concerning the export and import of dangerous chemicals, Annex V

Not listed.

Directive 96/61/EC concerning integrated pollution prevention and control (IPPC): Article 15, European Pollution Emission Registry (EPER)

Not listed.

Regulation (EC) No. 1907/2006, Article 59(1). Candidate List

Not listed.

National regulations Not available.

Chemical safety assessment No Chemical Safety Assessment has been carried out.

Section 16: Other information

List of abbreviations DNEL: Derived No-Effect Level. PNEC: Predicted No-Effect Concentration. PBT: Persistent, bioaccumulative and toxic. vPvB: Very Persistent and very Bioaccumulative.

References US. IARC Monographs on Occupational Exposures to Chemical Agents
EPA: Acquire database
NLM: Hazardous Substances Data Base
ACGIH

Information on evaluation method leading to the classification of mixture The mixture is classified based on test data for physical hazards. The classification for health and environmental hazards is derived by a combination of calculation methods and test data, if available. For details, refer to Sections 9, 11 and 12.

Full text of any statements or R-phrases and H-phrases under Sections 2 to 15 R22 Harmful if swallowed.
R36 Irritating to eyes.
R41 Risk of serious damage to eyes.
R50 Very toxic to aquatic organisms.

H302 - Harmful if swallowed.
H318 - Causes serious eye damage.
H319 - Causes serious eye irritation.
H400 - Very toxic to aquatic life.

Training information Follow training instructions when handling this material.

Disclaimer This information is based on our current knowledge and is believed to be correct as of the date issued. The information is intended to describe the product for the purposes of health, safety and environmental requirements only and no warranty, express or implied, is made. It should also not be construed as guaranteeing any specific property of the product. In addition, information obtained from a database is subject to change and may not be as current as the information in the MSDS available directly from Angus Fire.



Tridol^{C6} S1

Synthetic Aqueous Film-Forming
Foam (AFFF) Concentrate

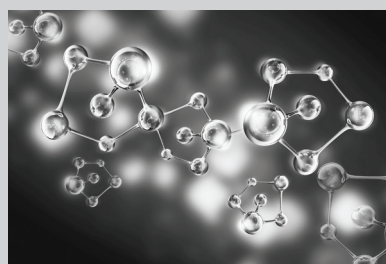
Integrity

*Doing what's right, rather than
what's convenient*

Angus Fire prides itself on the open and honest way in which we conduct our business throughout the world. Our foams are an extension of our ethical beliefs and we pride ourselves in being the responsible foam manufacturer, balancing high performance with minimal environmental impact. Our C6 foams contain no PFOA and no PFOS, in accordance with US EPA Stewardship Programme 2010/15 and EU Directive 2006/122/EC and amended Council Directive 76/769/EEC.

C6 Fluorosurfactants

These are the most effective agents currently available to tackle serious flammable liquid fires, providing firefighter safety and asset protection. Angus foams containing C6 surfactants utilise the very latest in firefighting foam technologies, developed and refined specifically to lower the environmental impact without reducing performance.



- Film-forming for fast flame knockdown and extinguishment
- Burnback resistance and post-fire security
- Environmentally balanced

Tridol^{C6} S1 is a superior quality synthetic Aqueous Film-Forming Foam (AFFF) concentrate for extinguishing and securing flammable hydrocarbon liquid fires.

Tridol^{C6} S1 is a unique combination of hydrocarbon and fluorochemical surface active agents. It produces a vapour-sealing aqueous film that spreads rapidly over the fuel surface to provide rapid control and extinguishment.

- Film-forming for fast flame knockdown and extinguishment.
- Burnback resistance and post-fire security.
- Foam blanket reseals when ruptured by personnel or equipment.

Applications

Tridol^{C6} S1 is used in high risk situations where hydrocarbons (such as crude oil, diesel and aviation kerosene) are stored, processed, or transported. It is used extensively on Rapid Intervention Vehicles (RIV) where fast extinguishment with limited quantities of foam is essential for saving life. Other applications include hydrocarbon storage tanks, process areas, warehouses, power stations and offshore platforms.

Tridol^{C6} S1 provides a vapour suppressing foam blanket on unignited hydrocarbon spills.

Approvals and Listings

Tridol^{C6} S1 is independently tested and certified to EN1568:2008 part 3.

Performance exceeds ICAO Level B fire performance and is certified to this performance level.

Tridol^{C6} S1 is audited and approved to Underwriters Laboratories UL162 (7th Edition).

Equipment

Tridol^{C6} S1 is intended for use at 1% (1 part concentrate to 99 parts water). Tridol^{C6} S1 is readily proportioned using conventional foam proportioning equipment.

Tridol^{C6} S1 can be used with air aspirating discharge devices and non-aspirating. Devices include low expansion branchpipes, monitors, top pourers, rimseal pourers, as well as water and foam sprinklers.

Non-aspirated foam is suitable for shallow fuel fires and spill fires. Where a major fuel fire is involved, Angus Fire always recommends the use of aspirated foam where a stable foam blanket is essential.

Tridol^{C6} S1

Synthetic Aqueous Film-Forming Foam (AFFF) Concentrate

Compatibility

Tridol^{C6} S1 is suitable for use in combination with:

- Soft or hard, fresh, brackish or sea water.
- Dry powder extinguishing agents either separately or as twin agent systems due to the C6 content.
- Expanded protein-based or synthetic foams for application to a fire in sequence or simultaneously.

Environment

The C6 surfactants balance high performance and low environmental impact. Tridol^{C6} S1 is biodegradable and demonstrates low aquatic toxicity.

Storage

Tridol^{C6} S1 is exceptionally stable in long-term storage. A shelf-life of at least ten years can be expected if it is stored properly.

Disposal

For fire water runoff and accidental spillage please refer to Angus Fire's Foam Disposal Guide and MSDS for more information.

Product Quality

Tridol^{C6} S1 production is closely controlled and is audited by UL in accordance with their approval system.

Angus Fire operates a quality management system which complies with the requirements of BS EN ISO 9001.

Typical Physico-Chemical Properties

Appearance		Amber Liquid
Specific gravity @ 20°C (68°F)		1.02 - 1.06
pH @ 20°C (68°F)		6.6 - 7.6
Viscosity @ 20°C (68°F)	mm ² sec ⁻¹	6
Maximum continuous storage temperature	°C (°F)	49 (120)
Maximum intermittent storage temperature	°C (°F)	60 (140)
Freezing point	°C (°F)	-21 (-5.8)
Effect of freeze/thaw		No loss of performance
UL Lowest use temperature	°C (°F)	-17.8 (0)

Typical Foam Properties

Foam generated using the U.K. Defence Standard DEF42-40 5 lpm branchpipe at 7 Bar pressure.
Foam collected in a 1630 ml N.F.P.A. drainage pan.

Expansion ratio		≥8:1
25% drainage time	min/sec	≥ 2'40"

Typical Packing Specification

	Plastic Square	Plastic Square	Plastic Cylindrical	Plastic Cylindrical	Ecobulk MX
Capacity	25 litres	5 US gallons	200 litres	55 US gallons	1000 litres
Empty weight (kg)	1.2	0.8	9.0	9.0	70
Filled weight (kg)	27	21	217	225	1110
Dimensions (mm)	448 x 286 x 286	402 x 293 x 240	580 D x 922 H	580 D x 922 H	1200 L x 1000 W x 1160 H
Part number	FN0304G0P	FN0304T0P	FN0304J0P	FN0304W0P	FN0304L8



**EN1568:2008
Part 3**



EMERGENCY FOAM SERVICE Call +44 (0) 15242 61166 – 24 hours a day, every day

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Angus Fire operates a continuous programme of product development. The right is therefore reserved to modify any specification without prior notice and Angus Fire should be contacted to ensure that the current issues of all technical data sheets are used.

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Tridol S 3

Synthetic Aqueous Film-Forming Foam (AFFF) Concentrate

- Film-forming for fast flame knockdown and extinguishment
- Burnback resistance and post-fire security
- Environmental



Tridol S 3 is a superior quality synthetic Aqueous Film-Forming Foam (AFFF) concentrate for extinguishing and securing flammable hydrocarbon liquid fires.

Tridol S 3 is a unique combination of hydrocarbon and fluorochemical surface active agents. It produces a vapour-sealing aqueous film that spreads rapidly over the fuel surface to provide rapid control and extinguishment.

- Film-forming for fast flame knock down and extinguishment.
- Burnback resistance and post-fire security.
- Foam blanket reseals when ruptured by personnel or equipment.

APPLICATIONS

Tridol S 3 is used in high risk situations where hydrocarbons (such as crude oil, gasoline, diesel fuel, and aviation kerosene) are stored, processed, or transported. It is used extensively on Rapid Intervention Vehicles (RIV) at major international airports and military bases where fast extinguishment with limited quantities of foam is essential for saving life. Other applications include hydrocarbon storage tanks, process areas, warehouses, road/rail loading racks, power stations, marine terminals, and offshore platforms.

Tridol S 3 provides a vapour-suppressing foam blanket on unignited hydrocarbon spills. Tridol S 3 can also be used as a wetting agent in combating fires in Class A materials such as wood, paper, and tyres.

Performance

The fire performance of Tridol S 3 is measured primarily against Underwriters Laboratories Standard UL 162 (7th Edition).

Approvals and Listings

Tridol S 3 has numerous approvals and UL Listings.

Independently tested and certified to EN1568:2008 Part 3.

Tested to ICAO Level B Performance

Equipment

Tridol S 3 is intended for use at 3% (3 parts concentrate to 97 parts water).

Tridol S 3 is readily proportioned using conventional foam proportioning equipment such as portable and fixed (in-line) foam venturi proportioners, handline nozzles/branchpipes with pick-up tubes, balanced pressure variable flow proportioners, balanced pressure bladder tank proportioners, and around-the-pump proportioners.

Tridol S 3 can be used with air aspirating discharge devices such as low expansion branchpipes, monitors, top pourer sets, rimseal foam pourers, foam/water sprinklers, and base (sub-surface) injection systems.

Tridol S 3 can be used with non-aspirating discharge devices such as spray/fog branchpipes and nozzles, monitors, and spray/fog sprinklers. However, non-aspirated application is not recommended as the primary method of attack for major fires where a stable foam cover is essential.

Compatibility

Tridol S 3 is suitable for use in combination with:

- Soft or hard, fresh, brackish or sea water.
- Dry powder extinguishing agents either separately or as twin agent systems.
- Expanded protein-based or synthetic foams for application to a fire in sequence or simultaneously.

Environment

Tridol S 3 is biodegradable and demonstrates low toxicity to aquatic organisms.

Storage

Tridol S 3 is exceptionally stable in long-term storage. A shelf-life of at least ten years can be expected if it is stored properly.

Disposal

Tridol S 3 can be successfully treated in biological waste water treatment systems.

Reliability

Tridol S 3 is produced to rigorous quality control standards to ensure consistent fire performance and excellent product reliability.

Angus Fire operates a quality management system which complies with the requirements of BS EN ISO 9001:2008.

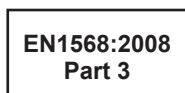
Tridol S 3

Synthetic Aqueous Film-Forming Foam (AFFF) Concentrate

Physico-Chemical Properties		
Appearance		Amber liquid
Specific gravity @ 20°C (68°F)		1.007 - 1.027
pH @ 20°C (68°F)		6.6 - 7.6
Viscosity @ 20°C (68°F)	mm ² sec ⁻¹	3.0
Viscosity @ 0°C (32°F)	mm ² sec ⁻¹	6.0
Maximum continuous storage temperature	°C (°F)	60 (140)
Effect of freeze/thaw		None
Lowest use temperature	°C (°F)	0 (32)
Sediment as shipped	% v/v	≤ 0.25
Sediment after ageing	% v/v	≤ 0.5

Typical Foam Properties	
These vary depending on the performance characteristics of the foam. When tested in accordance with UK Defence Standard 42-40 it gives the following properties:	
Expansion Ratio	≥ 7:1
25% Drainage Time	≥ 3 mins 30 seconds

Typical Packing Specification					
	Plastic Square	Plastic Square	Plastic Cylindrical	Plastic Cylindrical	Ecobulk MX
Capacity	25 litres	5 US gallons	200 litres	55 US gallons	1000 litres
Empty weight (kg)	1.2	0.8	9.0	9.0	70
Filled weight (kg)	27	20	213	221	1090
Dimensions (mm)	448 x 286 x 286	402 x 293 x 240	580 D x 922 H	580 D x 922 H	1200 L x 1000 W x 1160 H



For emergency supplies of Tridol S 3 phone +44 (0) 15242 61166

Nato Stock No. 420 99 255 1033

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AFFF Products			Data from June 2016		
C6 (OK List) (6 or less carbon chains)					
Brand	Product Name	Product Number	QPD	KYARNG NOTES	KYARNG LOCATION
Ansul	ANSULITE AFC-3MS 3% AFFF		Yes	MSDS in shed, no product seen	AASF
	ARCTIC 3% MIL-SPEC AFFF		Yes	Travis Rogers at AASF reported by email that they have this. I haven't seen it yet.	
ICL	PHOS-CHEK 3% AFFF MS		Yes		
Chemguard	1% AFFF Foam Concentrate	C1B			
Chemguard	3% Military Spec AFFF	C306-MS			
Chemguard	6% Military Spec AFFF	C606-MS			
Chemguard	3% AFFF Foam Concentrate	C3B			
Chemguard	3% Low Temp AFFF	C3B-LT29			
Chemguard	6% AFFF Foam Concentrate	C6B			
Chemguard	3% x 3% AR-AFFF, Low Viscosity	C334-LV			
Chemguard	3% x 6% AR-AFFF	C364			
ICL	Phos-Chek 1% AFFF				
ICL	Phos-Chek 1% AFFF Freeze Protected				
ICL	Phos-Chek 3% AFFF				
ICL	Phos-Chek 3% AFFF M				
ICL	Phos-Chek 3% AFFF Freeze Protected				
ICL	Phos-Chek 6% AFFF				
ICL	Phos-Chek 1x1 AR-AFFF Low Viscosity				
ICL	Phos-Chek 1x3 AR-AFFF Ultra				
ICL	Phos-Chek 3x3 AR-AFFF Freeze Protected				
ICL	Phos-Chek 3x3 AR-AFFF Low Viscosity				
ICL	Phos-Chek 3x6 AR-AFFF				
	ANSULITE AFC-6MS 6% AFFF Concentrate				
No PFOS/PFOA					
Brand	Product Name	Product Number	QPD		
Chemguard	ULTRAGUARD 1% x 3% AR-AFFF	C135			

	Phos-Chek 1% Fluorine Free				
	Phos-Chek 3x6 Fluorine Free				
Chemguard	Class A Plus			Saw this in AASF storage shed. Mfg email says no PFCs	AASF

References came from : Online search of QPD website; searches for AFFF products

	Unknown				
Brand	Product Name	Product Number	QPL		
Chemguard	ULTRAGUARD 3% x 3% AR-AFFF	CUG			
Chemguard	3% x 3% AR-AFFF	C333			
Chemguard	3% - 3%, AR-AFFF, Low Temp	C33LT			
	Phos-Chek Multi-Expansion H930				
Solberg	Amerex 3x6% ATC Foam Conc.			In AASF shed. CH 534, Model 534; No PFCs listed on MSDS	AASF
Buckeye Fire Equip. Also Mfg by Amerex	Purple K Dry Chemical Fire Ext.			(in shed) - no PFCs listed on MSDS. (mobil system at old AASF) - Model 469. Mfg said it contains Purple K.	AASF
National Foam	Aer-O-Water 6EM 6%			4210-01-056-0883. (2) 55 gal poly drums in AASF shed. MSDS says Fluoroalkyl surfactants. 6/22/16 A tech person called back. No PFOS. Possibly trace PFOA during mfg process.	AASF
Minnesota Mining & Mfg	FC-203CF Light Water Brand Aqueous FFF			No products seen. MSDS in shed & says amphoteric fluoroalkylamide & fluoroalkyl surfactants	AASF
National Foam	Universal Plus 3%/6% AFFF			In AASF shed. MSDS says Fluoroalkyl surfactants. 6/22/16 A tech person called back. No PFOS. Possibly trace PFOA during mfg process.	AASF
Angus Fire	Tridol S 3% AFFF			MSDS says Fluorosurfactants. Angus tech office: Ann Regina, 610-363-1400 x6422. Their process doesn't generate PFOSs. Possibly trace amounts of PFOAs, but they are conducting some tests to verify. She put me on an email list so I can be updated. Since I don't know for sure, I plan to list them as "Yes, suspect."	WHFRTC Fire House

Manufacturer	C8+ (NOT OK LIST)		Qualified Purchase Database		
Brand	Product Name	Product Number	QPD	KYARNG LOCATION	
Chemguard	3% AFFF	C303	Yes	AASF	Saw this in AASF storage shed.
Ansul	Silv-ex Foam Concentrate			AASF	Travis Rogers at AASF reported by email that they have this. I haven't seen it yet.
Chemguard	1% AFFF Foam Concentrate	C103			
Chemguard	3% Low Temp AFFF	C3LT			
Chemguard	6% AFFF Foam Concentrate	C603			
Chemguard	Blizzard Low Temp AFFF	CB		AASF	Saw this in AASF storage shed.
Chemguard	6% Low Temp AFFF	C6LT		AASF	Travis Rogers at AASF reported by email that they have this. I haven't seen it yet.
Chemguard	3%x6% AR-AFFF	C363			
	Phos-Chek Training Foam 136				
	Phos-Chek Training Foam EE3				
Solberg	Artic 3% AFFF Foam Concentrate	20140		AASF	I saw a rolling system with Model 630, and was told by Mfg that it contained this product. At AASF.
3M	Light Water AFFF				
3M	FC-206C				
3M	FC-206CF				

SDS#3

SDS#1

↳ Compiled by Linda Mitchell
(former hazardous waste manager)

		AASF - Fire-fighting chemicals - 10/25/17
		In AASF Shed (Near back hanger):
(1) 55 gal drum	Chemguard	Blizzard Freeze protected CBD AFFF Solution; Chemguard, Mansfield TX. 817-473-9964
(2) 55 gal drums	National Foam	AFFF Liq Conc., MIL-F-24385F, Type 6 (6%). M10 Aer-o-water 6EM; 4210-01-056-0883
(1) 5 gal bucket	Chemguard	3% AFFF, Product No C-303
(1) 5 gal bucket	Chemguard	Class A Plus, Foam Liq. Conc., Product No. CA
(1) 5 gal bucket	National Foam	Universal Plus 3%/6%, AFFF
(9) 5 gal buckets	Purple K Chemical	Siliconized Potassium Bicarb base, powder. Fire Ext. recharge; 4210-00-752-9343
(11) 5 gal buckets	Amerex Corp	Model 534 Film Forming Fluoroprotein, alcohol resis. Foam, 205-655-3271. 3x6% ATC Foam Concentrate
		Outside of new hangers & at old AASF
7 cylinders, estimate 20 gal per cylinder = 140 gal.	Amerex Corp	Model 630 extinguishers: Apparently contain Model 534 Film forming fluoroprotein (above). (6) at new AASF, (1) at old AASF - rolling units likely containing Amerex 3x6% AFFF. May be mixed with water.
4	Amerex Corp	Empty rolling units. (new AASF) Same as above

		WHFRTC - Firehouse
520	Angus Fire	Tridol S 3% AFFF

4675 St. Rt 181181 N

4675 St. Rt 181181 N

Greenville, KY 42345

Inquiry Number: 5319051.2s

June 01, 2018

The EDR Radius Map™ Report with GeoCheck®



6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

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Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

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EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc (EDR). The report was designed to assist parties seeking to meet the search requirements of EPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments (E 1527-13), the ASTM Standard Practice for Environmental Site Assessments for Forestland or Rural Property (E 2247-16), the ASTM Standard Practice for Limited Environmental Due Diligence: Transaction Screen Process (E 1528-14) or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

TARGET PROPERTY INFORMATION

ADDRESS

4675 ST. RT 181181 N
GREENVILLE, KY 42345

COORDINATES

Latitude (North):	37.2551050 - 37° 15' 18.37"
Longitude (West):	87.2053620 - 87° 12' 19.30"
Universal Transverse Mercator:	Zone 16
UTM X (Meters):	481788.5
UTM Y (Meters):	4122988.5
Elevation:	518 ft. above sea level

USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property Map:	5942289 CENTRAL CITY WEST, KY
Version Date:	2013
South Map:	5942313 GREENVILLE, KY
Version Date:	2013

AERIAL PHOTOGRAPHY IN THIS REPORT

Portions of Photo from:	20140705
Source:	USDA

MAPPED SITES SUMMARY

Target Property Address:
4675 ST. RT 181181 N
GREENVILLE, KY 42345

Click on Map ID to see full detail.

MAP ID	SITE NAME	ADDRESS	DATABASE ACRONYMS	RELATIVE ELEVATION	DIST (ft. & mi.) DIRECTION
A1	KYARNG WHF REGIONAL	4675 STATE ROUTE 18	RCRA-CESQG	Lower	4, 0.001,
A2	FUJI PHOTOFILM USA I	4675 STATE RD 181 NO	RCRA NonGen / NLR, FINDS, ECHO	Lower	4, 0.001,
A3	KY DEPT OF MILITARY	4675 KY 181 N	SWF/LF, AIRS	Lower	4, 0.001,
4	KY NATIONAL GUARD WE	4675 KY 181 N	UST	Higher	675, 0.128, NNE
5	MUHLENBERG CAREER DE	3875 HWY 181 N.	RCRA NonGen / NLR, FINDS, ECHO	Lower	891, 0.169, SSW

EXECUTIVE SUMMARY

TARGET PROPERTY SEARCH RESULTS

The target property was not listed in any of the databases searched by EDR.

DATABASES WITH NO MAPPED SITES

No mapped sites were found in EDR's search of available ("reasonably ascertainable ") government records either on the target property or within the search radius around the target property for the following databases:

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL..... National Priority List
Proposed NPL..... Proposed National Priority List Sites
NPL LIENS..... Federal Superfund Liens

Federal Delisted NPL site list

Delisted NPL..... National Priority List Deletions

Federal CERCLIS list

FEDERAL FACILITY..... Federal Facility Site Information listing
SEMS..... Superfund Enterprise Management System

Federal CERCLIS NFRAP site list

SEMS-ARCHIVE..... Superfund Enterprise Management System Archive

Federal RCRA CORRACTS facilities list

CORRACTS..... Corrective Action Report

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF..... RCRA - Treatment, Storage and Disposal

Federal RCRA generators list

RCRA-LQG..... RCRA - Large Quantity Generators
RCRA-SQG..... RCRA - Small Quantity Generators

Federal institutional controls / engineering controls registries

LUCIS..... Land Use Control Information System
US ENG CONTROLS..... Engineering Controls Sites List
US INST CONTROL..... Sites with Institutional Controls

EXECUTIVE SUMMARY

Federal ERNS list

ERNS..... Emergency Response Notification System

State- and tribal - equivalent CERCLIS

SHWS..... State Leads List

State and tribal leaking storage tank lists

PSTEAF..... Facility Ranking List
INDIAN LUST..... Leaking Underground Storage Tanks on Indian Land
SB193..... SB193 Branch Site Inventory List

State and tribal registered storage tank lists

FEMA UST..... Underground Storage Tank Listing
INDIAN UST..... Underground Storage Tanks on Indian Land

State and tribal institutional control / engineering control registries

ENG CONTROLS..... Engineering Controls Site Listing
INST CONTROL..... State Superfund Database

State and tribal voluntary cleanup sites

VCP..... Voluntary Cleanup Program Sites
INDIAN VCP..... Voluntary Cleanup Priority Listing

State and tribal Brownfields sites

BROWNFIELDS..... Kentucky Brownfield Inventory

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS..... A Listing of Brownfields Sites

Local Lists of Landfill / Solid Waste Disposal Sites

SWRCY..... Recycling Facilities
HIST LF..... Historical Landfills
INDIAN ODI..... Report on the Status of Open Dumps on Indian Lands
DEBRIS REGION 9..... Torres Martinez Reservation Illegal Dump Site Locations
ODI..... Open Dump Inventory
IHS OPEN DUMPS..... Open Dumps on Indian Land

Local Lists of Hazardous waste / Contaminated Sites

US HIST CDL..... Delisted National Clandestine Laboratory Register
CDL..... Clandestine Drug Lab Location Listing
US CDL..... National Clandestine Laboratory Register

EXECUTIVE SUMMARY

Local Land Records

LIENS 2..... CERCLA Lien Information

Records of Emergency Release Reports

HMIRS..... Hazardous Materials Information Reporting System
SPILLS..... State spills

Other Ascertainable Records

FUDS..... Formerly Used Defense Sites
DOD..... Department of Defense Sites
SCRD DRYCLEANERS..... State Coalition for Remediation of Drycleaners Listing
US FIN ASSUR..... Financial Assurance Information
EPA WATCH LIST..... EPA WATCH LIST
2020 COR ACTION..... 2020 Corrective Action Program List
TSCA..... Toxic Substances Control Act
TRIS..... Toxic Chemical Release Inventory System
SSTS..... Section 7 Tracking Systems
ROD..... Records Of Decision
RMP..... Risk Management Plans
RAATS..... RCRA Administrative Action Tracking System
PRP..... Potentially Responsible Parties
PADS..... PCB Activity Database System
ICIS..... Integrated Compliance Information System
FTTS..... FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
MLTS..... Material Licensing Tracking System
COAL ASH DOE..... Steam-Electric Plant Operation Data
COAL ASH EPA..... Coal Combustion Residues Surface Impoundments List
PCB TRANSFORMER..... PCB Transformer Registration Database
RADINFO..... Radiation Information Database
HIST FTTS..... FIFRA/TSCA Tracking System Administrative Case Listing
DOT OPS..... Incident and Accident Data
CONSENT..... Superfund (CERCLA) Consent Decrees
INDIAN RESERV..... Indian Reservations
FUSRAP..... Formerly Utilized Sites Remedial Action Program
UMTRA..... Uranium Mill Tailings Sites
LEAD SMELTERS..... Lead Smelter Sites
US AIRS..... Aerometric Information Retrieval System Facility Subsystem
US MINES..... Mines Master Index File
ABANDONED MINES..... Abandoned Mines
FINDS..... Facility Index System/Facility Registry System
ECHO..... Enforcement & Compliance History Information
DOCKET HWC..... Hazardous Waste Compliance Docket Listing
UXO..... Unexploded Ordnance Sites
FUELS PROGRAM..... EPA Fuels Program Registered Listing
AIRS..... Permitted Airs Facility Listing
ASBESTOS..... Asbestos Notification Listing
COAL ASH..... Coal Ash Disposal Sites
DRYCLEANERS..... Drycleaner Listing
Financial Assurance..... Financial Assurance Information Listing
LEAD..... Environmental Lead Program Report Tracking Database

EXECUTIVE SUMMARY

NPDES..... Permitted Facility Listing
UIC..... UIC Information

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP..... EDR Proprietary Manufactured Gas Plants
EDR Hist Auto..... EDR Exclusive Historical Auto Stations
EDR Hist Cleaner..... EDR Exclusive Historical Cleaners

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA HWS..... Recovered Government Archive State Hazardous Waste Facilities List
RGA LF..... Recovered Government Archive Solid Waste Facilities List

SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were identified in the following databases.

Elevations have been determined from the USGS Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified. Sites with an elevation equal to or higher than the target property have been differentiated below from sites with an elevation lower than the target property.

Page numbers and map identification numbers refer to the EDR Radius Map report where detailed data on individual sites can be reviewed.

Sites listed in ***bold italics*** are in multiple databases.

Unmappable (orphan) sites are not considered in the foregoing analysis.

STANDARD ENVIRONMENTAL RECORDS

Federal RCRA generators list

RCRA-CESQG: RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Conditionally exempt small quantity generators (CESQGs) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month.

A review of the RCRA-CESQG list, as provided by EDR, and dated 12/11/2017 has revealed that there is 1 RCRA-CESQG site within approximately 0.25 miles of the target property.

<u>Lower Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
KYARNG WHF REGIONAL	4675 STATE ROUTE 18	0 - 1/8 (0.001 mi.)	A1	8

EXECUTIVE SUMMARY

State and tribal landfill and/or solid waste disposal site lists

SWF/LF: The Solid Waste Facilities/Landfill Sites records typically contain an inventory of solid waste disposal facilities or landfills in a particular state. The data come from the Department of Environmental Protection's List of All Active Contained & Residential Landfills/List of All Transfer Stations.

A review of the SWF/LF list, as provided by EDR, and dated 02/20/2018 has revealed that there is 1 SWF/LF site within approximately 0.5 miles of the target property.

<u>Lower Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
KY DEPT OF MILITARY Status: Active Status: Proposed Facility Id: 48494	4675 KY 181 N	0 - 1/8 (0.001 mi.)	A3	13

State and tribal registered storage tank lists

UST: The Underground Storage Tank database contains registered USTs. USTs are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA). The data come from the Department of Environmental Protection's Owner/Facility Report of All Tanks Regardless of Status list.

A review of the UST list, as provided by EDR, and dated 01/26/2018 has revealed that there is 1 UST site within approximately 0.25 miles of the target property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
KY NATIONAL GUARD WE Tank Status: TRM Facility Id: 48494	4675 KY 181 N	NNE 1/8 - 1/4 (0.128 mi.)	4	26

ADDITIONAL ENVIRONMENTAL RECORDS

Other Ascertainable Records

RCRA NonGen / NLR: RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

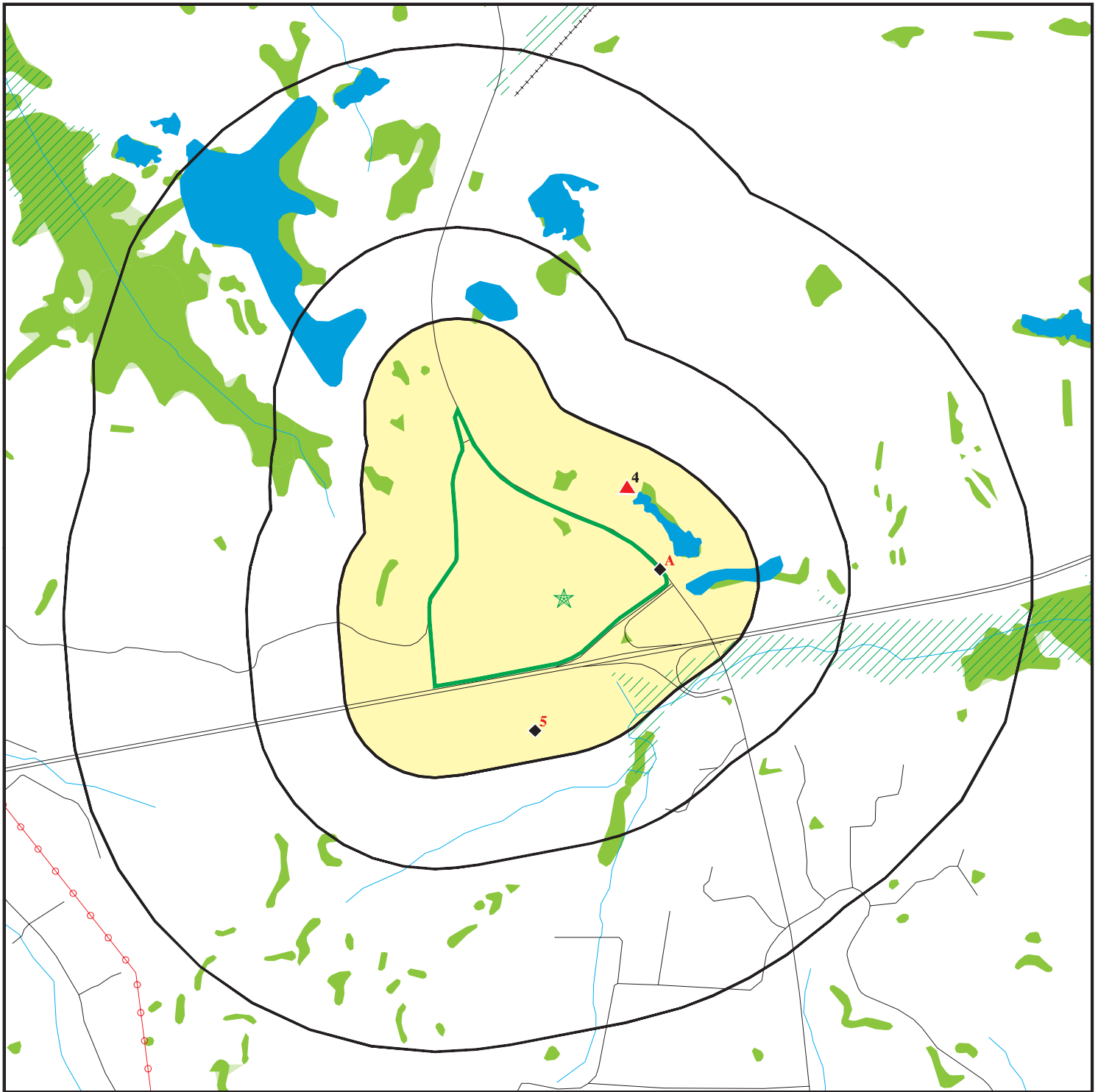
A review of the RCRA NonGen / NLR list, as provided by EDR, and dated 12/11/2017 has revealed that there are 2 RCRA NonGen / NLR sites within approximately 0.25 miles of the target property.

<u>Lower Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
FUJI PHOTOFILM USA I	4675 STATE RD 181 NO	0 - 1/8 (0.001 mi.)	A2	11
MUHLENBERG CAREER DE	3875 HWY 181 N.	SSW 1/8 - 1/4 (0.169 mi.)	5	28

EXECUTIVE SUMMARY

There were no unmapped sites in this report.

OVERVIEW MAP - 5319051.2S



Target Property

Sites at elevations higher than or equal to the target property

Sites at elevations lower than the target property

Manufactured Gas Plants

National Priority List Sites

Dept. Defense Sites

Indian Reservations BIA

Power transmission lines

100-year flood zone

500-year flood zone

National Wetland Inventory

State Wetlands

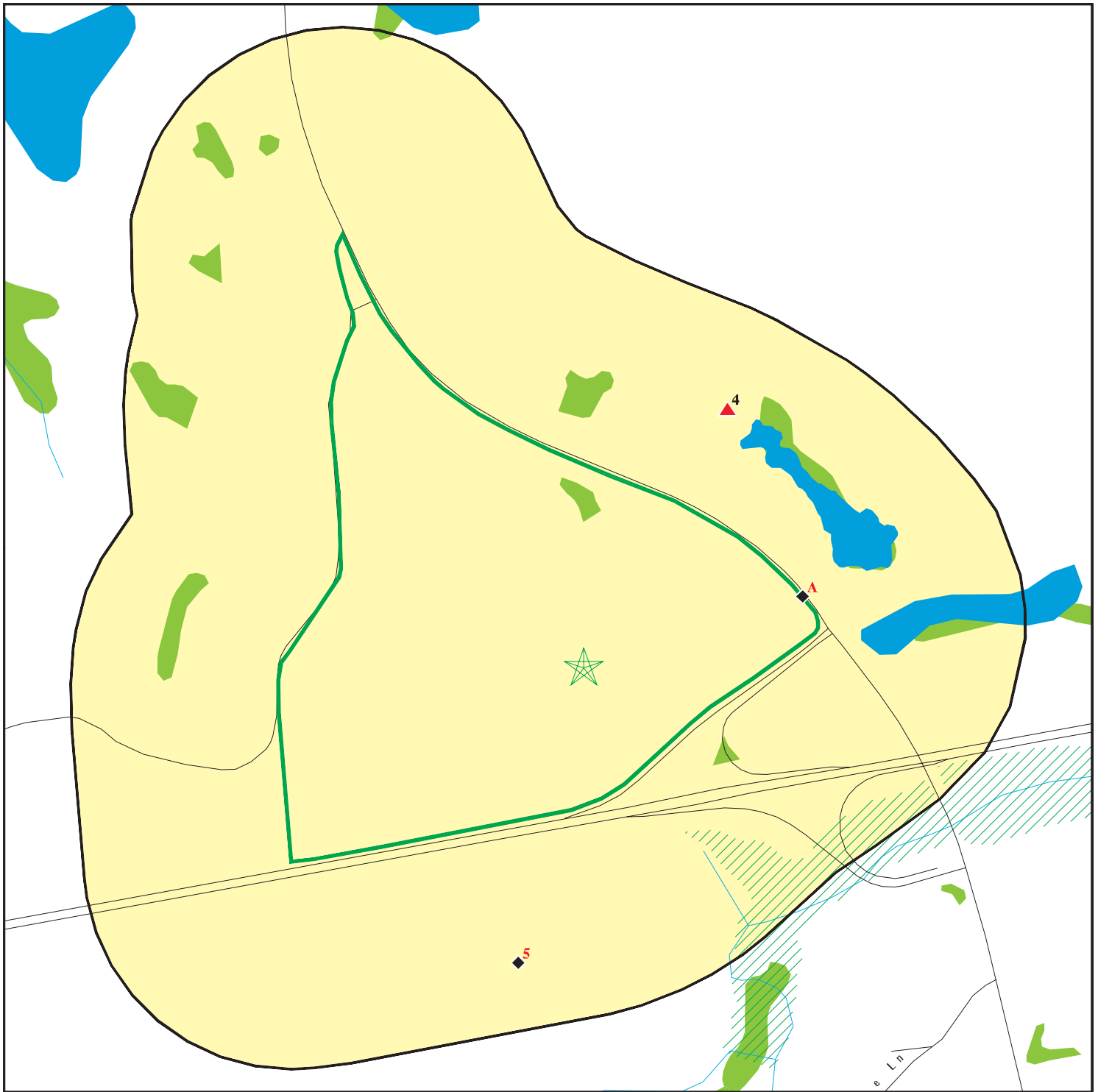
Upgradient Area








This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME: 4675 St. Rt 181181 N
ADDRESS: 4675 St. Rt 181181 N
Greenville KY 42345
LAT/LONG: 37.255105 / 87.205362

CLIENT: AECOM
CONTACT: Jacquelyn Harrington
INQUIRY #: 5319051.2s
DATE: June 01, 2018 1:28 pm

DETAIL MAP - 5319051.2S



-  Target Property
-  Sites at elevations higher than or equal to the target property
-  Sites at elevations lower than the target property
-  Manufactured Gas Plants
-  Sensitive Receptors
-  National Priority List Sites
-  Dept. Defense Sites

-  Indian Reservations BIA
-  100-year flood zone
-  500-year flood zone
-  National Wetland Inventory
-  State Wetlands

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME: 4675 St. Rt 181181 N
 ADDRESS: 4675 St. Rt 181181 N
 Greenville KY 42345
 LAT/LONG: 37.255105 / 87.205362

CLIENT: AECOM
 CONTACT: Jacquelyn Harrington
 INQUIRY #: 5319051.2s
 DATE: June 01, 2018 1:29 pm

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
STANDARD ENVIRONMENTAL RECORDS								
<i>Federal NPL site list</i>								
NPL	1.000		0	0	0	0	NR	0
Proposed NPL	1.000		0	0	0	0	NR	0
NPL LIENS	TP		NR	NR	NR	NR	NR	0
<i>Federal Delisted NPL site list</i>								
Delisted NPL	1.000		0	0	0	0	NR	0
<i>Federal CERCLIS list</i>								
FEDERAL FACILITY	0.500		0	0	0	NR	NR	0
SEMS	0.500		0	0	0	NR	NR	0
<i>Federal CERCLIS NFRAP site list</i>								
SEMS-ARCHIVE	0.500		0	0	0	NR	NR	0
<i>Federal RCRA CORRACTS facilities list</i>								
CORRACTS	1.000		0	0	0	0	NR	0
<i>Federal RCRA non-CORRACTS TSD facilities list</i>								
RCRA-TSDF	0.500		0	0	0	NR	NR	0
<i>Federal RCRA generators list</i>								
RCRA-LQG	0.250		0	0	NR	NR	NR	0
RCRA-SQG	0.250		0	0	NR	NR	NR	0
RCRA-CESQG	0.250		1	0	NR	NR	NR	1
<i>Federal institutional controls / engineering controls registries</i>								
LUCIS	0.500		0	0	0	NR	NR	0
US ENG CONTROLS	0.500		0	0	0	NR	NR	0
US INST CONTROL	0.500		0	0	0	NR	NR	0
<i>Federal ERNS list</i>								
ERNS	TP		NR	NR	NR	NR	NR	0
<i>State- and tribal - equivalent CERCLIS</i>								
SHWS	1.000		0	0	0	0	NR	0
<i>State and tribal landfill and/or solid waste disposal site lists</i>								
SWF/LF	0.500		1	0	0	NR	NR	1
<i>State and tribal leaking storage tank lists</i>								
PSTEAF	0.500		0	0	0	NR	NR	0
INDIAN LUST	0.500		0	0	0	NR	NR	0
SB193	0.500		0	0	0	NR	NR	0
<i>State and tribal registered storage tank lists</i>								
FEMA UST	0.250		0	0	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
UST	0.250		0	1	NR	NR	NR	1
INDIAN UST	0.250		0	0	NR	NR	NR	0
State and tribal institutional control / engineering control registries								
ENG CONTROLS	0.500		0	0	0	NR	NR	0
INST CONTROL	0.500		0	0	0	NR	NR	0
State and tribal voluntary cleanup sites								
VCP	0.500		0	0	0	NR	NR	0
INDIAN VCP	0.500		0	0	0	NR	NR	0
State and tribal Brownfields sites								
BROWNFIELDS	0.500		0	0	0	NR	NR	0
ADDITIONAL ENVIRONMENTAL RECORDS								
Local Brownfield lists								
US BROWNFIELDS	0.500		0	0	0	NR	NR	0
Local Lists of Landfill / Solid Waste Disposal Sites								
SWRCY	0.500		0	0	0	NR	NR	0
HIST LF	0.500		0	0	0	NR	NR	0
INDIAN ODI	0.500		0	0	0	NR	NR	0
DEBRIS REGION 9	0.500		0	0	0	NR	NR	0
ODI	0.500		0	0	0	NR	NR	0
IHS OPEN DUMPS	0.500		0	0	0	NR	NR	0
Local Lists of Hazardous waste / Contaminated Sites								
US HIST CDL	TP		NR	NR	NR	NR	NR	0
CDL	TP		NR	NR	NR	NR	NR	0
US CDL	TP		NR	NR	NR	NR	NR	0
Local Land Records								
LIENS 2	TP		NR	NR	NR	NR	NR	0
Records of Emergency Release Reports								
HMIRS	TP		NR	NR	NR	NR	NR	0
SPILLS	TP		NR	NR	NR	NR	NR	0
Other Ascertainable Records								
RCRA NonGen / NLR	0.250		1	1	NR	NR	NR	2
FUDS	1.000		0	0	0	0	NR	0
DOD	1.000		0	0	0	0	NR	0
SCRD DRYCLEANERS	0.500		0	0	0	NR	NR	0
US FIN ASSUR	TP		NR	NR	NR	NR	NR	0
EPA WATCH LIST	TP		NR	NR	NR	NR	NR	0
2020 COR ACTION	0.250		0	0	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
TSCA	TP		NR	NR	NR	NR	NR	0
TRIS	TP		NR	NR	NR	NR	NR	0
SSTS	TP		NR	NR	NR	NR	NR	0
ROD	1.000		0	0	0	0	NR	0
RMP	TP		NR	NR	NR	NR	NR	0
RAATS	TP		NR	NR	NR	NR	NR	0
PRP	TP		NR	NR	NR	NR	NR	0
PADS	TP		NR	NR	NR	NR	NR	0
ICIS	TP		NR	NR	NR	NR	NR	0
FTTS	TP		NR	NR	NR	NR	NR	0
MLTS	TP		NR	NR	NR	NR	NR	0
COAL ASH DOE	TP		NR	NR	NR	NR	NR	0
COAL ASH EPA	0.500		0	0	0	NR	NR	0
PCB TRANSFORMER	TP		NR	NR	NR	NR	NR	0
RADINFO	TP		NR	NR	NR	NR	NR	0
HIST FTTS	TP		NR	NR	NR	NR	NR	0
DOT OPS	TP		NR	NR	NR	NR	NR	0
CONSENT	1.000		0	0	0	0	NR	0
INDIAN RESERV	1.000		0	0	0	0	NR	0
FUSRAP	1.000		0	0	0	0	NR	0
UMTRA	0.500		0	0	0	NR	NR	0
LEAD SMELTERS	TP		NR	NR	NR	NR	NR	0
US AIRS	TP		NR	NR	NR	NR	NR	0
US MINES	0.250		0	0	NR	NR	NR	0
ABANDONED MINES	0.250		0	0	NR	NR	NR	0
FINDS	TP		NR	NR	NR	NR	NR	0
ECHO	TP		NR	NR	NR	NR	NR	0
DOCKET HWC	TP		NR	NR	NR	NR	NR	0
UXO	1.000		0	0	0	0	NR	0
FUELS PROGRAM	0.250		0	0	NR	NR	NR	0
AIRS	TP		NR	NR	NR	NR	NR	0
ASBESTOS	TP		NR	NR	NR	NR	NR	0
COAL ASH	0.500		0	0	0	NR	NR	0
DRYCLEANERS	0.250		0	0	NR	NR	NR	0
Financial Assurance	TP		NR	NR	NR	NR	NR	0
LEAD	TP		NR	NR	NR	NR	NR	0
NPDES	TP		NR	NR	NR	NR	NR	0
UIC	TP		NR	NR	NR	NR	NR	0

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP	1.000	0	0	0	0	NR	0
EDR Hist Auto	0.125	0	NR	NR	NR	NR	0
EDR Hist Cleaner	0.125	0	NR	NR	NR	NR	0

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA HWS	TP	NR	NR	NR	NR	NR	0
---------	----	----	----	----	----	----	---

MAP FINDINGS SUMMARY

<u>Database</u>	<u>Search Distance (Miles)</u>	<u>Target Property</u>	<u>< 1/8</u>	<u>1/8 - 1/4</u>	<u>1/4 - 1/2</u>	<u>1/2 - 1</u>	<u>> 1</u>	<u>Total Plotted</u>
RGA LF	TP		NR	NR	NR	NR	NR	0
- Totals --		0	3	2	0	0	0	5

NOTES:

TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

Map ID
Direction
Distance
Elevation

MAP FINDINGS

EDR ID Number
EPA ID Number

	Site	Database(s)	EDR ID Number EPA ID Number
A1 < 1/8 0.001 mi. 4 ft. Relative: Lower Actual: 500 ft.	KYARNG WHF REGIONAL TRAINING CTR 4675 STATE ROUTE 181 NORTH GREENVILLE, KY 42345 Site 1 of 3 in cluster A RCRA-CESQG: Date form received by agency: 05/09/2017 Facility name: KYARNG WHF REGIONAL TRAINING CTR Facility address: 4675 STATE ROUTE 181 NORTH GREENVILLE, KY 42345 EPA ID: KYD981467582 Mailing address: MINUTEMAN PKWY BUILDING 162 FRANKFORT, KY 40601 Contact: LINDA MITCHELL Contact address: MINUTEMAN PKWY BUILDING 162 FRANKFORT, KY 40601 Contact country: US Contact telephone: 502-607-1856 Contact email: Not reported EPA Region: 04 Land type: State Classification: Conditionally Exempt Small Quantity Generator Description: Handler: generates 100 kg or less of hazardous waste per calendar month, and accumulates 1000 kg or less of hazardous waste at any time; or generates 1 kg or less of acutely hazardous waste per calendar month, and accumulates at any time: 1 kg or less of acutely hazardous waste; or 100 kg or less of any residue or contaminated soil, waste or other debris resulting from the cleanup of a spill, into or on any land or water, of acutely hazardous waste; or generates 100 kg or less of any residue or contaminated soil, waste or other debris resulting from the cleanup of a spill, into or on any land or water, of acutely hazardous waste during any calendar month, and accumulates at any time: 1 kg or less of acutely hazardous waste; or 100 kg or less of any residue or contaminated soil, waste or other debris resulting from the cleanup of a spill, into or on any land or water, of acutely hazardous waste Owner/Operator Summary: Owner/operator name: COMMONWEALTH OF KENTUCKY Owner/operator address: BOONE NATIONAL GUARD CENTER FRANKFORT, KY 40601 Owner/operator country: US Owner/operator telephone: 502-564-8538 Owner/operator email: Not reported Owner/operator fax: Not reported Owner/operator extension: Not reported Legal status: State Owner/Operator Type: Owner Owner/Op start date: Not reported Owner/Op end date: Not reported Owner/operator name: COMMONWEALTH OF KENTUCKY Owner/operator address: BOONE NATIONAL GUARD CENTER FRANKFORT, KY 40601 Owner/operator country: US Owner/operator telephone: 502-564-8538 Owner/operator email: Not reported Owner/operator fax: Not reported	RCRA-CESQG	1000307658 KYD981467582

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

KYARNG WHF REGIONAL TRAINING CTR (Continued)

1000307658

Owner/operator extension: Not reported
Legal status: State
Owner/Operator Type: Operator
Owner/Op start date: Not reported
Owner/Op end date: Not reported

Handler Activities Summary:

U.S. importer of hazardous waste: No
Mixed waste (haz. and radioactive): No
Recycler of hazardous waste: No
Transporter of hazardous waste: No
Treater, storer or disposer of HW: No
Underground injection activity: No
On-site burner exemption: No
Furnace exemption: No
Used oil fuel burner: No
Used oil processor: No
User oil refiner: No
Used oil fuel marketer to burner: No
Used oil Specification marketer: No
Used oil transfer facility: No
Used oil transporter: No

. Waste code: D001
. Waste name: IGNITABLE WASTE

. Waste code: D007
. Waste name: CHROMIUM

. Waste code: D008
. Waste name: LEAD

. Waste code: F003
. Waste name: THE FOLLOWING SPENT NONHALOGENATED SOLVENTS: XYLENE, ACETONE, ETHYL ACETATE, ETHYL BENZENE, ETHYL ETHER, METHYL ISOBUTYL KETONE, N-BUTYL ALCOHOL, CYCLOHEXANONE, AND METHANOL; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONLY THE ABOVE SPENT NONHALOGENATED SOLVENTS; AND ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONE OR MORE OF THE ABOVE NONHALOGENATED SOLVENTS, AND A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THOSE SOLVENTS LISTED IN F001, F002, F004, AND F005; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

. Waste code: F005
. Waste name: THE FOLLOWING SPENT NONHALOGENATED SOLVENTS: TOLUENE, METHYL ETHYL KETONE, CARBON DISULFIDE, ISOBUTANOL, PYRIDINE, BENZENE, 2-ETHOXYETHANOL, AND 2-NITROPROPANE; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE NONHALOGENATED SOLVENTS OR THOSE SOLVENTS LISTED IN F001, F002, OR F004; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

Historical Generators:

Date form received by agency: 08/03/1995
Site name: KY NTL GUARD TRAINING EQUIP #2

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

KYARNG WHF REGIONAL TRAINING CTR (Continued)

1000307658

Classification: Conditionally Exempt Small Quantity Generator

. Waste code: D001
. Waste name: IGNITABLE WASTE

. Waste code: D018
. Waste name: BENZENE

Facility Has Received Notices of Violations:

Regulation violated: SR - 32:040
Area of violation: Generators - Records/Reporting
Date violation determined: 03/30/1993
Date achieved compliance: 04/14/1993
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 03/30/1993
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: SS - krs 224.46-580
Area of violation: Generators - General
Date violation determined: 03/29/1993
Date achieved compliance: 07/02/1993
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 04/01/1993
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Evaluation Action Summary:

Evaluation date: 08/15/2016
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 01/13/2014
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 08/03/2010
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

KYARNG WHF REGIONAL TRAINING CTR (Continued)

1000307658

Evaluation date: 03/10/2008
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 11/28/2006
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 05/12/2005
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 07/06/1993
Evaluation: COMPLIANCE SCHEDULE EVALUATION
Area of violation: Generators - General
Date achieved compliance: 07/02/1993
Evaluation lead agency: State

Evaluation date: 04/14/1993
Evaluation: COMPLIANCE SCHEDULE EVALUATION
Area of violation: Generators - Records/Reporting
Date achieved compliance: 04/14/1993
Evaluation lead agency: State

Evaluation date: 03/30/1993
Evaluation: NON-FINANCIAL RECORD REVIEW
Area of violation: Generators - Records/Reporting
Date achieved compliance: 04/14/1993
Evaluation lead agency: State

Evaluation date: 03/29/1993
Evaluation: NON-FINANCIAL RECORD REVIEW
Area of violation: Generators - General
Date achieved compliance: 07/02/1993
Evaluation lead agency: State

A2

**FUJI PHOTOFILM USA INC/WENDELL FORD TRN
4675 STATE RD 181 NORTH
GREENVILLE, KY 42345**

**RCRA NonGen / NLR
FINDS
ECHO**

**1001817183
KYR000021170**

**< 1/8
0.001 mi.
4 ft.**

Site 2 of 3 in cluster A

**Relative:
Lower**

RCRA NonGen / NLR:

Date form received by agency: 09/27/1999

**Actual:
500 ft.**

Facility name: FUJI PHOTOFILM USA INC/WENDELL FORD TRN

Facility address: 4675 STATE RD 181 NORTH
GREENVILLE, KY 42345

EPA ID: KYR000021170

Mailing address: TAXTER ROAD
ELMSFORD, NY 10523

Contact: ANDREA COTTER

Contact address: 555 TAXTER ROAD
ELMSFORD, NY 10523

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

FUJI PHOTOFILM USA INC/WENDELL FORD TRN (Continued)

1001817183

Contact country: US
Contact telephone: 914-789-8793
Contact email: Not reported
EPA Region: 04
Land type: Private
Classification: Non-Generator
Description: Handler: Non-Generators do not presently generate hazardous waste

Owner/Operator Summary:

Owner/operator name: FUJI PHOTO FILM USA, INC.
Owner/operator address: 555 TAXTER ROAD
ELMSFORD, NY 10523
Owner/operator country: Not reported
Owner/operator telephone: 914-789-8100
Owner/operator email: Not reported
Owner/operator fax: Not reported
Owner/operator extension: Not reported
Legal status: Private
Owner/Operator Type: Owner
Owner/Op start date: Not reported
Owner/Op end date: Not reported

Handler Activities Summary:

U.S. importer of hazardous waste: No
Mixed waste (haz. and radioactive): No
Recycler of hazardous waste: No
Transporter of hazardous waste: No
Treater, storer or disposer of HW: No
Underground injection activity: No
On-site burner exemption: No
Furnace exemption: No
Used oil fuel burner: No
Used oil processor: No
User oil refiner: No
Used oil fuel marketer to burner: No
Used oil Specification marketer: No
Used oil transfer facility: No
Used oil transporter: No

. Waste code: NONE
. Waste name: None

Violation Status: No violations found

Evaluation Action Summary:

Evaluation date: 11/09/1999
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

FINDS:

Registry ID: 110006017568

Environmental Interest/Information System

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

FUJI PHOTOFILM USA INC/WENDELL FORD TRN (Continued)

1001817183

RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

[Click this hyperlink](#) while viewing on your computer to access additional FINDS: detail in the EDR Site Report.

ECHO:

Envid: 1001817183
Registry ID: 110042252451
DFR URL: <http://echo.epa.gov/detailed-facility-report?fid=110042252451>

Envid: 1001817183
Registry ID: 110006017568
DFR URL: <http://echo.epa.gov/detailed-facility-report?fid=110006017568>

A3 KY DEPT OF MILITARY AFFAIRS - HMA PORTABLE PLANT
4675 KY 181 N

SWF/LF S108312741
AIRS N/A

< 1/8
0.001 mi.
4 ft.

Site 3 of 3 in cluster A

Relative:
Lower
Actual:
500 ft.

LF:

Facility ID: 48494
Status: Active
Permit Number: 08900039
SI ID: ACTV0000000002
SI Designation: Landfarm Type B
AI Name: KY National Guard Wendell H Ford Regional Training Center
Rel Entity ID: 17965
Facility Type: Landfarm Type B-SpW
Latitude: 37.25959200
Longitude: -87.20221900
Permittee city/state/zip: Not reported
Permit expired date: Not reported
Related Entity Name: Texas Gas Transmission LLC
Related Entity Address1: 3800 Frederica St
Related Entity Address2: Not reported
Related Entity Municipality: Owensboro
Related Entity State: KY
Related Entity Zip: 42304
Related Entity Type: Private
SI Description: SW: Gas well drill cuttings
Date Last Site Insp.: 10/21/2014
Last Inspector: Gregory Dick

Facility ID: 48494
Status: Proposed
Permit Number: 089-00037
SI ID: ACTV0000000001
SI Designation: Commercial Recycling Cent
AI Name: KY National Guard Wendell H Ford Regional Training Center
Rel Entity ID: 17965

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

KY DEPT OF MILITARY AFFAIRS - HMA PORTABLE PLANT (Continued)

S108312741

Facility Type: Commercial Recycling Center-SW-RPBR
Latitude: 37.25959200
Longitude: -87.20221900
Permittee city/state/zip: Not reported
Permit expired date: Not reported
Related Entity Name: Texas Gas Transmission LLC
Related Entity Address1: 3800 Frederica St
Related Entity Address2: Not reported
Related Entity Municipality: Owensboro
Related Entity State: KY
Related Entity Zip: 42304
Related Entity Type: Private
SI Description: SW: Commercial Recycling Center-SW-RPBR
Date Last Site Insp.: 10/21/2014
Last Inspector: Gregory Dick

AIRS:

Facility: 2117709278
Mailing Address 3: Not reported
Emps: 85
Plant Class Description: X; Minor/All PTE <all major source thrsh
Acreage: 11,00
Alternate Facility Name: KY Dept of Military Affairs - HMA Portable Plant
Alternate Facility End Date: Not reported
Principal Product: asphalt
State Plant Class Code: X000
DAQ AI Type: MFG- Nonmetal Mineral Product Manufacturing (327)
DAQ Reg Comment: Not reported
Mailing Address Line 2: Not reported
Inspector Assigned AI: Amanda Aldridge
Last Inspection Lead: Not reported
Last Inspection Date: Not reported
Air Programs: 0-SIP Source; 9-NSPS
Air Subparts: Not Applicable; 9-I-Hot Mix Asphalt

Emission:

Year: 2013
County: Muhlenberg
Facility ID: 2117709278
Facility Name: KY Dept of Military Affairs - HMA Portable Plant
AI ID: 110488
Pollutant: CO (Carbon Monoxide)
Actual Emissions: 0

Year: 2013
County: Muhlenberg
Facility ID: 2117709278
Facility Name: KY Dept of Military Affairs - HMA Portable Plant
AI ID: 110488
Pollutant: NO2 (Nitrogen Dioxide)
Actual Emissions: 0

Year: 2013
County: Muhlenberg
Facility ID: 2117709278
Facility Name: KY Dept of Military Affairs - HMA Portable Plant
AI ID: 110488

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

KY DEPT OF MILITARY AFFAIRS - HMA PORTABLE PLANT (Continued)

S108312741

Pollutant: PM10 (Particulate Matter - 10 Microns Or Less)
Actual Emissions: 0

Year: 2013
County: Muhlenberg
Facility ID: 2117709278
Facility Name: KY Dept of Military Affairs - HMA Portable Plant
AI ID: 110488
Pollutant: PT (Particulate Matter)
Actual Emissions: 0

Year: 2013
County: Muhlenberg
Facility ID: 2117709278
Facility Name: KY Dept of Military Affairs - HMA Portable Plant
AI ID: 110488
Pollutant: SO2 (Sulfur Dioxide)
Actual Emissions: 0

Year: 2013
County: Muhlenberg
Facility ID: 2117709278
Facility Name: KY Dept of Military Affairs - HMA Portable Plant
AI ID: 110488
Pollutant: VOC (Volatile Organic Compounds)
Actual Emissions: 0

Year: 2014
County: Muhlenberg
Facility ID: 2117709278
Facility Name: KY Dept of Military Affairs - HMA Portable Plant
AI ID: 110488
Pollutant: CO (Carbon Monoxide)
Actual Emissions: 0

Year: 2014
County: Muhlenberg
Facility ID: 2117709278
Facility Name: KY Dept of Military Affairs - HMA Portable Plant
AI ID: 110488
Pollutant: NO2 (Nitrogen Dioxide)
Actual Emissions: 0

Year: 2014
County: Muhlenberg
Facility ID: 2117709278
Facility Name: KY Dept of Military Affairs - HMA Portable Plant
AI ID: 110488
Pollutant: PM10 (Particulate Matter - 10 Microns Or Less)
Actual Emissions: 0

Year: 2014
County: Muhlenberg
Facility ID: 2117709278
Facility Name: KY Dept of Military Affairs - HMA Portable Plant
AI ID: 110488
Pollutant: PT (Particulate Matter)

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

KY DEPT OF MILITARY AFFAIRS - HMA PORTABLE PLANT (Continued)

S108312741

Actual Emissions:	0
Year:	2014
County:	Muhlenberg
Facility ID:	2117709278
Facility Name:	KY Dept of Military Affairs - HMA Portable Plant
AI ID:	110488
Pollutant:	SO2 (Sulfur Dioxide)
Actual Emissions:	0
Year:	2014
County:	Muhlenberg
Facility ID:	2117709278
Facility Name:	KY Dept of Military Affairs - HMA Portable Plant
AI ID:	110488
Pollutant:	VOC (Volatile Organic Compounds)
Actual Emissions:	0
Year:	2015
County:	Muhlenberg
Facility ID:	2117709278
Facility Name:	KY Dept of Military Affairs - HMA Portable Plant
AI ID:	110488
Pollutant:	CO (Carbon Monoxide)
Actual Emissions:	0
Year:	2015
County:	Muhlenberg
Facility ID:	2117709278
Facility Name:	KY Dept of Military Affairs - HMA Portable Plant
AI ID:	110488
Pollutant:	NO2 (Nitrogen Dioxide)
Actual Emissions:	0
Year:	2015
County:	Muhlenberg
Facility ID:	2117709278
Facility Name:	KY Dept of Military Affairs - HMA Portable Plant
AI ID:	110488
Pollutant:	PM10 (Particulate Matter - 10 Microns Or Less)
Actual Emissions:	0
Year:	2015
County:	Muhlenberg
Facility ID:	2117709278
Facility Name:	KY Dept of Military Affairs - HMA Portable Plant
AI ID:	110488
Pollutant:	PT (Particulate Matter)
Actual Emissions:	0
Year:	2015
County:	Muhlenberg
Facility ID:	2117709278
Facility Name:	KY Dept of Military Affairs - HMA Portable Plant
AI ID:	110488
Pollutant:	SO2 (Sulfur Dioxide)
Actual Emissions:	0

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

KY DEPT OF MILITARY AFFAIRS - HMA PORTABLE PLANT (Continued)

S108312741

Year: 2015
County: Muhlenberg
Facility ID: 2117709278
Facility Name: KY Dept of Military Affairs - HMA Portable Plant
AI ID: 110488
Pollutant: VOC (Volatile Organic Compounds)
Actual Emissions: 0

Year: 2016
County: Muhlenberg
Facility ID: 2117709278
Facility Name: KY Dept of Military Affairs - HMA Portable Plant
AI ID: 110488
Pollutant: CO (Carbon Monoxide)
Actual Emissions: 0

Year: 2016
County: Muhlenberg
Facility ID: 2117709278
Facility Name: KY Dept of Military Affairs - HMA Portable Plant
AI ID: 110488
Pollutant: NO2 (Nitrogen Dioxide)
Actual Emissions: 0

Year: 2016
County: Muhlenberg
Facility ID: 2117709278
Facility Name: KY Dept of Military Affairs - HMA Portable Plant
AI ID: 110488
Pollutant: PM10 (Particulate Matter - 10 Microns Or Less)
Actual Emissions: 0

Year: 2016
County: Muhlenberg
Facility ID: 2117709278
Facility Name: KY Dept of Military Affairs - HMA Portable Plant
AI ID: 110488
Pollutant: PT (Particulate Matter)
Actual Emissions: 0

Year: 2016
County: Muhlenberg
Facility ID: 2117709278
Facility Name: KY Dept of Military Affairs - HMA Portable Plant
AI ID: 110488
Pollutant: SO2 (Sulfur Dioxide)
Actual Emissions: 0

Year: 2016
County: Muhlenberg
Facility ID: 2117709278
Facility Name: KY Dept of Military Affairs - HMA Portable Plant
AI ID: 110488
Pollutant: VOC (Volatile Organic Compounds)
Actual Emissions: 0

Year: 2011

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

KY DEPT OF MILITARY AFFAIRS - HMA PORTABLE PLANT (Continued)

S108312741

County: Muhlenberg
Facility ID: 2117709278
Facility Name: KY Dept of Military Affairs - HMA Portable Plant
AI ID: 110488
Pollutant: CO (Carbon Monoxide)
Actual Emissions: 0

Year: 2011
County: Muhlenberg
Facility ID: 2117709278
Facility Name: KY Dept of Military Affairs - HMA Portable Plant
AI ID: 110488
Pollutant: NO2 (Nitrogen Dioxide)
Actual Emissions: 0

Year: 2011
County: Muhlenberg
Facility ID: 2117709278
Facility Name: KY Dept of Military Affairs - HMA Portable Plant
AI ID: 110488
Pollutant: PM10 (Particulate Matter - 10 Microns Or Less)
Actual Emissions: 0

Year: 2011
County: Muhlenberg
Facility ID: 2117709278
Facility Name: KY Dept of Military Affairs - HMA Portable Plant
AI ID: 110488
Pollutant: PT (Particulate Matter)
Actual Emissions: 0

Year: 2011
County: Muhlenberg
Facility ID: 2117709278
Facility Name: KY Dept of Military Affairs - HMA Portable Plant
AI ID: 110488
Pollutant: SO2 (Sulfur Dioxide)
Actual Emissions: 0

Year: 2011
County: Muhlenberg
Facility ID: 2117709278
Facility Name: KY Dept of Military Affairs - HMA Portable Plant
AI ID: 110488
Pollutant: VOC (Volatile Organic Compounds)
Actual Emissions: 0

Year: 2012
County: Muhlenberg
Facility ID: 2117709278
Facility Name: KY Dept of Military Affairs - HMA Portable Plant
AI ID: 110488
Pollutant: CO (Carbon Monoxide)
Actual Emissions: 0

Year: 2012
County: Muhlenberg

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

KY DEPT OF MILITARY AFFAIRS - HMA PORTABLE PLANT (Continued)

S108312741

Facility ID: 2117709278
Facility Name: KY Dept of Military Affairs - HMA Portable Plant
AI ID: 110488
Pollutant: NO2 (Nitrogen Dioxide)
Actual Emissions: 0

Year: 2012
County: Muhlenberg
Facility ID: 2117709278
Facility Name: KY Dept of Military Affairs - HMA Portable Plant
AI ID: 110488
Pollutant: PM10 (Particulate Matter - 10 Microns Or Less)
Actual Emissions: 0

Year: 2012
County: Muhlenberg
Facility ID: 2117709278
Facility Name: KY Dept of Military Affairs - HMA Portable Plant
AI ID: 110488
Pollutant: PT (Particulate Matter)
Actual Emissions: 0

Year: 2012
County: Muhlenberg
Facility ID: 2117709278
Facility Name: KY Dept of Military Affairs - HMA Portable Plant
AI ID: 110488
Pollutant: SO2 (Sulfur Dioxide)
Actual Emissions: 0

Year: 2012
County: Muhlenberg
Facility ID: 2117709278
Facility Name: KY Dept of Military Affairs - HMA Portable Plant
AI ID: 110488
Pollutant: VOC (Volatile Organic Compounds)
Actual Emissions: 0

Facility: 2117709067
Mailing Address 3: Not reported
Emps: 25
Plant Class Description: X; Minor/All PTE <all major source thrsh
Acreage: 800.0
Alternate Facility Name: KY Dept Of Military Affairs - Portable Plant
Alternate Facility End Date: 03/03/2008
Principal Product: PORTABLE ASPHALT PLANT
State Plant Class Code: X000
DAQ AI Type: GOVT- Federal Agency/Organization (92)
DAQ Reg Comment: Not reported
Mailing Address Line 2: Not reported
Inspector Assigned AI: Rachel Curtis
Last Inspection Lead: Not reported
Last Inspection Date: Not reported
Air Programs: 0-SIP Source; 9-NSPS
Air Subparts: Not Applicable; 9-I-Hot Mix Asphalt

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

KY DEPT OF MILITARY AFFAIRS - HMA PORTABLE PLANT (Continued)

S108312741

Emission:

Year: 2013
County: Muhlenberg
Facility ID: 2117709067
Facility Name: KY Dept Of Military Affairs - Portable Plant
AI ID: 40489
Pollutant: CO (Carbon Monoxide)
Actual Emissions: 0

Year: 2013
County: Muhlenberg
Facility ID: 2117709067
Facility Name: KY Dept Of Military Affairs - Portable Plant
AI ID: 40489
Pollutant: NO2 (Nitrogen Dioxide)
Actual Emissions: 0

Year: 2013
County: Muhlenberg
Facility ID: 2117709067
Facility Name: KY Dept Of Military Affairs - Portable Plant
AI ID: 40489
Pollutant: PM10 (Particulate Matter - 10 Microns Or Less)
Actual Emissions: 0

Year: 2013
County: Muhlenberg
Facility ID: 2117709067
Facility Name: KY Dept Of Military Affairs - Portable Plant
AI ID: 40489
Pollutant: PT (Particulate Matter)
Actual Emissions: 0

Year: 2013
County: Muhlenberg
Facility ID: 2117709067
Facility Name: KY Dept Of Military Affairs - Portable Plant
AI ID: 40489
Pollutant: SO2 (Sulfur Dioxide)
Actual Emissions: 0

Year: 2013
County: Muhlenberg
Facility ID: 2117709067
Facility Name: KY Dept Of Military Affairs - Portable Plant
AI ID: 40489
Pollutant: VOC (Volatile Organic Compounds)
Actual Emissions: 0

Year: 2014
County: Muhlenberg
Facility ID: 2117709067
Facility Name: KY Dept Of Military Affairs - Portable Plant
AI ID: 40489
Pollutant: CO (Carbon Monoxide)
Actual Emissions: 0

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

KY DEPT OF MILITARY AFFAIRS - HMA PORTABLE PLANT (Continued)

S108312741

Year:	2014
County:	Muhlenberg
Facility ID:	2117709067
Facility Name:	KY Dept Of Military Affairs - Portable Plant
AI ID:	40489
Pollutant:	NO2 (Nitrogen Dioxide)
Actual Emissions:	0
Year:	2014
County:	Muhlenberg
Facility ID:	2117709067
Facility Name:	KY Dept Of Military Affairs - Portable Plant
AI ID:	40489
Pollutant:	PM10 (Particulate Matter - 10 Microns Or Less)
Actual Emissions:	0
Year:	2014
County:	Muhlenberg
Facility ID:	2117709067
Facility Name:	KY Dept Of Military Affairs - Portable Plant
AI ID:	40489
Pollutant:	PT (Particulate Matter)
Actual Emissions:	0
Year:	2014
County:	Muhlenberg
Facility ID:	2117709067
Facility Name:	KY Dept Of Military Affairs - Portable Plant
AI ID:	40489
Pollutant:	SO2 (Sulfur Dioxide)
Actual Emissions:	0
Year:	2014
County:	Muhlenberg
Facility ID:	2117709067
Facility Name:	KY Dept Of Military Affairs - Portable Plant
AI ID:	40489
Pollutant:	VOC (Volatile Organic Compounds)
Actual Emissions:	0
Year:	2015
County:	Muhlenberg
Facility ID:	2117709067
Facility Name:	KY Dept Of Military Affairs - Portable Plant
AI ID:	40489
Pollutant:	CO (Carbon Monoxide)
Actual Emissions:	0
Year:	2015
County:	Muhlenberg
Facility ID:	2117709067
Facility Name:	KY Dept Of Military Affairs - Portable Plant
AI ID:	40489
Pollutant:	NO2 (Nitrogen Dioxide)
Actual Emissions:	0
Year:	2015

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

KY DEPT OF MILITARY AFFAIRS - HMA PORTABLE PLANT (Continued)

S108312741

County: Muhlenberg
Facility ID: 2117709067
Facility Name: KY Dept Of Military Affairs - Portable Plant
AI ID: 40489
Pollutant: PM10 (Particulate Matter - 10 Microns Or Less)
Actual Emissions: 0

Year: 2015
County: Muhlenberg
Facility ID: 2117709067
Facility Name: KY Dept Of Military Affairs - Portable Plant
AI ID: 40489
Pollutant: PT (Particulate Matter)
Actual Emissions: 0

Year: 2015
County: Muhlenberg
Facility ID: 2117709067
Facility Name: KY Dept Of Military Affairs - Portable Plant
AI ID: 40489
Pollutant: SO2 (Sulfur Dioxide)
Actual Emissions: 0

Year: 2015
County: Muhlenberg
Facility ID: 2117709067
Facility Name: KY Dept Of Military Affairs - Portable Plant
AI ID: 40489
Pollutant: VOC (Volatile Organic Compounds)
Actual Emissions: 0

Year: 2010
County: Muhlenberg
Facility ID: 2117709067
Facility Name: KY Dept Of Military Affairs - Portable Plant
AI ID: 40489
Pollutant: CO (Carbon Monoxide)
Actual Emissions: 0

Year: 2010
County: Muhlenberg
Facility ID: 2117709067
Facility Name: KY Dept Of Military Affairs - Portable Plant
AI ID: 40489
Pollutant: NO2 (Nitrogen Dioxide)
Actual Emissions: 0

Year: 2010
County: Muhlenberg
Facility ID: 2117709067
Facility Name: KY Dept Of Military Affairs - Portable Plant
AI ID: 40489
Pollutant: PM10 (Particulate Matter - 10 Microns Or Less)
Actual Emissions: 0

Year: 2010
County: Muhlenberg

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

KY DEPT OF MILITARY AFFAIRS - HMA PORTABLE PLANT (Continued)

S108312741

Facility ID:	2117709067
Facility Name:	KY Dept Of Military Affairs - Portable Plant
AI ID:	40489
Pollutant:	PT (Particulate Matter)
Actual Emissions:	0
Year:	2010
County:	Muhlenberg
Facility ID:	2117709067
Facility Name:	KY Dept Of Military Affairs - Portable Plant
AI ID:	40489
Pollutant:	SO2 (Sulfur Dioxide)
Actual Emissions:	0
Year:	2010
County:	Muhlenberg
Facility ID:	2117709067
Facility Name:	KY Dept Of Military Affairs - Portable Plant
AI ID:	40489
Pollutant:	VOC (Volatile Organic Compounds)
Actual Emissions:	0
Year:	2016
County:	Muhlenberg
Facility ID:	2117709067
Facility Name:	KY Dept Of Military Affairs - Portable Plant
AI ID:	40489
Pollutant:	CO (Carbon Monoxide)
Actual Emissions:	0
Year:	2016
County:	Muhlenberg
Facility ID:	2117709067
Facility Name:	KY Dept Of Military Affairs - Portable Plant
AI ID:	40489
Pollutant:	NO2 (Nitrogen Dioxide)
Actual Emissions:	0
Year:	2016
County:	Muhlenberg
Facility ID:	2117709067
Facility Name:	KY Dept Of Military Affairs - Portable Plant
AI ID:	40489
Pollutant:	PM10 (Particulate Matter - 10 Microns Or Less)
Actual Emissions:	0
Year:	2016
County:	Muhlenberg
Facility ID:	2117709067
Facility Name:	KY Dept Of Military Affairs - Portable Plant
AI ID:	40489
Pollutant:	PT (Particulate Matter)
Actual Emissions:	0
Year:	2016
County:	Muhlenberg
Facility ID:	2117709067

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

KY DEPT OF MILITARY AFFAIRS - HMA PORTABLE PLANT (Continued)

S108312741

Facility Name:	KY Dept Of Military Affairs - Portable Plant
AI ID:	40489
Pollutant:	SO2 (Sulfur Dioxide)
Actual Emissions:	0
Year:	2016
County:	Muhlenberg
Facility ID:	2117709067
Facility Name:	KY Dept Of Military Affairs - Portable Plant
AI ID:	40489
Pollutant:	VOC (Volatile Organic Compounds)
Actual Emissions:	0
Year:	2011
County:	Muhlenberg
Facility ID:	2117709067
Facility Name:	KY Dept Of Military Affairs - Portable Plant
AI ID:	40489
Pollutant:	CO (Carbon Monoxide)
Actual Emissions:	0
Year:	2011
County:	Muhlenberg
Facility ID:	2117709067
Facility Name:	KY Dept Of Military Affairs - Portable Plant
AI ID:	40489
Pollutant:	NO2 (Nitrogen Dioxide)
Actual Emissions:	0
Year:	2011
County:	Muhlenberg
Facility ID:	2117709067
Facility Name:	KY Dept Of Military Affairs - Portable Plant
AI ID:	40489
Pollutant:	PM10 (Particulate Matter - 10 Microns Or Less)
Actual Emissions:	0
Year:	2011
County:	Muhlenberg
Facility ID:	2117709067
Facility Name:	KY Dept Of Military Affairs - Portable Plant
AI ID:	40489
Pollutant:	PT (Particulate Matter)
Actual Emissions:	0
Year:	2011
County:	Muhlenberg
Facility ID:	2117709067
Facility Name:	KY Dept Of Military Affairs - Portable Plant
AI ID:	40489
Pollutant:	SO2 (Sulfur Dioxide)
Actual Emissions:	0
Year:	2011
County:	Muhlenberg
Facility ID:	2117709067
Facility Name:	KY Dept Of Military Affairs - Portable Plant

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

KY DEPT OF MILITARY AFFAIRS - HMA PORTABLE PLANT (Continued)

S108312741

AI ID:	40489
Pollutant:	VOC (Volatile Organic Compounds)
Actual Emissions:	0
Year:	2012
County:	Muhlenberg
Facility ID:	2117709067
Facility Name:	KY Dept Of Military Affairs - Portable Plant
AI ID:	40489
Pollutant:	CO (Carbon Monoxide)
Actual Emissions:	0
Year:	2012
County:	Muhlenberg
Facility ID:	2117709067
Facility Name:	KY Dept Of Military Affairs - Portable Plant
AI ID:	40489
Pollutant:	NO2 (Nitrogen Dioxide)
Actual Emissions:	0
Year:	2012
County:	Muhlenberg
Facility ID:	2117709067
Facility Name:	KY Dept Of Military Affairs - Portable Plant
AI ID:	40489
Pollutant:	PM10 (Particulate Matter - 10 Microns Or Less)
Actual Emissions:	0
Year:	2012
County:	Muhlenberg
Facility ID:	2117709067
Facility Name:	KY Dept Of Military Affairs - Portable Plant
AI ID:	40489
Pollutant:	PT (Particulate Matter)
Actual Emissions:	0
Year:	2012
County:	Muhlenberg
Facility ID:	2117709067
Facility Name:	KY Dept Of Military Affairs - Portable Plant
AI ID:	40489
Pollutant:	SO2 (Sulfur Dioxide)
Actual Emissions:	0
Year:	2012
County:	Muhlenberg
Facility ID:	2117709067
Facility Name:	KY Dept Of Military Affairs - Portable Plant
AI ID:	40489
Pollutant:	VOC (Volatile Organic Compounds)
Actual Emissions:	0

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

4
NNE
1/8-1/4
0.128 mi.
675 ft.

KY NATIONAL GUARD WENDELL H FORD REGIONAL TRAINING
4675 KY 181 N
GREENVILLE, KY 42345

UST U003990649
N/A

Relative:
Higher

UST:

Actual:
565 ft.

Facility Name: KY NATIONAL GUARD WENDELL H FORD REGIONAL TRAINING CENTER
Sequence Id: 324089
Facility ID: 48494
Owner Name: Kentucky Dept Of Military Affairs
Owner Address: 100 Minuteman Pkwy
Owner Address2: Not reported
Owner Address3: Not reported
Owner City,St,Zip: Frankfort, KY 406016168
Internal Document ID: 0
Latitude: 37.259592
Longitude: -87.202219

Inert Material Code: Not reported
Removed Date: 07/08/1997
Change in Service Date: Not reported
Tank Pit Num: Not reported
Tank Mfg Code: Not reported
Tank Overfill Protection: UNK
Last Tank Test Date: Not reported
Relined Date: Not reported
Lining Insp Date: Not reported
Pipe Release Detection: LTT
Pipe Rel Detect Suc Code: ALT
Pipe Leak Detect Code: NA
Last Contained Date: Not reported
Pipe Mfg Code: Not reported
Last Pipe Test Date: Not reported
Last CP Test Date: Not reported
Added To Flex Date: Not reported
Added To Piping Date: Not reported
Decode For Tstatus: Removed Tank Verified
Decode For Inertmatcd: Not reported
Decode For Tmatcode: Fiberglass Reinforced
Decode For Textcrpcd: Not Applicable
Decode For Treltdetcd: Daily Inventory Rec Tank Tightness
Decode For Tintprotcd: Not Applicable
Decode For Tsplprevcd: Unknown
Decode For Tovflprvcd: Unknown
Decode For Pmatcode: Single Wall Steel
Decode For Pextcoprcd: None
Decode For Ptypecode: Suction
Decode For Preltdetcd: Line Tightness Test
Decode For Preltdetsuc: Annual Release Testing (historic)
Decode For Plektdetcd: Not Applicable
Decode For Tsubcd: Diesel
Decode For Tmancd: Not reported
Decode For Pmancd: Not reported
Subject Item ID: 2
Tank Status: TRM
Installation Date: 01/01/1976
Closed In Place Date: Not reported
Capacity in Gallons: 6000

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

KY NATIONAL GUARD WENDELL H FORD REGIONAL TRAINING CENTER (Continued)

U003990649

Compartment Number: 1
Piping Installation Date: Not reported
Added To Tank Date: Not reported

Inert Material Code: Not reported
Removed Date: 07/08/1997
Change in Service Date: Not reported
Tank Pit Num: Not reported
Tank Mfg Code: Not reported
Tank Overfill Protection: UNK
Last Tank Test Date: Not reported
Relined Date: Not reported
Lining Insp Date: Not reported
Pipe Release Detection: LTT
Pipe Rel Detect Suc Code: ALT
Pipe Leak Detect Code: NA
Last Contained Date: Not reported
Pipe Mfg Code: Not reported
Last Pipe Test Date: Not reported
Last CP Test Date: Not reported
Added To Flex Date: Not reported
Added To Piping Date: Not reported
Decode For Tstatus: Removed Tank Verified
Decode For Inertmatcd: Not reported
Decode For Tmatcode: Single Wall Steel
Decode For Textcrprd: Coating & Cathodic Protection
Decode For Treltdcod: Manual Tank Gauging
Decode For Tintprotcd: Interior Lining
Decode For Tsplprevcd: Single Wall Spill Bucket
Decode For Tovflprvcd: Unknown
Decode For Pmatcode: Single Wall Steel
Decode For Pextcoprcd: None
Decode For Ptypecode: Suction
Decode For Preltdcod: Line Tightness Test
Decode For Preltdsuc: Annual Release Testing (historic)
Decode For Plektdcod: Not Applicable
Decode For Tsubcd: Used Oil
Decode For Tmancd: Not reported
Decode For Pmancd: Not reported
Subject Item ID: 3
Tank Status: TRM
Installation Date: 05/01/1988
Closed In Place Date: Not reported
Capacity in Gallons: 1000
Compartment Number: 1
Piping Installation Date: Not reported
Added To Tank Date: Not reported

Inert Material Code: Not reported
Removed Date: 07/08/1997
Change in Service Date: Not reported
Tank Pit Num: Not reported
Tank Mfg Code: Not reported
Tank Overfill Protection: UNK
Last Tank Test Date: Not reported
Relined Date: Not reported
Lining Insp Date: Not reported

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

KY NATIONAL GUARD WENDELL H FORD REGIONAL TRAINING CENTER (Continued)

U003990649

Pipe Release Detection: LTT
Pipe Rel Detect Suc Code: ALT
Pipe Leak Detect Code: NA
Last Contained Date: Not reported
Pipe Mfg Code: Not reported
Last Pipe Test Date: Not reported
Last CP Test Date: Not reported
Added To Flex Date: Not reported
Added To Piping Date: Not reported
Decode For Tstatus: Removed Tank Verified
Decode For Inertmatcd: Not reported
Decode For Tmatcode: Single Wall Steel
Decode For Textcrpcd: None
Decode For Treldecod: Daily Inventory Rec Tank Tightness
Decode For Tintprotcd: Not Applicable
Decode For Tsplprevcd: Unknown
Decode For Tovflprvcd: Unknown
Decode For Pmatcode: Single Wall Steel
Decode For Pextcoprcd: None
Decode For Ptypecode: Suction
Decode For Preldecod: Line Tightness Test
Decode For Preldecod: Annual Release Testing (historic)
Decode For Plekdecod: Not Applicable
Decode For Tsubcd: Diesel
Decode For Tmancd: Not reported
Decode For Pmancd: Not reported
Subject Item ID: 1
Tank Status: TRM
Installation Date: 01/01/1970
Closed In Place Date: Not reported
Capacity in Gallons: 10000
Compartment Number: 1
Piping Installation Date: Not reported
Added To Tank Date: Not reported

5
SSW
1/8-1/4
0.169 mi.
891 ft.

MUHLENBERG CAREER DEVELOPMENT CENTER
3875 HWY 181 N.
GREENVILLE, KY 42345

RCRA NonGen / NLR
FINDS
ECHO

1000279072
KYD981852601

Relative:
Lower

Actual:
500 ft.

RCRA NonGen / NLR:
Date form received by agency: 06/12/2002
Facility name: MUHLENBERG CAREER DEVELOPMENT CENTER
Facility address: 3875 HWY 181 N.
GREENVILLE, KY 42345
EPA ID: KYD981852601
Mailing address: HWY 181 N.
GREENVILLE, KY 42345
Contact: WAYNE THEE
Contact address: 3875 HWY 181 N.
GREENVILLE, KY 42345
Contact country: US
Contact telephone: 270-338-5460
Contact email: Not reported
EPA Region: 04
Land type: State
Classification: Non-Generator

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

MUHLENBERG CAREER DEVELOPMENT CENTER (Continued)

1000279072

Description: Handler: Non-Generators do not presently generate hazardous waste

Owner/Operator Summary:

Owner/operator name: NAME UNKNOWN
Owner/operator address: Not reported
Not reported
Owner/operator country: Not reported
Owner/operator telephone: Not reported
Owner/operator email: Not reported
Owner/operator fax: Not reported
Owner/operator extension: Not reported
Legal status: Federal
Owner/Operator Type: Operator
Owner/Op start date: Not reported
Owner/Op end date: Not reported

Owner/operator name: US DPT OF LABOR OFFICE OF JOB CORPS
Owner/operator address: 200 CONSTITUTION AVE
WASHINGTON, DC 20402
Owner/operator country: Not reported
Owner/operator telephone: 502-338-5460
Owner/operator email: Not reported
Owner/operator fax: Not reported
Owner/operator extension: Not reported
Legal status: Federal
Owner/Operator Type: Owner
Owner/Op start date: Not reported
Owner/Op end date: Not reported

Handler Activities Summary:

U.S. importer of hazardous waste: No
Mixed waste (haz. and radioactive): No
Recycler of hazardous waste: No
Transporter of hazardous waste: No
Treater, storer or disposer of HW: No
Underground injection activity: No
On-site burner exemption: No
Furnace exemption: No
Used oil fuel burner: No
Used oil processor: No
User oil refiner: No
Used oil fuel marketer to burner: No
Used oil Specification marketer: No
Used oil transfer facility: No
Used oil transporter: No

. Waste code: D001
. Waste name: IGNITABLE WASTE

Historical Generators:

Date form received by agency: 04/19/2001
Site name: MUHLENBERG CAREER DEVELOPMENT CENTER
Classification: Small Quantity Generator

Date form received by agency: 07/12/2000
Site name: MUHLENBERG CAREER DEVELOPMENT CENTER

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

MUHLBERG CAREER DEVELOPMENT CENTER (Continued)

1000279072

Classification: Small Quantity Generator

Facility Has Received Notices of Violations:

Regulation violated: SR - 32:010 SEC 3(4)
Area of violation: Generators - Records/Reporting
Date violation determined: 02/25/2002
Date achieved compliance: 04/12/2002
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 02/25/2002
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: SR - 32:030 SEC 5(4) (E)
Area of violation: Generators - Pre-transport
Date violation determined: 02/25/2002
Date achieved compliance: 04/12/2002
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 02/25/2002
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: SR - 32:010 2
Area of violation: Generators - Records/Reporting
Date violation determined: 02/25/2002
Date achieved compliance: 04/12/2002
Violation lead agency: State
Enforcement action: REFERRAL TO ENFORCEMENT
Enforcement action date: 02/25/2002
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: SR - 32:010 SEC 3(4)
Area of violation: Generators - Records/Reporting
Date violation determined: 02/25/2002
Date achieved compliance: 04/12/2002
Violation lead agency: State
Enforcement action: ADMINISTRATIVE CONFERENCE (ENFORCEMENT CONFERENCE HELD WITH FACILITY)
Enforcement action date: 08/08/2002
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

MUHLBERG CAREER DEVELOPMENT CENTER (Continued)

1000279072

Paid penalty amount: Not reported

Regulation violated: SR - 32:010 2
Area of violation: Generators - Records/Reporting
Date violation determined: 02/25/2002
Date achieved compliance: 04/12/2002
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 02/25/2002
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: SR - 32:030 SEC 5(4) (E)
Area of violation: Generators - Pre-transport
Date violation determined: 02/25/2002
Date achieved compliance: 04/12/2002
Violation lead agency: State
Enforcement action: ADMINISTRATIVE CONFERENCE (ENFORCEMENT CONFERENCE HELD WITH FACILITY)
Enforcement action date: 08/08/2002
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: SR - 32:010 SEC 3(4)
Area of violation: Generators - Records/Reporting
Date violation determined: 02/25/2002
Date achieved compliance: 04/12/2002
Violation lead agency: State
Enforcement action: REFERRAL TO ENFORCEMENT
Enforcement action date: 02/25/2002
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: SR - 32:030 SEC 5(4) (E)
Area of violation: Generators - Pre-transport
Date violation determined: 02/25/2002
Date achieved compliance: 04/12/2002
Violation lead agency: State
Enforcement action: REFERRAL TO ENFORCEMENT
Enforcement action date: 02/25/2002
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

MUHLENBERG CAREER DEVELOPMENT CENTER (Continued)

1000279072

Regulation violated: SR - 32:010 2
Area of violation: Generators - Records/Reporting
Date violation determined: 02/25/2002
Date achieved compliance: 04/12/2002
Violation lead agency: State
Enforcement action: ADMINISTRATIVE CONFERENCE (ENFORCEMENT CONFERENCE HELD WITH FACILITY)
Enforcement action date: 08/08/2002
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: SR - 32:010 2
Area of violation: Generators - Records/Reporting
Date violation determined: 02/25/2002
Date achieved compliance: 04/12/2002
Violation lead agency: State
Enforcement action: FINAL 3008(A) COMPLIANCE ORDER
Enforcement action date: 06/17/2002
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: SR - 32:010 SEC 3(4)
Area of violation: Generators - Records/Reporting
Date violation determined: 02/25/2002
Date achieved compliance: 04/12/2002
Violation lead agency: State
Enforcement action: FINAL 3008(A) COMPLIANCE ORDER
Enforcement action date: 06/17/2002
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: SR - 32:030 SEC 5(4) (E)
Area of violation: Generators - Pre-transport
Date violation determined: 02/25/2002
Date achieved compliance: 04/12/2002
Violation lead agency: State
Enforcement action: FINAL 3008(A) COMPLIANCE ORDER
Enforcement action date: 06/17/2002
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: SR - CHAPTER 32

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

MUHLENBERG CAREER DEVELOPMENT CENTER (Continued)

1000279072

Area of violation: Generators - Pre-transport
Date violation determined: 03/16/1995
Date achieved compliance: 07/31/1995
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 04/13/1995
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: SS - krs 224.46-580
Area of violation: Generators - General
Date violation determined: 03/11/1992
Date achieved compliance: 04/06/1992
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 03/17/1992
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: SS - krs224.46-580
Area of violation: Generators - General
Date violation determined: 07/30/1991
Date achieved compliance: 10/23/1991
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 09/27/1991
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Evaluation Action Summary:

Evaluation date: 05/24/2005
Evaluation: NOT A SIGNIFICANT NON-COMPLIER
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 06/17/2002
Evaluation: NOT A SIGNIFICANT NON-COMPLIER
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 04/12/2002
Evaluation: COMPLIANCE SCHEDULE EVALUATION
Area of violation: Generators - Records/Reporting

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

MUHLBERG CAREER DEVELOPMENT CENTER (Continued)

1000279072

Date achieved compliance: 04/12/2002
Evaluation lead agency: State

Evaluation date: 04/12/2002
Evaluation: COMPLIANCE SCHEDULE EVALUATION
Area of violation: Generators - Pre-transport
Date achieved compliance: 04/12/2002
Evaluation lead agency: State

Evaluation date: 02/25/2002
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Generators - Pre-transport
Date achieved compliance: 04/12/2002
Evaluation lead agency: State

Evaluation date: 02/25/2002
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Generators - Records/Reporting
Date achieved compliance: 04/12/2002
Evaluation lead agency: State

Evaluation date: 02/25/2002
Evaluation: SIGNIFICANT NON-COMPLIER
Area of violation: Generators - Pre-transport
Date achieved compliance: 04/12/2002
Evaluation lead agency: State

Evaluation date: 02/25/2002
Evaluation: SIGNIFICANT NON-COMPLIER
Area of violation: Generators - Records/Reporting
Date achieved compliance: 04/12/2002
Evaluation lead agency: State

Evaluation date: 01/25/1996
Evaluation: COMPLIANCE SCHEDULE EVALUATION
Area of violation: Generators - Pre-transport
Date achieved compliance: 07/31/1995
Evaluation lead agency: State

Evaluation date: 03/16/1995
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Generators - Pre-transport
Date achieved compliance: 07/31/1995
Evaluation lead agency: State

Evaluation date: 04/07/1992
Evaluation: COMPLIANCE SCHEDULE EVALUATION
Area of violation: Generators - General
Date achieved compliance: 04/06/1992
Evaluation lead agency: State

Evaluation date: 03/11/1992
Evaluation: NON-FINANCIAL RECORD REVIEW
Area of violation: Generators - General
Date achieved compliance: 04/06/1992
Evaluation lead agency: State

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

MUHLENBERG CAREER DEVELOPMENT CENTER (Continued)

1000279072

Evaluation date: 07/30/1991
Evaluation: NON-FINANCIAL RECORD REVIEW
Area of violation: Generators - General
Date achieved compliance: 10/23/1991
Evaluation lead agency: State

FINDS:

Registry ID: 110006015203

Environmental Interest/Information System

RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

STATE MASTER

[Click this hyperlink](#) while viewing on your computer to access additional FINDS: detail in the EDR Site Report.

ECHO:

Envid: 1000279072
Registry ID: 110006015203
DFR URL: <http://echo.epa.gov/detailed-facility-report?fid=110006015203>

Count: 0 records.

ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
NO SITES FOUND					

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

Number of Days to Update: Provides confirmation that EDR is reporting records that have been updated within 90 days from the date the government agency made the information available to the public.

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL: National Priority List

National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC) and regional EPA offices.

Date of Government Version: 12/11/2017	Source: EPA
Date Data Arrived at EDR: 12/22/2017	Telephone: N/A
Date Made Active in Reports: 01/05/2018	Last EDR Contact: 05/30/2018
Number of Days to Update: 14	Next Scheduled EDR Contact: 07/16/2018
	Data Release Frequency: Quarterly

NPL Site Boundaries

Sources:

EPA's Environmental Photographic Interpretation Center (EPIC)
Telephone: 202-564-7333

EPA Region 1
Telephone 617-918-1143

EPA Region 6
Telephone: 214-655-6659

EPA Region 3
Telephone 215-814-5418

EPA Region 7
Telephone: 913-551-7247

EPA Region 4
Telephone 404-562-8033

EPA Region 8
Telephone: 303-312-6774

EPA Region 5
Telephone 312-886-6686

EPA Region 9
Telephone: 415-947-4246

EPA Region 10
Telephone 206-553-8665

Proposed NPL: Proposed National Priority List Sites

A site that has been proposed for listing on the National Priorities List through the issuance of a proposed rule in the Federal Register. EPA then accepts public comments on the site, responds to the comments, and places on the NPL those sites that continue to meet the requirements for listing.

Date of Government Version: 12/11/2017	Source: EPA
Date Data Arrived at EDR: 12/22/2017	Telephone: N/A
Date Made Active in Reports: 01/05/2018	Last EDR Contact: 05/30/2018
Number of Days to Update: 14	Next Scheduled EDR Contact: 07/16/2018
	Data Release Frequency: Quarterly

NPL LIENS: Federal Superfund Liens

Federal Superfund Liens. Under the authority granted the USEPA by CERCLA of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner received notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.

Date of Government Version: 10/15/1991	Source: EPA
Date Data Arrived at EDR: 02/02/1994	Telephone: 202-564-4267
Date Made Active in Reports: 03/30/1994	Last EDR Contact: 08/15/2011
Number of Days to Update: 56	Next Scheduled EDR Contact: 11/28/2011
	Data Release Frequency: No Update Planned

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Federal Delisted NPL site list

Delisted NPL: National Priority List Deletions

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Date of Government Version: 12/11/2017	Source: EPA
Date Data Arrived at EDR: 12/22/2017	Telephone: N/A
Date Made Active in Reports: 01/05/2018	Last EDR Contact: 05/30/2018
Number of Days to Update: 14	Next Scheduled EDR Contact: 07/16/2018
	Data Release Frequency: Quarterly

Federal CERCLIS list

FEDERAL FACILITY: Federal Facility Site Information listing

A listing of National Priority List (NPL) and Base Realignment and Closure (BRAC) sites found in the Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) Database where EPA Federal Facilities Restoration and Reuse Office is involved in cleanup activities.

Date of Government Version: 11/07/2016	Source: Environmental Protection Agency
Date Data Arrived at EDR: 01/05/2017	Telephone: 703-603-8704
Date Made Active in Reports: 04/07/2017	Last EDR Contact: 04/06/2018
Number of Days to Update: 92	Next Scheduled EDR Contact: 07/16/2018
	Data Release Frequency: Varies

SEMS: Superfund Enterprise Management System

SEMS (Superfund Enterprise Management System) tracks hazardous waste sites, potentially hazardous waste sites, and remedial activities performed in support of EPA's Superfund Program across the United States. The list was formerly known as CERCLIS, renamed to SEMS by the EPA in 2015. The list contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). This dataset also contains sites which are either proposed to or on the National Priorities List (NPL) and the sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 01/09/2018	Source: EPA
Date Data Arrived at EDR: 02/06/2018	Telephone: 800-424-9346
Date Made Active in Reports: 04/13/2018	Last EDR Contact: 05/30/2018
Number of Days to Update: 66	Next Scheduled EDR Contact: 07/30/2018
	Data Release Frequency: Quarterly

Federal CERCLIS NFRAP site list

SEMS-ARCHIVE: Superfund Enterprise Management System Archive

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

SEMS-ARCHIVE (Superfund Enterprise Management System Archive) tracks sites that have no further interest under the Federal Superfund Program based on available information. The list was formerly known as the CERCLIS-NFRAP, renamed to SEMS ARCHIVE by the EPA in 2015. EPA may perform a minimal level of assessment work at a site while it is archived if site conditions change and/or new information becomes available. Archived sites have been removed and archived from the inventory of SEMS sites. Archived status indicates that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list the site on the National Priorities List (NPL), unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time. The decision does not necessarily mean that there is no hazard associated with a given site; it only means that, based upon available information, the location is not judged to be potential NPL site.

Date of Government Version: 01/09/2018	Source: EPA
Date Data Arrived at EDR: 02/06/2018	Telephone: 800-424-9346
Date Made Active in Reports: 04/13/2018	Last EDR Contact: 05/30/2018
Number of Days to Update: 66	Next Scheduled EDR Contact: 07/30/2018
	Data Release Frequency: Quarterly

Federal RCRA CORRACTS facilities list

CORRACTS: Corrective Action Report

CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

Date of Government Version: 12/11/2017	Source: EPA
Date Data Arrived at EDR: 12/26/2017	Telephone: 800-424-9346
Date Made Active in Reports: 02/09/2018	Last EDR Contact: 03/28/2018
Number of Days to Update: 45	Next Scheduled EDR Contact: 07/09/2018
	Data Release Frequency: Quarterly

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF: RCRA - Treatment, Storage and Disposal

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Transporters are individuals or entities that move hazardous waste from the generator offsite to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.

Date of Government Version: 12/11/2017	Source: Environmental Protection Agency
Date Data Arrived at EDR: 12/26/2017	Telephone: (404) 562-8651
Date Made Active in Reports: 02/09/2018	Last EDR Contact: 03/28/2018
Number of Days to Update: 45	Next Scheduled EDR Contact: 07/09/2018
	Data Release Frequency: Quarterly

Federal RCRA generators list

RCRA-LQG: RCRA - Large Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month.

Date of Government Version: 12/11/2017	Source: Environmental Protection Agency
Date Data Arrived at EDR: 12/26/2017	Telephone: (404) 562-8651
Date Made Active in Reports: 02/09/2018	Last EDR Contact: 03/28/2018
Number of Days to Update: 45	Next Scheduled EDR Contact: 07/09/2018
	Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

RCRA-SQG: RCRA - Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month.

Date of Government Version: 12/11/2017	Source: Environmental Protection Agency
Date Data Arrived at EDR: 12/26/2017	Telephone: (404) 562-8651
Date Made Active in Reports: 02/09/2018	Last EDR Contact: 03/28/2018
Number of Days to Update: 45	Next Scheduled EDR Contact: 07/09/2018
	Data Release Frequency: Quarterly

RCRA-CESQG: RCRA - Conditionally Exempt Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Conditionally exempt small quantity generators (CESQGs) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month.

Date of Government Version: 12/11/2017	Source: Environmental Protection Agency
Date Data Arrived at EDR: 12/26/2017	Telephone: (404) 562-8651
Date Made Active in Reports: 02/09/2018	Last EDR Contact: 03/28/2018
Number of Days to Update: 45	Next Scheduled EDR Contact: 07/09/2018
	Data Release Frequency: Quarterly

Federal institutional controls / engineering controls registries

LUCIS: Land Use Control Information System

LUCIS contains records of land use control information pertaining to the former Navy Base Realignment and Closure properties.

Date of Government Version: 02/16/2018	Source: Department of the Navy
Date Data Arrived at EDR: 02/22/2018	Telephone: 843-820-7326
Date Made Active in Reports: 05/11/2018	Last EDR Contact: 05/09/2018
Number of Days to Update: 78	Next Scheduled EDR Contact: 08/27/2018
	Data Release Frequency: Varies

US ENG CONTROLS: Engineering Controls Sites List

A listing of sites with engineering controls in place. Engineering controls include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health.

Date of Government Version: 02/13/2018	Source: Environmental Protection Agency
Date Data Arrived at EDR: 02/27/2018	Telephone: 703-603-0695
Date Made Active in Reports: 05/11/2018	Last EDR Contact: 05/29/2018
Number of Days to Update: 73	Next Scheduled EDR Contact: 09/10/2018
	Data Release Frequency: Varies

US INST CONTROL: Sites with Institutional Controls

A listing of sites with institutional controls in place. Institutional controls include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restrictions are generally required as part of the institutional controls.

Date of Government Version: 02/13/2018	Source: Environmental Protection Agency
Date Data Arrived at EDR: 02/27/2018	Telephone: 703-603-0695
Date Made Active in Reports: 05/11/2018	Last EDR Contact: 05/29/2018
Number of Days to Update: 73	Next Scheduled EDR Contact: 09/10/2018
	Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Federal ERNS list

ERNS: Emergency Response Notification System

Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 01/16/2018

Date Data Arrived at EDR: 01/19/2018

Date Made Active in Reports: 03/23/2018

Number of Days to Update: 63

Source: National Response Center, United States Coast Guard

Telephone: 202-267-2180

Last EDR Contact: 03/27/2018

Next Scheduled EDR Contact: 07/09/2018

Data Release Frequency: Quarterly

State- and tribal - equivalent CERCLIS

SHWS: State Leads List

State Hazardous Waste Sites. State hazardous waste site records are the states' equivalent to CERCLIS. These sites may or may not already be listed on the federal CERCLIS list. Priority sites planned for cleanup using state funds (state equivalent of Superfund) are identified along with sites where cleanup will be paid for by potentially responsible parties. Available information varies by state.

Date of Government Version: 03/21/2018

Date Data Arrived at EDR: 03/22/2018

Date Made Active in Reports: 04/18/2018

Number of Days to Update: 27

Source: Department of Environmental Protection

Telephone: 502-564-6716

Last EDR Contact: 05/29/2018

Next Scheduled EDR Contact: 09/10/2018

Data Release Frequency: Quarterly

State and tribal landfill and/or solid waste disposal site lists

SWF/LF: Solid Waste Facilities List

Solid Waste Facilities/Landfill Sites. SWF/LF type records typically contain an inventory of solid waste disposal facilities or landfills in a particular state. Depending on the state, these may be active or inactive facilities or open dumps that failed to meet RCRA Subtitle D Section 4004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 02/20/2018

Date Data Arrived at EDR: 02/23/2018

Date Made Active in Reports: 04/18/2018

Number of Days to Update: 54

Source: Department of Environmental Protection

Telephone: 502-564-6716

Last EDR Contact: 04/30/2018

Next Scheduled EDR Contact: 08/13/2018

Data Release Frequency: Semi-Annually

State and tribal leaking storage tank lists

PSTEAF: Facility Ranking List

The Underground Storage Tank Branch (USTB) has ranked all PSTEAF reimbursable facilities requiring corrective action, in accordance with 401 KAR 42:290. Directive letters will be issued on the basis of facility ranking and available PSTEAF funding in sequential order as ranked. For example, Rank 2 facilities will be issued directives before Rank 3 facilities.

Date of Government Version: 04/01/2018

Date Data Arrived at EDR: 04/11/2018

Date Made Active in Reports: 04/26/2018

Number of Days to Update: 15

Source: Department of Environmental Protection

Telephone: 502-564-5981

Last EDR Contact: 04/11/2018

Next Scheduled EDR Contact: 07/23/2018

Data Release Frequency: Quarterly

INDIAN LUST R5: Leaking Underground Storage Tanks on Indian Land

Leaking underground storage tanks located on Indian Land in Michigan, Minnesota and Wisconsin.

Date of Government Version: 10/16/2017

Date Data Arrived at EDR: 01/23/2018

Date Made Active in Reports: 04/13/2018

Number of Days to Update: 80

Source: EPA, Region 5

Telephone: 312-886-7439

Last EDR Contact: 05/18/2018

Next Scheduled EDR Contact: 08/06/2018

Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

INDIAN LUST R10: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Alaska, Idaho, Oregon and Washington.

Date of Government Version: 10/24/2017	Source: EPA Region 10
Date Data Arrived at EDR: 01/23/2018	Telephone: 206-553-2857
Date Made Active in Reports: 04/13/2018	Last EDR Contact: 05/18/2018
Number of Days to Update: 80	Next Scheduled EDR Contact: 08/06/2018
	Data Release Frequency: Varies

INDIAN LUST R4: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Florida, Mississippi and North Carolina.

Date of Government Version: 10/14/2017	Source: EPA Region 4
Date Data Arrived at EDR: 01/23/2018	Telephone: 404-562-8677
Date Made Active in Reports: 04/13/2018	Last EDR Contact: 05/16/2018
Number of Days to Update: 80	Next Scheduled EDR Contact: 08/06/2018
	Data Release Frequency: Varies

INDIAN LUST R9: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Arizona, California, New Mexico and Nevada

Date of Government Version: 09/30/2017	Source: Environmental Protection Agency
Date Data Arrived at EDR: 01/23/2018	Telephone: 415-972-3372
Date Made Active in Reports: 04/13/2018	Last EDR Contact: 05/18/2018
Number of Days to Update: 80	Next Scheduled EDR Contact: 08/06/2018
	Data Release Frequency: Varies

INDIAN LUST R7: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Iowa, Kansas, and Nebraska

Date of Government Version: 10/12/2017	Source: EPA Region 7
Date Data Arrived at EDR: 01/23/2018	Telephone: 913-551-7003
Date Made Active in Reports: 04/13/2018	Last EDR Contact: 05/18/2018
Number of Days to Update: 80	Next Scheduled EDR Contact: 08/06/2018
	Data Release Frequency: Varies

INDIAN LUST R6: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in New Mexico and Oklahoma.

Date of Government Version: 01/06/2018	Source: EPA Region 6
Date Data Arrived at EDR: 01/23/2018	Telephone: 214-665-6597
Date Made Active in Reports: 04/13/2018	Last EDR Contact: 05/18/2018
Number of Days to Update: 80	Next Scheduled EDR Contact: 08/06/2018
	Data Release Frequency: Varies

INDIAN LUST R8: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Colorado, Montana, North Dakota, South Dakota, Utah and Wyoming.

Date of Government Version: 10/12/2017	Source: EPA Region 8
Date Data Arrived at EDR: 01/23/2018	Telephone: 303-312-6271
Date Made Active in Reports: 04/13/2018	Last EDR Contact: 05/18/2018
Number of Days to Update: 80	Next Scheduled EDR Contact: 08/06/2018
	Data Release Frequency: Varies

INDIAN LUST R1: Leaking Underground Storage Tanks on Indian Land
A listing of leaking underground storage tank locations on Indian Land.

Date of Government Version: 10/14/2017	Source: EPA Region 1
Date Data Arrived at EDR: 01/23/2018	Telephone: 617-918-1313
Date Made Active in Reports: 04/13/2018	Last EDR Contact: 05/18/2018
Number of Days to Update: 80	Next Scheduled EDR Contact: 08/06/2018
	Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

SB193: SB193 Branch Site Inventory List

The inventory indicates facilities that have performed permanent closure activities at a regulated underground storage tank facility and have known soil and/or groundwater contamination.

Date of Government Version: 09/05/2006
Date Data Arrived at EDR: 09/13/2006
Date Made Active in Reports: 10/18/2006
Number of Days to Update: 35

Source: Department of Environmental Protection
Telephone: 502-564-5981
Last EDR Contact: 04/08/2016
Next Scheduled EDR Contact: 07/25/2016
Data Release Frequency: No Update Planned

State and tribal registered storage tank lists

FEMA UST: Underground Storage Tank Listing

A listing of all FEMA owned underground storage tanks.

Date of Government Version: 05/15/2017
Date Data Arrived at EDR: 05/30/2017
Date Made Active in Reports: 10/13/2017
Number of Days to Update: 136

Source: FEMA
Telephone: 202-646-5797
Last EDR Contact: 04/13/2018
Next Scheduled EDR Contact: 07/23/2018
Data Release Frequency: Varies

UST: Underground Storage Tank Database

Registered Underground Storage Tanks. UST's are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA) and must be registered with the state department responsible for administering the UST program. Available information varies by state program.

Date of Government Version: 01/26/2018
Date Data Arrived at EDR: 02/28/2018
Date Made Active in Reports: 04/19/2018
Number of Days to Update: 50

Source: Department of Environmental Protection
Telephone: 502-564-5981
Last EDR Contact: 02/28/2018
Next Scheduled EDR Contact: 06/11/2018
Data Release Frequency: Quarterly

INDIAN UST R10: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 10 (Alaska, Idaho, Oregon, Washington, and Tribal Nations).

Date of Government Version: 10/24/2017
Date Data Arrived at EDR: 01/23/2018
Date Made Active in Reports: 04/13/2018
Number of Days to Update: 80

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 05/18/2018
Next Scheduled EDR Contact: 08/06/2018
Data Release Frequency: Varies

INDIAN UST R9: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 9 (Arizona, California, Hawaii, Nevada, the Pacific Islands, and Tribal Nations).

Date of Government Version: 09/30/2017
Date Data Arrived at EDR: 01/23/2018
Date Made Active in Reports: 04/13/2018
Number of Days to Update: 80

Source: EPA Region 9
Telephone: 415-972-3368
Last EDR Contact: 05/18/2018
Next Scheduled EDR Contact: 08/06/2018
Data Release Frequency: Varies

INDIAN UST R8: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 8 (Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming and 27 Tribal Nations).

Date of Government Version: 10/12/2017
Date Data Arrived at EDR: 01/23/2018
Date Made Active in Reports: 04/13/2018
Number of Days to Update: 80

Source: EPA Region 8
Telephone: 303-312-6137
Last EDR Contact: 05/18/2018
Next Scheduled EDR Contact: 08/06/2018
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

INDIAN UST R6: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 6 (Louisiana, Arkansas, Oklahoma, New Mexico, Texas and 65 Tribes).

Date of Government Version: 04/24/2017	Source: EPA Region 6
Date Data Arrived at EDR: 07/27/2017	Telephone: 214-665-7591
Date Made Active in Reports: 12/08/2017	Last EDR Contact: 05/18/2018
Number of Days to Update: 134	Next Scheduled EDR Contact: 08/06/2018
	Data Release Frequency: Varies

INDIAN UST R5: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 5 (Michigan, Minnesota and Wisconsin and Tribal Nations).

Date of Government Version: 10/16/2017	Source: EPA Region 5
Date Data Arrived at EDR: 01/23/2018	Telephone: 312-886-6136
Date Made Active in Reports: 04/13/2018	Last EDR Contact: 05/18/2018
Number of Days to Update: 80	Next Scheduled EDR Contact: 08/06/2018
	Data Release Frequency: Varies

INDIAN UST R4: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 4 (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee and Tribal Nations).

Date of Government Version: 10/14/2017	Source: EPA Region 4
Date Data Arrived at EDR: 01/23/2018	Telephone: 404-562-9424
Date Made Active in Reports: 04/13/2018	Last EDR Contact: 05/16/2018
Number of Days to Update: 80	Next Scheduled EDR Contact: 08/06/2018
	Data Release Frequency: Varies

INDIAN UST R1: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 1 (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont and ten Tribal Nations).

Date of Government Version: 10/14/2017	Source: EPA, Region 1
Date Data Arrived at EDR: 01/23/2018	Telephone: 617-918-1313
Date Made Active in Reports: 04/13/2018	Last EDR Contact: 05/18/2018
Number of Days to Update: 80	Next Scheduled EDR Contact: 08/06/2018
	Data Release Frequency: Varies

INDIAN UST R7: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 7 (Iowa, Kansas, Missouri, Nebraska, and 9 Tribal Nations).

Date of Government Version: 01/13/2018	Source: EPA Region 7
Date Data Arrived at EDR: 01/23/2018	Telephone: 913-551-7003
Date Made Active in Reports: 04/13/2018	Last EDR Contact: 05/18/2018
Number of Days to Update: 80	Next Scheduled EDR Contact: 08/06/2018
	Data Release Frequency: Varies

State and tribal institutional control / engineering control registries

ENG CONTROLS: Engineering Controls Site Listing

A listing of sites that use engineering controls.

Date of Government Version: 03/21/2018	Source: Department of Environmental Protection
Date Data Arrived at EDR: 03/22/2018	Telephone: 502-564-6716
Date Made Active in Reports: 04/18/2018	Last EDR Contact: 05/29/2018
Number of Days to Update: 27	Next Scheduled EDR Contact: 09/10/2018
	Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

INST CONTROL: State Superfund Database

A list of closed sites in the State Superfund Database. Institutional controls would be in place at any site that uses Contained or Managed as a Closure Option.

Date of Government Version: 03/21/2018
Date Data Arrived at EDR: 03/22/2018
Date Made Active in Reports: 04/24/2018
Number of Days to Update: 33

Source: Department of Environmental Protection
Telephone: 502-564-6716
Last EDR Contact: 05/29/2018
Next Scheduled EDR Contact: 09/10/2018
Data Release Frequency: Varies

State and tribal voluntary cleanup sites

INDIAN VCP R1: Voluntary Cleanup Priority Listing

A listing of voluntary cleanup priority sites located on Indian Land located in Region 1.

Date of Government Version: 07/27/2015
Date Data Arrived at EDR: 09/29/2015
Date Made Active in Reports: 02/18/2016
Number of Days to Update: 142

Source: EPA, Region 1
Telephone: 617-918-1102
Last EDR Contact: 03/21/2018
Next Scheduled EDR Contact: 07/09/2018
Data Release Frequency: Varies

VCP: Voluntary Cleanup Program Sites

Sites that have been accepted into the Voluntary Cleanup Program or have submitted an application.

Date of Government Version: 03/21/2018
Date Data Arrived at EDR: 03/22/2018
Date Made Active in Reports: 04/18/2018
Number of Days to Update: 27

Source: Department of Environmental Protection
Telephone: 502-564-6716
Last EDR Contact: 05/29/2018
Next Scheduled EDR Contact: 09/10/2018
Data Release Frequency: Varies

INDIAN VCP R7: Voluntary Cleanup Priority Listing

A listing of voluntary cleanup priority sites located on Indian Land located in Region 7.

Date of Government Version: 03/20/2008
Date Data Arrived at EDR: 04/22/2008
Date Made Active in Reports: 05/19/2008
Number of Days to Update: 27

Source: EPA, Region 7
Telephone: 913-551-7365
Last EDR Contact: 04/20/2009
Next Scheduled EDR Contact: 07/20/2009
Data Release Frequency: Varies

State and tribal Brownfields sites

BROWNFIELDS: Kentucky Brownfield Inventory

The Kentucky Brownfield Program has created an inventory of brownfield sites in order to market the properties to those interested in brownfield redevelopment. The Kentucky Brownfield Program is working to promote the redevelopment of these sites by helping to remove barriers that prevent reuse, providing useful information to communities, developers and the public and encouraging a climate that fosters redevelopment of contaminated sites.

Date of Government Version: 02/06/2018
Date Data Arrived at EDR: 02/07/2018
Date Made Active in Reports: 02/21/2018
Number of Days to Update: 14

Source: Division of Compliance Assistance
Telephone: 502-564-0323
Last EDR Contact: 04/16/2018
Next Scheduled EDR Contact: 07/30/2018
Data Release Frequency: Varies

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS: A Listing of Brownfields Sites

Brownfields are real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Cleaning up and reinvesting in these properties takes development pressures off of undeveloped, open land, and both improves and protects the environment. Assessment, Cleanup and Redevelopment Exchange System (ACRES) stores information reported by EPA Brownfields grant recipients on brownfields properties assessed or cleaned up with grant funding as well as information on Targeted Brownfields Assessments performed by EPA Regions. A listing of ACRES Brownfield sites is obtained from Cleanups in My Community. Cleanups in My Community provides information on Brownfields properties for which information is reported back to EPA, as well as areas served by Brownfields grant programs.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 01/19/2018
Date Data Arrived at EDR: 01/19/2018
Date Made Active in Reports: 02/09/2018
Number of Days to Update: 21

Source: Environmental Protection Agency
Telephone: 202-566-2777
Last EDR Contact: 03/21/2018
Next Scheduled EDR Contact: 07/02/2018
Data Release Frequency: Semi-Annually

Local Lists of Landfill / Solid Waste Disposal Sites

SWRCY: Recycling Facilities

A listing of recycling facilities located in the state of Kentucky.

Date of Government Version: 03/07/2018
Date Data Arrived at EDR: 04/20/2018
Date Made Active in Reports: 04/26/2018
Number of Days to Update: 6

Source: Department of Environmental Protection
Telephone: 502-564-6716
Last EDR Contact: 04/16/2018
Next Scheduled EDR Contact: 07/30/2018
Data Release Frequency: Varies

HIST LF: Historical Landfills

This solid waste facility listing contains detail information that is not included in the landfill listing. A listing with detail information is no longer available by the Department of Environmental Protection.

Date of Government Version: 05/01/2003
Date Data Arrived at EDR: 03/30/2006
Date Made Active in Reports: 05/01/2006
Number of Days to Update: 32

Source: Department of Environmental Protection
Telephone: 502-564-6716
Last EDR Contact: 02/23/2009
Next Scheduled EDR Contact: 05/25/2009
Data Release Frequency: No Update Planned

INDIAN ODI: Report on the Status of Open Dumps on Indian Lands

Location of open dumps on Indian land.

Date of Government Version: 12/31/1998
Date Data Arrived at EDR: 12/03/2007
Date Made Active in Reports: 01/24/2008
Number of Days to Update: 52

Source: Environmental Protection Agency
Telephone: 703-308-8245
Last EDR Contact: 01/30/2018
Next Scheduled EDR Contact: 05/14/2018
Data Release Frequency: Varies

DEBRIS REGION 9: Torres Martinez Reservation Illegal Dump Site Locations

A listing of illegal dump sites location on the Torres Martinez Indian Reservation located in eastern Riverside County and northern Imperial County, California.

Date of Government Version: 01/12/2009
Date Data Arrived at EDR: 05/07/2009
Date Made Active in Reports: 09/21/2009
Number of Days to Update: 137

Source: EPA, Region 9
Telephone: 415-947-4219
Last EDR Contact: 04/18/2018
Next Scheduled EDR Contact: 08/06/2018
Data Release Frequency: No Update Planned

ODI: Open Dump Inventory

An open dump is defined as a disposal facility that does not comply with one or more of the Part 257 or Part 258 Subtitle D Criteria.

Date of Government Version: 06/30/1985
Date Data Arrived at EDR: 08/09/2004
Date Made Active in Reports: 09/17/2004
Number of Days to Update: 39

Source: Environmental Protection Agency
Telephone: 800-424-9346
Last EDR Contact: 06/09/2004
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

IHS OPEN DUMPS: Open Dumps on Indian Land

A listing of all open dumps located on Indian Land in the United States.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 04/01/2014
Date Data Arrived at EDR: 08/06/2014
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 176

Source: Department of Health & Human Services, Indian Health Service
Telephone: 301-443-1452
Last EDR Contact: 05/04/2018
Next Scheduled EDR Contact: 08/13/2018
Data Release Frequency: Varies

Local Lists of Hazardous waste / Contaminated Sites

US HIST CDL: National Clandestine Laboratory Register

A listing of clandestine drug lab locations that have been removed from the DEAs National Clandestine Laboratory Register.

Date of Government Version: 02/22/2018
Date Data Arrived at EDR: 03/01/2018
Date Made Active in Reports: 05/11/2018
Number of Days to Update: 71

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 05/30/2018
Next Scheduled EDR Contact: 09/10/2018
Data Release Frequency: No Update Planned

CDL: Clandestine Drug Lab Location Listing Clandestine drug lab site locations.

Date of Government Version: 03/21/2018
Date Data Arrived at EDR: 03/22/2018
Date Made Active in Reports: 04/18/2018
Number of Days to Update: 27

Source: Department of Environmental Protection
Telephone: 502-564-6716
Last EDR Contact: 05/29/2018
Next Scheduled EDR Contact: 09/10/2018
Data Release Frequency: Varies

US CDL: Clandestine Drug Labs

A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

Date of Government Version: 02/22/2018
Date Data Arrived at EDR: 03/01/2018
Date Made Active in Reports: 05/11/2018
Number of Days to Update: 71

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 05/30/2018
Next Scheduled EDR Contact: 09/10/2018
Data Release Frequency: Quarterly

Local Land Records

LIENS 2: CERCLA Lien Information

A Federal CERCLA ('Superfund') lien can exist by operation of law at any site or property at which EPA has spent Superfund monies. These monies are spent to investigate and address releases and threatened releases of contamination. CERCLIS provides information as to the identity of these sites and properties.

Date of Government Version: 01/09/2018
Date Data Arrived at EDR: 02/06/2018
Date Made Active in Reports: 05/11/2018
Number of Days to Update: 94

Source: Environmental Protection Agency
Telephone: 202-564-6023
Last EDR Contact: 05/30/2018
Next Scheduled EDR Contact: 08/06/2018
Data Release Frequency: Semi-Annually

Records of Emergency Release Reports

HMIRS: Hazardous Materials Information Reporting System

Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 01/19/2018
Date Data Arrived at EDR: 01/19/2018
Date Made Active in Reports: 03/23/2018
Number of Days to Update: 63

Source: U.S. Department of Transportation
Telephone: 202-366-4555
Last EDR Contact: 03/27/2018
Next Scheduled EDR Contact: 07/09/2018
Data Release Frequency: Quarterly

SPILLS: State spills

A listing of spill and/or release related incidents.

Date of Government Version: 01/26/2018
Date Data Arrived at EDR: 02/09/2018
Date Made Active in Reports: 02/20/2018
Number of Days to Update: 11

Source: DEP, Emergency Response
Telephone: 502-564-2380
Last EDR Contact: 04/16/2018
Next Scheduled EDR Contact: 07/30/2018
Data Release Frequency: Varies

Other Ascertainable Records

RCRA NonGen / NLR: RCRA - Non Generators / No Longer Regulated

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

Date of Government Version: 12/11/2017
Date Data Arrived at EDR: 12/26/2017
Date Made Active in Reports: 02/09/2018
Number of Days to Update: 45

Source: Environmental Protection Agency
Telephone: (404) 562-8651
Last EDR Contact: 03/28/2018
Next Scheduled EDR Contact: 07/09/2018
Data Release Frequency: Quarterly

FUDS: Formerly Used Defense Sites

The listing includes locations of Formerly Used Defense Sites properties where the US Army Corps of Engineers is actively working or will take necessary cleanup actions.

Date of Government Version: 01/31/2015
Date Data Arrived at EDR: 07/08/2015
Date Made Active in Reports: 10/13/2015
Number of Days to Update: 97

Source: U.S. Army Corps of Engineers
Telephone: 202-528-4285
Last EDR Contact: 05/25/2018
Next Scheduled EDR Contact: 09/03/2018
Data Release Frequency: Varies

DOD: Department of Defense Sites

This data set consists of federally owned or administered lands, administered by the Department of Defense, that have any area equal to or greater than 640 acres of the United States, Puerto Rico, and the U.S. Virgin Islands.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 11/10/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 62

Source: USGS
Telephone: 888-275-8747
Last EDR Contact: 04/13/2018
Next Scheduled EDR Contact: 07/23/2018
Data Release Frequency: Semi-Annually

FEDLAND: Federal and Indian Lands

Federally and Indian administrated lands of the United States. Lands included are administrated by: Army Corps of Engineers, Bureau of Reclamation, National Wild and Scenic River, National Wildlife Refuge, Public Domain Land, Wilderness, Wilderness Study Area, Wildlife Management Area, Bureau of Indian Affairs, Bureau of Land Management, Department of Justice, Forest Service, Fish and Wildlife Service, National Park Service.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 02/06/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 339

Source: U.S. Geological Survey
Telephone: 888-275-8747
Last EDR Contact: 04/11/2018
Next Scheduled EDR Contact: 07/23/2018
Data Release Frequency: N/A

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

SCRD DRYCLEANERS: State Coalition for Remediation of Drycleaners Listing

The State Coalition for Remediation of Drycleaners was established in 1998, with support from the U.S. EPA Office of Superfund Remediation and Technology Innovation. It is comprised of representatives of states with established drycleaner remediation programs. Currently the member states are Alabama, Connecticut, Florida, Illinois, Kansas, Minnesota, Missouri, North Carolina, Oregon, South Carolina, Tennessee, Texas, and Wisconsin.

Date of Government Version: 01/01/2017	Source: Environmental Protection Agency
Date Data Arrived at EDR: 02/03/2017	Telephone: 615-532-8599
Date Made Active in Reports: 04/07/2017	Last EDR Contact: 05/15/2018
Number of Days to Update: 63	Next Scheduled EDR Contact: 08/27/2018
	Data Release Frequency: Varies

US FIN ASSUR: Financial Assurance Information

All owners and operators of facilities that treat, store, or dispose of hazardous waste are required to provide proof that they will have sufficient funds to pay for the clean up, closure, and post-closure care of their facilities.

Date of Government Version: 01/11/2018	Source: Environmental Protection Agency
Date Data Arrived at EDR: 01/19/2018	Telephone: 202-566-1917
Date Made Active in Reports: 03/02/2018	Last EDR Contact: 03/27/2018
Number of Days to Update: 42	Next Scheduled EDR Contact: 07/09/2018
	Data Release Frequency: Quarterly

EPA WATCH LIST: EPA WATCH LIST

EPA maintains a "Watch List" to facilitate dialogue between EPA, state and local environmental agencies on enforcement matters relating to facilities with alleged violations identified as either significant or high priority. Being on the Watch List does not mean that the facility has actually violated the law only that an investigation by EPA or a state or local environmental agency has led those organizations to allege that an unproven violation has in fact occurred. Being on the Watch List does not represent a higher level of concern regarding the alleged violations that were detected, but instead indicates cases requiring additional dialogue between EPA, state and local agencies - primarily because of the length of time the alleged violation has gone unaddressed or unresolved.

Date of Government Version: 08/30/2013	Source: Environmental Protection Agency
Date Data Arrived at EDR: 03/21/2014	Telephone: 617-520-3000
Date Made Active in Reports: 06/17/2014	Last EDR Contact: 05/07/2018
Number of Days to Update: 88	Next Scheduled EDR Contact: 08/20/2018
	Data Release Frequency: Quarterly

2020 COR ACTION: 2020 Corrective Action Program List

The EPA has set ambitious goals for the RCRA Corrective Action program by creating the 2020 Corrective Action Universe. This RCRA cleanup baseline includes facilities expected to need corrective action. The 2020 universe contains a wide variety of sites. Some properties are heavily contaminated while others were contaminated but have since been cleaned up. Still others have not been fully investigated yet, and may require little or no remediation. Inclusion in the 2020 Universe does not necessarily imply failure on the part of a facility to meet its RCRA obligations.

Date of Government Version: 04/22/2013	Source: Environmental Protection Agency
Date Data Arrived at EDR: 03/03/2015	Telephone: 703-308-4044
Date Made Active in Reports: 03/09/2015	Last EDR Contact: 05/08/2018
Number of Days to Update: 6	Next Scheduled EDR Contact: 08/20/2018
	Data Release Frequency: Varies

TSCA: Toxic Substances Control Act

Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site.

Date of Government Version: 12/31/2016	Source: EPA
Date Data Arrived at EDR: 06/21/2017	Telephone: 202-260-5521
Date Made Active in Reports: 01/05/2018	Last EDR Contact: 03/23/2018
Number of Days to Update: 198	Next Scheduled EDR Contact: 07/02/2018
	Data Release Frequency: Every 4 Years

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

TRIS: Toxic Chemical Release Inventory System

Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.

Date of Government Version: 12/31/2016	Source: EPA
Date Data Arrived at EDR: 01/10/2018	Telephone: 202-566-0250
Date Made Active in Reports: 01/12/2018	Last EDR Contact: 05/25/2018
Number of Days to Update: 2	Next Scheduled EDR Contact: 09/03/2018
	Data Release Frequency: Annually

SSTS: Section 7 Tracking Systems

Section 7 of the Federal Insecticide, Fungicide and Rodenticide Act, as amended (92 Stat. 829) requires all registered pesticide-producing establishments to submit a report to the Environmental Protection Agency by March 1st each year. Each establishment must report the types and amounts of pesticides, active ingredients and devices being produced, and those having been produced and sold or distributed in the past year.

Date of Government Version: 12/31/2009	Source: EPA
Date Data Arrived at EDR: 12/10/2010	Telephone: 202-564-4203
Date Made Active in Reports: 02/25/2011	Last EDR Contact: 04/09/2018
Number of Days to Update: 77	Next Scheduled EDR Contact: 08/06/2018
	Data Release Frequency: Annually

ROD: Records Of Decision

Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

Date of Government Version: 01/09/2018	Source: EPA
Date Data Arrived at EDR: 02/06/2018	Telephone: 703-416-0223
Date Made Active in Reports: 05/11/2018	Last EDR Contact: 05/30/2018
Number of Days to Update: 94	Next Scheduled EDR Contact: 06/18/2018
	Data Release Frequency: Annually

RMP: Risk Management Plans

When Congress passed the Clean Air Act Amendments of 1990, it required EPA to publish regulations and guidance for chemical accident prevention at facilities using extremely hazardous substances. The Risk Management Program Rule (RMP Rule) was written to implement Section 112(r) of these amendments. The rule, which built upon existing industry codes and standards, requires companies of all sizes that use certain flammable and toxic substances to develop a Risk Management Program, which includes a(n): Hazard assessment that details the potential effects of an accidental release, an accident history of the last five years, and an evaluation of worst-case and alternative accidental releases; Prevention program that includes safety precautions and maintenance, monitoring, and employee training measures; and Emergency response program that spells out emergency health care, employee training measures and procedures for informing the public and response agencies (e.g the fire department) should an accident occur.

Date of Government Version: 11/02/2017	Source: Environmental Protection Agency
Date Data Arrived at EDR: 11/17/2017	Telephone: 202-564-8600
Date Made Active in Reports: 12/08/2017	Last EDR Contact: 04/20/2018
Number of Days to Update: 21	Next Scheduled EDR Contact: 08/06/2018
	Data Release Frequency: Varies

RAATS: RCRA Administrative Action Tracking System

RCRA Administration Action Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database.

Date of Government Version: 04/17/1995	Source: EPA
Date Data Arrived at EDR: 07/03/1995	Telephone: 202-564-4104
Date Made Active in Reports: 08/07/1995	Last EDR Contact: 06/02/2008
Number of Days to Update: 35	Next Scheduled EDR Contact: 09/01/2008
	Data Release Frequency: No Update Planned

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

PRP: Potentially Responsible Parties

A listing of verified Potentially Responsible Parties

Date of Government Version: 10/25/2013	Source: EPA
Date Data Arrived at EDR: 10/17/2014	Telephone: 202-564-6023
Date Made Active in Reports: 10/20/2014	Last EDR Contact: 05/30/2018
Number of Days to Update: 3	Next Scheduled EDR Contact: 08/20/2018
	Data Release Frequency: Quarterly

PADS: PCB Activity Database System

PCB Activity Database. PADS Identifies generators, transporters, commercial storers and/or brokers and disposers of PCB's who are required to notify the EPA of such activities.

Date of Government Version: 06/01/2017	Source: EPA
Date Data Arrived at EDR: 06/09/2017	Telephone: 202-566-0500
Date Made Active in Reports: 10/13/2017	Last EDR Contact: 04/13/2018
Number of Days to Update: 126	Next Scheduled EDR Contact: 07/23/2018
	Data Release Frequency: Annually

ICIS: Integrated Compliance Information System

The Integrated Compliance Information System (ICIS) supports the information needs of the national enforcement and compliance program as well as the unique needs of the National Pollutant Discharge Elimination System (NPDES) program.

Date of Government Version: 11/18/2016	Source: Environmental Protection Agency
Date Data Arrived at EDR: 11/23/2016	Telephone: 202-564-2501
Date Made Active in Reports: 02/10/2017	Last EDR Contact: 04/09/2018
Number of Days to Update: 79	Next Scheduled EDR Contact: 07/23/2018
	Data Release Frequency: Quarterly

FTTS: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act). To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 04/09/2009	Source: EPA/Office of Prevention, Pesticides and Toxic Substances
Date Data Arrived at EDR: 04/16/2009	Telephone: 202-566-1667
Date Made Active in Reports: 05/11/2009	Last EDR Contact: 08/18/2017
Number of Days to Update: 25	Next Scheduled EDR Contact: 12/04/2017
	Data Release Frequency: Quarterly

FTTS INSP: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

A listing of FIFRA/TSCA Tracking System (FTTS) inspections and enforcements.

Date of Government Version: 04/09/2009	Source: EPA
Date Data Arrived at EDR: 04/16/2009	Telephone: 202-566-1667
Date Made Active in Reports: 05/11/2009	Last EDR Contact: 08/18/2017
Number of Days to Update: 25	Next Scheduled EDR Contact: 12/04/2017
	Data Release Frequency: Quarterly

MLTS: Material Licensing Tracking System

MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 08/30/2016	Source: Nuclear Regulatory Commission
Date Data Arrived at EDR: 09/08/2016	Telephone: 301-415-7169
Date Made Active in Reports: 10/21/2016	Last EDR Contact: 05/03/2018
Number of Days to Update: 43	Next Scheduled EDR Contact: 08/20/2018
	Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

COAL ASH DOE: Steam-Electric Plant Operation Data

A listing of power plants that store ash in surface ponds.

Date of Government Version: 12/31/2005	Source: Department of Energy
Date Data Arrived at EDR: 08/07/2009	Telephone: 202-586-8719
Date Made Active in Reports: 10/22/2009	Last EDR Contact: 03/09/2018
Number of Days to Update: 76	Next Scheduled EDR Contact: 06/18/2018
	Data Release Frequency: Varies

COAL ASH EPA: Coal Combustion Residues Surface Impoundments List

A listing of coal combustion residues surface impoundments with high hazard potential ratings.

Date of Government Version: 07/01/2014	Source: Environmental Protection Agency
Date Data Arrived at EDR: 09/10/2014	Telephone: N/A
Date Made Active in Reports: 10/20/2014	Last EDR Contact: 03/06/2018
Number of Days to Update: 40	Next Scheduled EDR Contact: 06/18/2018
	Data Release Frequency: Varies

PCB TRANSFORMER: PCB Transformer Registration Database

The database of PCB transformer registrations that includes all PCB registration submittals.

Date of Government Version: 05/24/2017	Source: Environmental Protection Agency
Date Data Arrived at EDR: 11/30/2017	Telephone: 202-566-0517
Date Made Active in Reports: 12/15/2017	Last EDR Contact: 04/27/2018
Number of Days to Update: 15	Next Scheduled EDR Contact: 08/06/2018
	Data Release Frequency: Varies

RADINFO: Radiation Information Database

The Radiation Information Database (RADINFO) contains information about facilities that are regulated by U.S. Environmental Protection Agency (EPA) regulations for radiation and radioactivity.

Date of Government Version: 01/03/2018	Source: Environmental Protection Agency
Date Data Arrived at EDR: 01/04/2018	Telephone: 202-343-9775
Date Made Active in Reports: 04/13/2018	Last EDR Contact: 04/05/2018
Number of Days to Update: 99	Next Scheduled EDR Contact: 07/16/2018
	Data Release Frequency: Quarterly

HIST FTTS: FIFRA/TSCA Tracking System Administrative Case Listing

A complete administrative case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006	Source: Environmental Protection Agency
Date Data Arrived at EDR: 03/01/2007	Telephone: 202-564-2501
Date Made Active in Reports: 04/10/2007	Last EDR Contact: 12/17/2007
Number of Days to Update: 40	Next Scheduled EDR Contact: 03/17/2008
	Data Release Frequency: No Update Planned

HIST FTTS INSP: FIFRA/TSCA Tracking System Inspection & Enforcement Case Listing

A complete inspection and enforcement case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2008
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

DOT OPS: Incident and Accident Data

Department of Transportation, Office of Pipeline Safety Incident and Accident data.

Date of Government Version: 07/31/2012
Date Data Arrived at EDR: 08/07/2012
Date Made Active in Reports: 09/18/2012
Number of Days to Update: 42

Source: Department of Transportation, Office of Pipeline Safety
Telephone: 202-366-4595
Last EDR Contact: 05/03/2018
Next Scheduled EDR Contact: 08/13/2018
Data Release Frequency: Varies

CONSENT: Superfund (CERCLA) Consent Decrees

Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.

Date of Government Version: 12/31/2017
Date Data Arrived at EDR: 01/24/2018
Date Made Active in Reports: 04/13/2018
Number of Days to Update: 79

Source: Department of Justice, Consent Decree Library
Telephone: Varies
Last EDR Contact: 04/06/2018
Next Scheduled EDR Contact: 07/02/2018
Data Release Frequency: Varies

BRS: Biennial Reporting System

The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.

Date of Government Version: 12/31/2015
Date Data Arrived at EDR: 02/22/2017
Date Made Active in Reports: 09/28/2017
Number of Days to Update: 218

Source: EPA/NTIS
Telephone: 800-424-9346
Last EDR Contact: 05/25/2018
Next Scheduled EDR Contact: 09/03/2018
Data Release Frequency: Biennially

INDIAN RESERV: Indian Reservations

This map layer portrays Indian administered lands of the United States that have any area equal to or greater than 640 acres.

Date of Government Version: 12/31/2014
Date Data Arrived at EDR: 07/14/2015
Date Made Active in Reports: 01/10/2017
Number of Days to Update: 546

Source: USGS
Telephone: 202-208-3710
Last EDR Contact: 04/11/2018
Next Scheduled EDR Contact: 07/23/2018
Data Release Frequency: Semi-Annually

FUSRAP: Formerly Utilized Sites Remedial Action Program

DOE established the Formerly Utilized Sites Remedial Action Program (FUSRAP) in 1974 to remediate sites where radioactive contamination remained from Manhattan Project and early U.S. Atomic Energy Commission (AEC) operations.

Date of Government Version: 12/23/2016
Date Data Arrived at EDR: 12/27/2016
Date Made Active in Reports: 02/17/2017
Number of Days to Update: 52

Source: Department of Energy
Telephone: 202-586-3559
Last EDR Contact: 05/07/2018
Next Scheduled EDR Contact: 08/20/2018
Data Release Frequency: Varies

UMTRA: Uranium Mill Tailings Sites

Uranium ore was mined by private companies for federal government use in national defense programs. When the mills shut down, large piles of the sand-like material (mill tailings) remain after uranium has been extracted from the ore. Levels of human exposure to radioactive materials from the piles are low; however, in some cases tailings were used as construction materials before the potential health hazards of the tailings were recognized.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 06/23/2017
Date Data Arrived at EDR: 10/11/2017
Date Made Active in Reports: 11/03/2017
Number of Days to Update: 23

Source: Department of Energy
Telephone: 505-845-0011
Last EDR Contact: 05/18/2018
Next Scheduled EDR Contact: 09/03/2018
Data Release Frequency: Varies

LEAD SMELTER 1: Lead Smelter Sites

A listing of former lead smelter site locations.

Date of Government Version: 01/09/2018
Date Data Arrived at EDR: 02/06/2018
Date Made Active in Reports: 03/02/2018
Number of Days to Update: 24

Source: Environmental Protection Agency
Telephone: 703-603-8787
Last EDR Contact: 05/30/2018
Next Scheduled EDR Contact: 07/16/2018
Data Release Frequency: Varies

LEAD SMELTER 2: Lead Smelter Sites

A list of several hundred sites in the U.S. where secondary lead smelting was done from 1931 and 1964. These sites may pose a threat to public health through ingestion or inhalation of contaminated soil or dust

Date of Government Version: 04/05/2001
Date Data Arrived at EDR: 10/27/2010
Date Made Active in Reports: 12/02/2010
Number of Days to Update: 36

Source: American Journal of Public Health
Telephone: 703-305-6451
Last EDR Contact: 12/02/2009
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

US AIRS (AFS): Aerometric Information Retrieval System Facility Subsystem (AFS)

The database is a sub-system of Aerometric Information Retrieval System (AIRS). AFS contains compliance data on air pollution point sources regulated by the U.S. EPA and/or state and local air regulatory agencies. This information comes from source reports by various stationary sources of air pollution, such as electric power plants, steel mills, factories, and universities, and provides information about the air pollutants they produce. Action, air program, air program pollutant, and general level plant data. It is used to track emissions and compliance data from industrial plants.

Date of Government Version: 10/12/2016
Date Data Arrived at EDR: 10/26/2016
Date Made Active in Reports: 02/03/2017
Number of Days to Update: 100

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 09/26/2017
Next Scheduled EDR Contact: 01/08/2018
Data Release Frequency: Annually

US AIRS MINOR: Air Facility System Data

A listing of minor source facilities.

Date of Government Version: 10/12/2016
Date Data Arrived at EDR: 10/26/2016
Date Made Active in Reports: 02/03/2017
Number of Days to Update: 100

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 09/26/2017
Next Scheduled EDR Contact: 01/08/2018
Data Release Frequency: Annually

US MINES: Mines Master Index File

Contains all mine identification numbers issued for mines active or opened since 1971. The data also includes violation information.

Date of Government Version: 01/25/2018
Date Data Arrived at EDR: 02/28/2018
Date Made Active in Reports: 05/11/2018
Number of Days to Update: 72

Source: Department of Labor, Mine Safety and Health Administration
Telephone: 303-231-5959
Last EDR Contact: 05/31/2018
Next Scheduled EDR Contact: 09/10/2018
Data Release Frequency: Semi-Annually

US MINES 2: Ferrous and Nonferrous Metal Mines Database Listing

This map layer includes ferrous (ferrous metal mines are facilities that extract ferrous metals, such as iron ore or molybdenum) and nonferrous (Nonferrous metal mines are facilities that extract nonferrous metals, such as gold, silver, copper, zinc, and lead) metal mines in the United States.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 12/05/2005
Date Data Arrived at EDR: 02/29/2008
Date Made Active in Reports: 04/18/2008
Number of Days to Update: 49

Source: USGS
Telephone: 703-648-7709
Last EDR Contact: 05/30/2018
Next Scheduled EDR Contact: 09/10/2018
Data Release Frequency: Varies

US MINES 3: Active Mines & Mineral Plants Database Listing

Active Mines and Mineral Processing Plant operations for commodities monitored by the Minerals Information Team of the USGS.

Date of Government Version: 04/14/2011
Date Data Arrived at EDR: 06/08/2011
Date Made Active in Reports: 09/13/2011
Number of Days to Update: 97

Source: USGS
Telephone: 703-648-7709
Last EDR Contact: 05/30/2018
Next Scheduled EDR Contact: 09/10/2018
Data Release Frequency: Varies

ABANDONED MINES: Abandoned Mines

An inventory of land and water impacted by past mining (primarily coal mining) is maintained by OSMRE to provide information needed to implement the Surface Mining Control and Reclamation Act of 1977 (SMCRA). The inventory contains information on the location, type, and extent of AML impacts, as well as, information on the cost associated with the reclamation of those problems. The inventory is based upon field surveys by State, Tribal, and OSMRE program officials. It is dynamic to the extent that it is modified as new problems are identified and existing problems are reclaimed.

Date of Government Version: 12/20/2017
Date Data Arrived at EDR: 12/21/2017
Date Made Active in Reports: 03/23/2018
Number of Days to Update: 92

Source: Department of Interior
Telephone: 202-208-2609
Last EDR Contact: 03/07/2018
Next Scheduled EDR Contact: 06/25/2018
Data Release Frequency: Quarterly

FINDS: Facility Index System/Facility Registry System

Facility Index System. FINDS contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

Date of Government Version: 02/21/2018
Date Data Arrived at EDR: 02/23/2018
Date Made Active in Reports: 03/23/2018
Number of Days to Update: 28

Source: EPA
Telephone: (404) 562-9900
Last EDR Contact: 02/23/2018
Next Scheduled EDR Contact: 06/18/2018
Data Release Frequency: Quarterly

UXO: Unexploded Ordnance Sites

A listing of unexploded ordnance site locations

Date of Government Version: 09/30/2016
Date Data Arrived at EDR: 10/31/2017
Date Made Active in Reports: 01/12/2018
Number of Days to Update: 73

Source: Department of Defense
Telephone: 703-704-1564
Last EDR Contact: 04/13/2018
Next Scheduled EDR Contact: 07/30/2018
Data Release Frequency: Varies

DOCKET HWC: Hazardous Waste Compliance Docket Listing

A complete list of the Federal Agency Hazardous Waste Compliance Docket Facilities.

Date of Government Version: 01/04/2018
Date Data Arrived at EDR: 01/19/2018
Date Made Active in Reports: 04/13/2018
Number of Days to Update: 84

Source: Environmental Protection Agency
Telephone: 202-564-0527
Last EDR Contact: 03/02/2018
Next Scheduled EDR Contact: 06/11/2018
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

ECHO: Enforcement & Compliance History Information

ECHO provides integrated compliance and enforcement information for about 800,000 regulated facilities nationwide.

Date of Government Version: 01/13/2018
Date Data Arrived at EDR: 01/19/2018
Date Made Active in Reports: 03/02/2018
Number of Days to Update: 42

Source: Environmental Protection Agency
Telephone: 202-564-2280
Last EDR Contact: 03/07/2018
Next Scheduled EDR Contact: 06/18/2018
Data Release Frequency: Quarterly

FUELS PROGRAM: EPA Fuels Program Registered Listing

This listing includes facilities that are registered under the Part 80 (Code of Federal Regulations) EPA Fuels Programs. All companies now are required to submit new and updated registrations.

Date of Government Version: 02/20/2018
Date Data Arrived at EDR: 02/21/2018
Date Made Active in Reports: 03/23/2018
Number of Days to Update: 30

Source: EPA
Telephone: 800-385-6164
Last EDR Contact: 05/23/2018
Next Scheduled EDR Contact: 09/03/2018
Data Release Frequency: Quarterly

AIRS: Permitted Airs Facility Listing

A listing of permitted Airs facilities.

Date of Government Version: 02/20/2018
Date Data Arrived at EDR: 02/20/2018
Date Made Active in Reports: 04/09/2018
Number of Days to Update: 48

Source: Department of Environmental Protection
Telephone: 502-573-3382
Last EDR Contact: 04/30/2018
Next Scheduled EDR Contact: 08/13/2018
Data Release Frequency: Semi-Annually

ASBESTOS: Asbestos Notification Listing

Asbestos sites

Date of Government Version: 03/26/2018
Date Data Arrived at EDR: 03/29/2018
Date Made Active in Reports: 04/18/2018
Number of Days to Update: 20

Source: Department of Environmental Protection
Telephone: 502-782-6780
Last EDR Contact: 02/28/2018
Next Scheduled EDR Contact: 06/18/2018
Data Release Frequency: Varies

COAL ASH: Coal Ash Disposal Sites

A listing of coal ash pond site locations.

Date of Government Version: 12/09/2013
Date Data Arrived at EDR: 05/01/2014
Date Made Active in Reports: 07/07/2014
Number of Days to Update: 67

Source: Department of Environmental Protection
Telephone: 502-564-6716
Last EDR Contact: 04/30/2018
Next Scheduled EDR Contact: 08/13/2018
Data Release Frequency: Varies

DRYCLEANERS: Drycleaner Listing

A listing of drycleaner facility locations.

Date of Government Version: 02/20/2018
Date Data Arrived at EDR: 02/20/2018
Date Made Active in Reports: 04/18/2018
Number of Days to Update: 57

Source: Department of Environmental Protection
Telephone: 502-573-3382
Last EDR Contact: 04/30/2018
Next Scheduled EDR Contact: 08/13/2018
Data Release Frequency: Semi-Annually

Financial Assurance 1: Financial Assurance Information Listing

A listing of financial assurance information.

Date of Government Version: 02/20/2018
Date Data Arrived at EDR: 02/23/2018
Date Made Active in Reports: 04/18/2018
Number of Days to Update: 54

Source: Department of Environmental Protection
Telephone: 502-564-6716
Last EDR Contact: 04/30/2018
Next Scheduled EDR Contact: 08/13/2018
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Financial Assurance 2: Financial Assurance Information Listing

Financial Assurance information for underground storage tank facilities. Financial assurance is intended to ensure that resources are available to pay for the cost of closure, post-closure care, and corrective measures if the owner or operator of a regulated facility is unable or unwilling to pay.

Date of Government Version: 05/14/2014	Source: Department of Environmental Protection
Date Data Arrived at EDR: 06/06/2014	Telephone: 502-564-5981
Date Made Active in Reports: 06/24/2014	Last EDR Contact: 04/26/2018
Number of Days to Update: 18	Next Scheduled EDR Contact: 08/13/2018
	Data Release Frequency: Varies

Financial Assurance 3: Financial Assurance Information Listing

A listing of financial assurance information for solid waste facilities. Financial assurance is intended to ensure that resources are available to pay for the cost of closure, post-closure care, and corrective measures if the owner or operator of a regulated facility is unable or unwilling to pay.

Date of Government Version: 02/21/2018	Source: Department of Environmental Protection
Date Data Arrived at EDR: 02/23/2018	Telephone: 502-564-6716
Date Made Active in Reports: 04/19/2018	Last EDR Contact: 04/30/2018
Number of Days to Update: 55	Next Scheduled EDR Contact: 08/13/2018
	Data Release Frequency: Varies

LEAD: Environmental Lead Program Report Tracking Database

Lead Report Tracking Database

Date of Government Version: 01/27/2017	Source: Department of Public Health
Date Data Arrived at EDR: 02/02/2017	Telephone: 502-564-4537
Date Made Active in Reports: 08/21/2017	Last EDR Contact: 05/07/2018
Number of Days to Update: 200	Next Scheduled EDR Contact: 08/20/2018
	Data Release Frequency: Varies

NPDES: Permitted Facility Listing

A listing of permitted wastewater facilities.

Date of Government Version: 04/20/2018	Source: Department of Environmental Protection
Date Data Arrived at EDR: 04/24/2018	Telephone: 502-564-3410
Date Made Active in Reports: 04/30/2018	Last EDR Contact: 05/07/2018
Number of Days to Update: 6	Next Scheduled EDR Contact: 08/20/2018
	Data Release Frequency: Semi-Annually

UIC: UIC Information

A listing of wells identified as underground injection wells, in the Kentucky Oil & Gas Wells data base.

Date of Government Version: 03/27/2018	Source: Kentucky Geological Survey
Date Data Arrived at EDR: 04/17/2018	Telephone: 859-323-0544
Date Made Active in Reports: 04/26/2018	Last EDR Contact: 04/17/2018
Number of Days to Update: 9	Next Scheduled EDR Contact: 07/30/2018
	Data Release Frequency: Quarterly

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP: EDR Proprietary Manufactured Gas Plants

The EDR Proprietary Manufactured Gas Plant Database includes records of coal gas plants (manufactured gas plants) compiled by EDR's researchers. Manufactured gas sites were used in the United States from the 1800's to 1950's to produce a gas that could be distributed and used as fuel. These plants used whale oil, rosin, coal, or a mixture of coal, oil, and water that also produced a significant amount of waste. Many of the byproducts of the gas production, such as coal tar (oily waste containing volatile and non-volatile chemicals), sludges, oils and other compounds are potentially hazardous to human health and the environment. The byproduct from this process was frequently disposed of directly at the plant site and can remain or spread slowly, serving as a continuous source of soil and groundwater contamination.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

EDR Hist Auto: EDR Exclusive Historical Auto Stations

EDR has searched selected national collections of business directories and has collected listings of potential gas station/filling station/service station sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include gas station/filling station/service station establishments. The categories reviewed included, but were not limited to gas, gas station, gasoline station, filling station, auto, automobile repair, auto service station, service station, etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR Hist Cleaner: EDR Exclusive Historical Cleaners

EDR has searched selected national collections of business directories and has collected listings of potential dry cleaner sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include dry cleaning establishments. The categories reviewed included, but were not limited to dry cleaners, cleaners, laundry, laundromat, cleaning/laundry, wash & dry etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA HWS: Recovered Government Archive State Hazardous Waste Facilities List

The EDR Recovered Government Archive State Hazardous Waste database provides a list of SHWS incidents derived from historical databases and includes many records that no longer appear in current government lists.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 01/03/2014
Number of Days to Update: 186

Source: Department of Environmental Protection
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

RGA LF: Recovered Government Archive Solid Waste Facilities List

The EDR Recovered Government Archive Landfill database provides a list of landfills derived from historical databases and includes many records that no longer appear in current government lists.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 01/15/2014
Number of Days to Update: 198

Source: Department of Environmental Protection
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

OTHER DATABASE(S)

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

CT MANIFEST: Hazardous Waste Manifest Data

Facility and manifest data. Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a tsd facility.

Date of Government Version: 01/03/2018
Date Data Arrived at EDR: 02/14/2018
Date Made Active in Reports: 03/22/2018
Number of Days to Update: 36

Source: Department of Energy & Environmental Protection
Telephone: 860-424-3375
Last EDR Contact: 05/18/2018
Next Scheduled EDR Contact: 08/27/2018
Data Release Frequency: No Update Planned

NJ MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 12/31/2016
Date Data Arrived at EDR: 04/11/2017
Date Made Active in Reports: 07/27/2017
Number of Days to Update: 107

Source: Department of Environmental Protection
Telephone: N/A
Last EDR Contact: 04/23/2018
Next Scheduled EDR Contact: 07/23/2018
Data Release Frequency: Annually

NY MANIFEST: Facility and Manifest Data

Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a TSD facility.

Date of Government Version: 12/31/2017
Date Data Arrived at EDR: 01/31/2018
Date Made Active in Reports: 03/09/2018
Number of Days to Update: 37

Source: Department of Environmental Conservation
Telephone: 518-402-8651
Last EDR Contact: 05/03/2018
Next Scheduled EDR Contact: 08/13/2018
Data Release Frequency: Quarterly

PA MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 12/31/2016
Date Data Arrived at EDR: 07/25/2017
Date Made Active in Reports: 09/25/2017
Number of Days to Update: 62

Source: Department of Environmental Protection
Telephone: 717-783-8990
Last EDR Contact: 04/12/2018
Next Scheduled EDR Contact: 07/30/2018
Data Release Frequency: Annually

RI MANIFEST: Manifest information

Hazardous waste manifest information

Date of Government Version: 12/31/2017
Date Data Arrived at EDR: 02/23/2018
Date Made Active in Reports: 04/09/2018
Number of Days to Update: 45

Source: Department of Environmental Management
Telephone: 401-222-2797
Last EDR Contact: 05/21/2018
Next Scheduled EDR Contact: 09/03/2018
Data Release Frequency: Annually

WI MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 12/31/2016
Date Data Arrived at EDR: 04/13/2017
Date Made Active in Reports: 07/14/2017
Number of Days to Update: 92

Source: Department of Natural Resources
Telephone: N/A
Last EDR Contact: 03/08/2018
Next Scheduled EDR Contact: 06/25/2018
Data Release Frequency: Annually

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Oil/Gas Pipelines

Source: PennWell Corporation

Petroleum Bundle (Crude Oil, Refined Products, Petrochemicals, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)) N = Natural Gas Bundle (Natural Gas, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)). This map includes information copyrighted by PennWell Corporation. This information is provided on a best effort basis and PennWell Corporation does not guarantee its accuracy nor warrant its fitness for any particular purpose. Such information has been reprinted with the permission of PennWell.

Electric Power Transmission Line Data

Source: PennWell Corporation

This map includes information copyrighted by PennWell Corporation. This information is provided on a best effort basis and PennWell Corporation does not guarantee its accuracy nor warrant its fitness for any particular purpose. Such information has been reprinted with the permission of PennWell.

Sensitive Receptors: There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycares, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

AHA Hospitals:

Source: American Hospital Association, Inc.

Telephone: 312-280-5991

The database includes a listing of hospitals based on the American Hospital Association's annual survey of hospitals.

Medical Centers: Provider of Services Listing

Source: Centers for Medicare & Medicaid Services

Telephone: 410-786-3000

A listing of hospitals with Medicare provider number, produced by Centers of Medicare & Medicaid Services, a federal agency within the U.S. Department of Health and Human Services.

Nursing Homes

Source: National Institutes of Health

Telephone: 301-594-6248

Information on Medicare and Medicaid certified nursing homes in the United States.

Public Schools

Source: National Center for Education Statistics

Telephone: 202-502-7300

The National Center for Education Statistics' primary database on elementary and secondary public education in the United States. It is a comprehensive, annual, national statistical database of all public elementary and secondary schools and school districts, which contains data that are comparable across all states.

Private Schools

Source: National Center for Education Statistics

Telephone: 202-502-7300

The National Center for Education Statistics' primary database on private school locations in the United States.

Daycare Centers: Certified Child Care Homes

Source: Cabinet for Families & Children

Telephone: 502-564-7130

Flood Zone Data: This data was obtained from the Federal Emergency Management Agency (FEMA). It depicts 100-year and 500-year flood zones as defined by FEMA. It includes the National Flood Hazard Layer (NFHL) which incorporates Flood Insurance Rate Map (FIRM) data and Q3 data from FEMA in areas not covered by NFHL.

Source: FEMA

Telephone: 877-336-2627

Date of Government Version: 2003, 2015

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005 and 2010 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Wetland Inventory

Source: Environmental & Public Protection Cabinet

Telephone: 502-564-6736

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Current USGS 7.5 Minute Topographic Map
Source: U.S. Geological Survey

STREET AND ADDRESS INFORMATION

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GEOCHECK[®] - PHYSICAL SETTING SOURCE ADDENDUM

TARGET PROPERTY ADDRESS

4675 ST. RT 181181 N
4675 ST. RT 181181 N
GREENVILLE, KY 42345

TARGET PROPERTY COORDINATES

Latitude (North):	37.255105 - 37° 15' 18.38"
Longitude (West):	87.205362 - 87° 12' 19.30"
Universal Transverse Mercator:	Zone 16
UTM X (Meters):	481788.5
UTM Y (Meters):	4122988.5
Elevation:	518 ft. above sea level

USGS TOPOGRAPHIC MAP

Target Property Map:	5942289 CENTRAL CITY WEST, KY
Version Date:	2013
South Map:	5942313 GREENVILLE, KY
Version Date:	2013

EDR's GeoCheck Physical Setting Source Addendum is provided to assist the environmental professional in forming an opinion about the impact of potential contaminant migration.

Assessment of the impact of contaminant migration generally has two principal investigative components:

1. Groundwater flow direction, and
2. Groundwater flow velocity.

Groundwater flow direction may be impacted by surface topography, hydrology, hydrogeology, characteristics of the soil, and nearby wells. Groundwater flow velocity is generally impacted by the nature of the geologic strata.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW DIRECTION INFORMATION

Groundwater flow direction for a particular site is best determined by a qualified environmental professional using site-specific well data. If such data is not reasonably ascertainable, it may be necessary to rely on other sources of information, such as surface topographic information, hydrologic information, hydrogeologic data collected on nearby properties, and regional groundwater flow information (from deep aquifers).

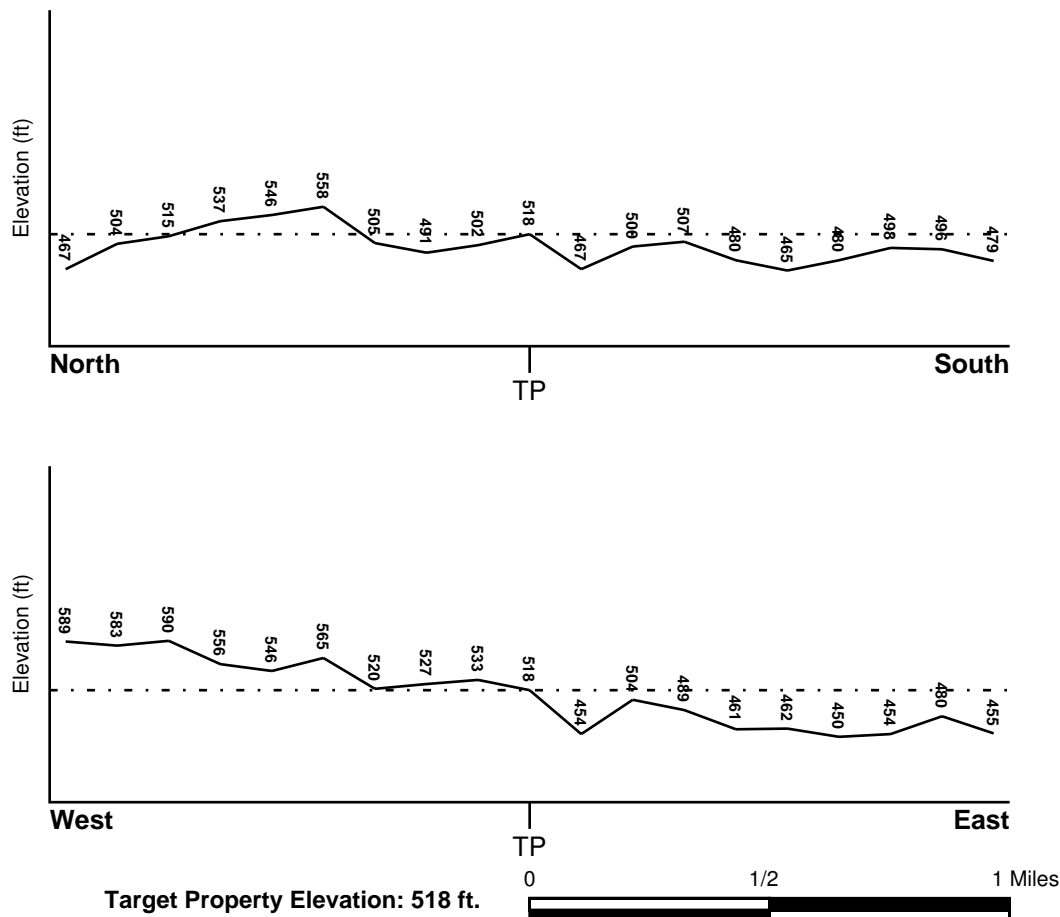
TOPOGRAPHIC INFORMATION

Surface topography may be indicative of the direction of surficial groundwater flow. This information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

TARGET PROPERTY TOPOGRAPHY

General Topographic Gradient: General ESE

SURROUNDING TOPOGRAPHY: ELEVATION PROFILES



Source: Topography has been determined from the USGS 7.5' Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

HYDROLOGIC INFORMATION

Surface water can act as a hydrologic barrier to groundwater flow. Such hydrologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Refer to the Physical Setting Source Map following this summary for hydrologic information (major waterways and bodies of water).

FEMA FLOOD ZONE

<u>Flood Plain Panel at Target Property</u>	<u>FEMA Source Type</u>
21177C0140C	FEMA FIRM Flood data
<u>Additional Panels in search area:</u>	<u>FEMA Source Type</u>
21177C0145C	FEMA FIRM Flood data
21177C0227C	FEMA FIRM Flood data
21177C0230C	FEMA FIRM Flood data

NATIONAL WETLAND INVENTORY

<u>NWI Quad at Target Property</u>	<u>NWI Electronic Data Coverage</u>
CENTRAL CITY WEST	YES - refer to the Overview Map and Detail Map

HYDROGEOLOGIC INFORMATION

Hydrogeologic information obtained by installation of wells on a specific site can often be an indicator of groundwater flow direction in the immediate area. Such hydrogeologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

AQUIFLOW®

Search Radius: 1.000 Mile.

EDR has developed the AQUIFLOW Information System to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted by environmental professionals to regulatory authorities at select sites and has extracted the date of the report, groundwater flow direction as determined hydrogeologically, and the depth to water table.

<u>MAP ID</u>	<u>LOCATION FROM TP</u>	<u>GENERAL DIRECTION GROUNDWATER FLOW</u>
Not Reported		

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW VELOCITY INFORMATION

Groundwater flow velocity information for a particular site is best determined by a qualified environmental professional using site specific geologic and soil strata data. If such data are not reasonably ascertainable, it may be necessary to rely on other sources of information, including geologic age identification, rock stratigraphic unit and soil characteristics data collected on nearby properties and regional soil information. In general, contaminant plumes move more quickly through sandy-gravelly types of soils than silty-clayey types of soils.

GEOLOGIC INFORMATION IN GENERAL AREA OF TARGET PROPERTY

Geologic information can be used by the environmental professional in forming an opinion about the relative speed at which contaminant migration may be occurring.

ROCK STRATIGRAPHIC UNIT

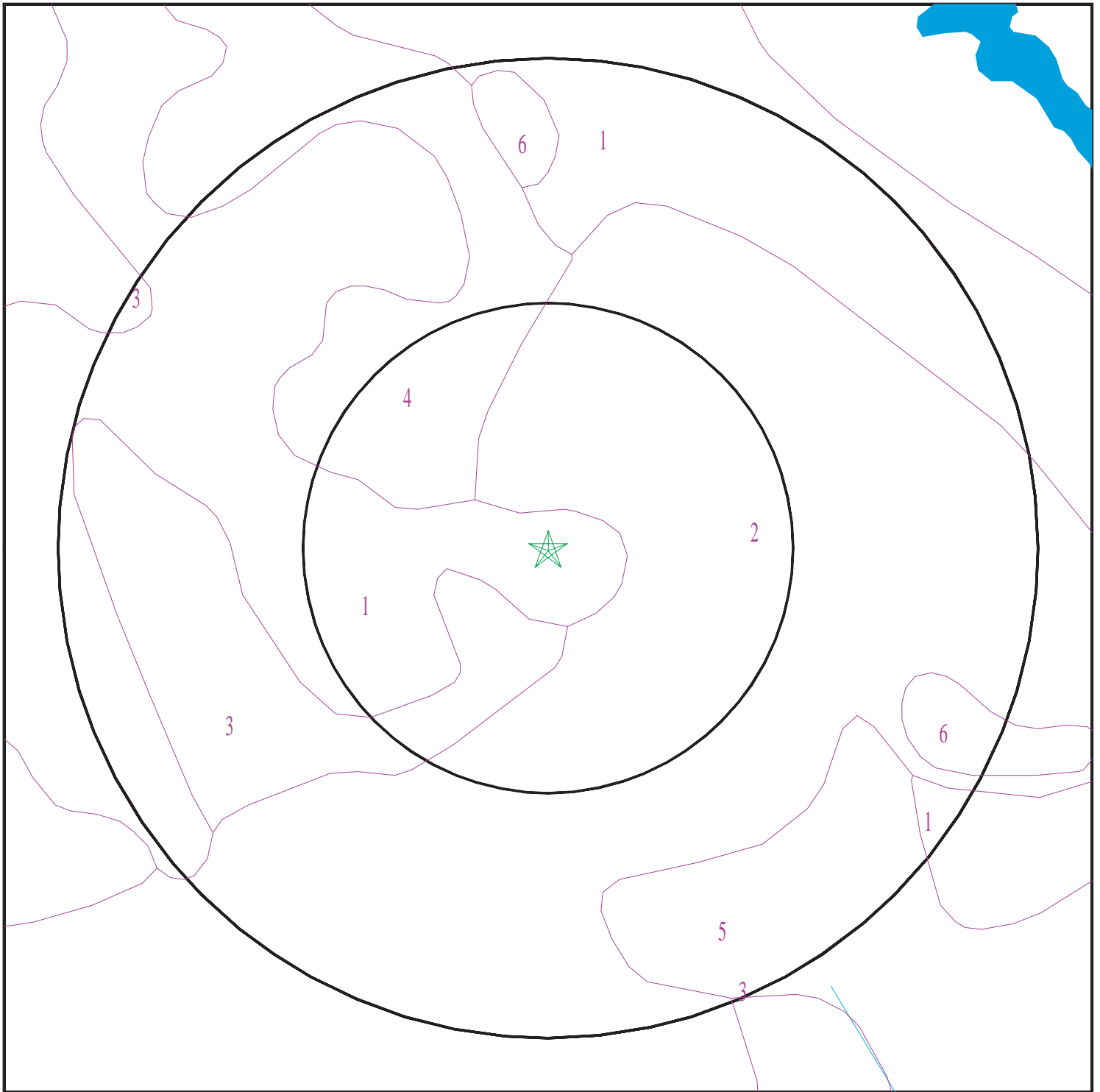
Era:	Paleozoic
System:	Pennsylvanian
Series:	Des Moinesian Series
Code:	PP2 (<i>decoded above as Era, System & Series</i>)

GEOLOGIC AGE IDENTIFICATION

Category: Stratified Sequence

Geologic Age and Rock Stratigraphic Unit Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - a digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

SSURGO SOIL MAP - 5319051.2s



- ★ Target Property
- SSURGO Soil
- Water

0 1/16 1/8 1/4 Miles



SITE NAME: 4675 St. Rt 181181 N
ADDRESS: 4675 St. Rt 181181 N
Greenville KY 42345
LAT/LONG: 37.255105 / 87.205362

CLIENT: AECOM
CONTACT: Jacquelyn Harrington
INQUIRY #: 5319051.2s
DATE: June 01, 2018 1:30 pm

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

DOMINANT SOIL COMPOSITION IN GENERAL AREA OF TARGET PROPERTY

The U.S. Department of Agriculture's (USDA) Soil Conservation Service (SCS) leads the National Cooperative Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. The following information is based on Soil Conservation Service SSURGO data.

Soil Map ID: 1

Soil Component Name: Sadler

Soil Surface Texture: silt loam

Hydrologic Group: Class C - Slow infiltration rates. Soils with layers impeding downward movement of water, or soils with moderately fine or fine textures.

Soil Drainage Class: Moderately well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Moderate

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 56 inches

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
1	0 inches	7 inches	silt loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	Not reported	Max: 14.11 Min: 4.23	Max: 6.5 Min: 4.5
2	7 inches	25 inches	silt loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	Not reported	Max: 14.11 Min: 4.23	Max: 5.5 Min: 4.5
3	25 inches	44 inches	silt loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	Not reported	Max: 1.41 Min: 0.42	Max: 5.5 Min: 4.5
4	44 inches	59 inches	silty clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	Not reported	Max: 14.11 Min: 1.41	Max: 5.5 Min: 4.5

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Map ID: 2

Soil Component Name: Udorthents

Soil Surface Texture: silt loam

Hydrologic Group: Class C - Slow infiltration rates. Soils with layers impeding downward movement of water, or soils with moderately fine or fine textures.

Soil Drainage Class:
Hydric Status: Partially hydric

Corrosion Potential - Uncoated Steel: Not Reported

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

No Layer Information available.

Soil Map ID: 3

Soil Component Name: Wellston

Soil Surface Texture: silt loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Moderate

Depth to Bedrock Min: > 132 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
1	0 inches	7 inches	silt loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	Not reported	Max: 14.11 Min: 4.23	Max: 6.5 Min: 4.5

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
2	7 inches	29 inches	silt loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	Not reported	Max: 14.11 Min: 4.23	Max: 5.5 Min: 4.5
3	29 inches	51 inches	silt loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	Not reported	Max: 14.11 Min: 4.23	Max: 5.5 Min: 4.5
4	51 inches	55 inches	unweathered bedrock	Not reported	Not reported	Max: Min:	Max: Min:

Soil Map ID: 4

Soil Component Name: Wellston

Soil Surface Texture: silt loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Moderate

Depth to Bedrock Min: > 132 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
1	0 inches	7 inches	silt loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	Not reported	Max: 14.11 Min: 4.23	Max: 6.5 Min: 4.5

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
2	7 inches	29 inches	silt loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	Not reported	Max: 14.11 Min: 4.23	Max: 5.5 Min: 4.5
3	29 inches	51 inches	loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	Not reported	Max: 14.11 Min: 4.23	Max: 5.5 Min: 4.5
4	51 inches	55 inches	unweathered bedrock	Not reported	Not reported	Max: Min:	Max: Min:

Soil Map ID: 5

Soil Component Name: Dumps

Soil Surface Texture: silt loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class:
Hydric Status: Partially hydric

Corrosion Potential - Uncoated Steel: Not Reported

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

No Layer Information available.

Soil Map ID: 6

Soil Component Name: Water

Soil Surface Texture: silt loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class:

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Not Reported

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

No Layer Information available.

LOCAL / REGIONAL WATER AGENCY RECORDS

EDR Local/Regional Water Agency records provide water well information to assist the environmental professional in assessing sources that may impact ground water flow direction, and in forming an opinion about the impact of contaminant migration on nearby drinking water wells.

WELL SEARCH DISTANCE INFORMATION

<u>DATABASE</u>	<u>SEARCH DISTANCE (miles)</u>
Federal USGS	1.000
Federal FRDS PWS	Nearest PWS within 1 mile
State Database	1.000

FEDERAL USGS WELL INFORMATION

<u>MAP ID</u>	<u>WELL ID</u>	<u>LOCATION FROM TP</u>
No Wells Found		

FEDERAL FRDS PUBLIC WATER SUPPLY SYSTEM INFORMATION

<u>MAP ID</u>	<u>WELL ID</u>	<u>LOCATION FROM TP</u>
No PWS System Found		

Note: PWS System location is not always the same as well location.

STATE DATABASE WELL INFORMATION

<u>MAP ID</u>	<u>WELL ID</u>	<u>LOCATION FROM TP</u>
A1	KY6000000082590	1/2 - 1 Mile NW
A2	KY6000000097959	1/2 - 1 Mile NW
A3	KY6000000097954	1/2 - 1 Mile NW
4	KY6000000074624	1/2 - 1 Mile North

OTHER STATE DATABASE INFORMATION

STATE OIL/GAS WELL INFORMATION

<u>MAP ID</u>	<u>WELL ID</u>	<u>LOCATION FROM TP</u>
1	KYOG11000141919	0 - 1/8 Mile WNW

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

STATE OIL/GAS WELL INFORMATION

MAP ID

2

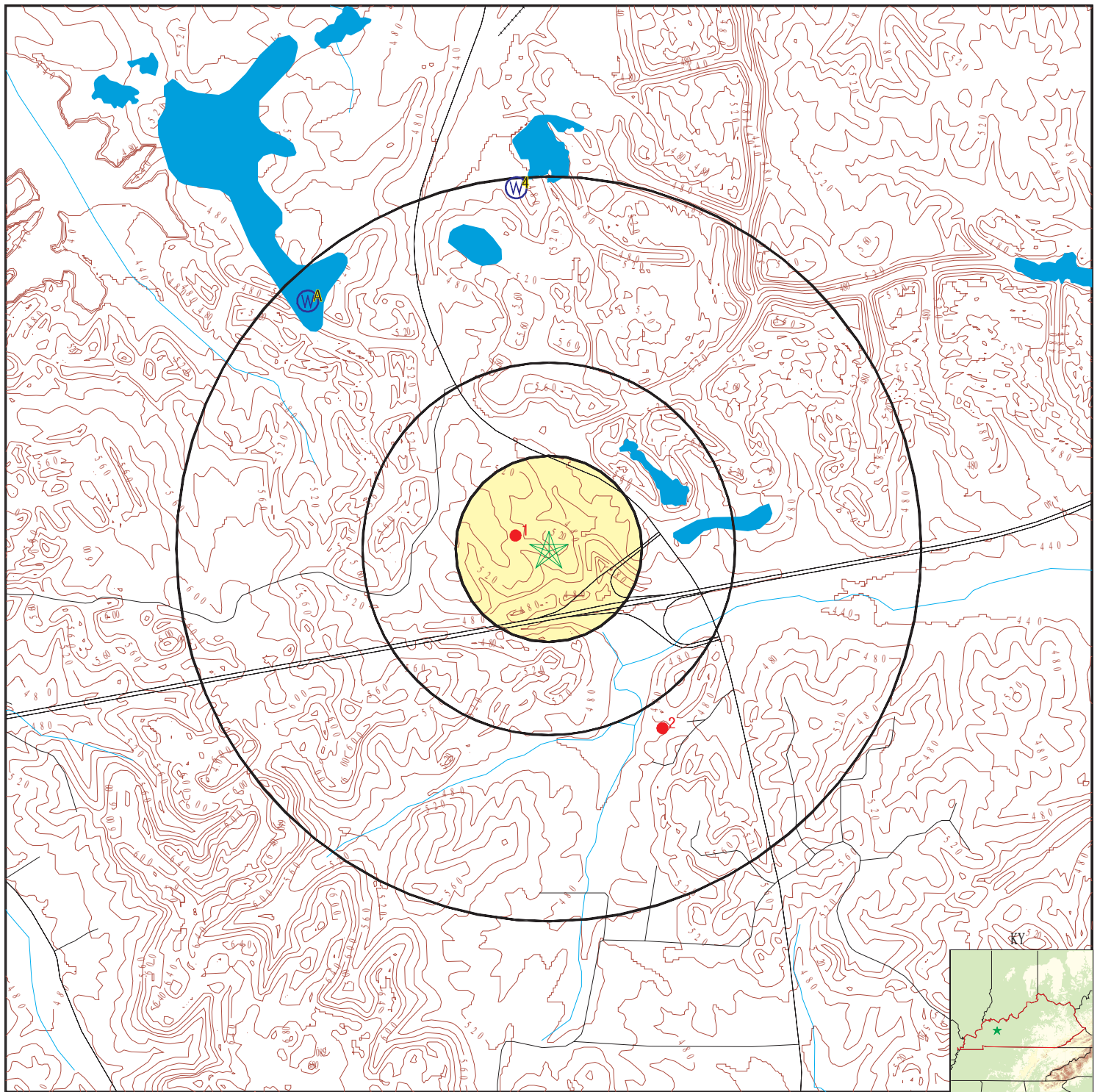
WELL ID

KYOG11000141402

LOCATION
FROM TP

1/2 - 1 Mile SSE

PHYSICAL SETTING SOURCE MAP - 5319051.2s



- County Boundary
- Major Roads
- Contour Lines
- Earthquake epicenter, Richter 5 or greater
- Water Wells
- Public Water Supply Wells
- Cluster of Multiple Icons

- Groundwater Flow Direction
- Indeterminate Groundwater Flow at Location
- Groundwater Flow Varies at Location
- Oil, gas or related wells



SITE NAME: 4675 St. Rt 181181 N
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 Greenville KY 42345
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CLIENT: AECOM
 CONTACT: Jacquelyn Harrington
 INQUIRY #: 5319051.2s
 DATE: June 01, 2018 1:30 pm

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

Database EDR ID Number

A1
NW
1/2 - 1 Mile
Higher

KY WELLS KY6000000082590

Fid:	82589	Akgwa:	80042048
Altid:	MW-04		
Latdecimal:	37.26475		
Longdecima:	-87.21697222		
County:	Muhlenberg		
Quadname:	Central City West		
Physiograp:	W. Coal Field		
Type:	M		
Surfaceele:	500		
Usage:	Mining		
Enddate:	12-FEB-01	Site id:	KY6000000082590

A2
NW
1/2 - 1 Mile
Higher

KY WELLS KY6000000097959

Fid:	97958	Akgwa:	80067120
Altid:	MW-01		
Latdecimal:	37.264754		
Longdecima:	-87.217172		
County:	Muhlenberg		
Quadname:	Central City West		
Physiograp:	W. Coal Field		
Type:	M		
Surfaceele:	447		
Usage:	Monitoring Well - Ambient Monitoring		
Enddate:	28-APR-13	Site id:	KY6000000097959

A3
NW
1/2 - 1 Mile
Higher

KY WELLS KY6000000097954

Fid:	97953	Akgwa:	80067115
Altid:	MW-06		
Latdecimal:	37.264754		
Longdecima:	-87.217172		
County:	Muhlenberg		
Quadname:	Central City West		
Physiograp:	W. Coal Field		
Type:	M		
Surfaceele:	0		
Usage:	Monitoring Well - Ambient Monitoring		
Enddate:	30-MAR-13	Site id:	KY6000000097954

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

Database

EDR ID Number

4

North
1/2 - 1 Mile
Lower

KY WELLS

KY6000000074624

Fid: 74623
Altid: Not Reported
Latdecimal: 37.26916667
Longdecima: -87.20694444
County: Muhlenberg
Quadname: Central City West
Physiograp: W. Coal Field
Type: M
Surfaceele: 0
Usage: Mining
Enddate: 19-NOV-99

Akgwa:

80030543

Site id:

KY6000000074624

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance

Database EDR ID Number

1
WNW
0 - 1/8 Mile

OIL_GAS KYOG11000141919

Api:	16177040470000	Kgs recno:	2031638
Letter:	J	Number :	28
Section:	23	Fns:	2047
Ns:	S	Few:	2033
Ew:	E	Surf elev:	520
Usqs quad:	CENTRAL CITY WEST	County:	MUHLENBERG
Org farm:	PEABODY COAL CO (F TODD)		
Org oper:	HAR-KEN OIL CO		
Org wellno:	1	Td:	2265
Tdfm:	330MSSP	Deepst pay:	000
lof ip:	Not Reported	Org wclass:	UNC
Org result:	D&A	Cmpl date:	07-MAY-73
Plug date:	30-DEC-99	Plug afdvt:	Not Reported
Core:	Not Reported	Cuttings:	12611
Elog:	SPR	Plotsymbol:	D&A
Kgs permit:	26842		
Images:	http://kgs.uky.edu/oilgasimages/0/2/0/3/1/R02031638/R02031638.djvu?djvuopts&thumbnails=yes&menu=yes&zoom=page		
Bore type:	V		
Rec lat27:	37.255621		
Rec lng27:	-87.206984		
Rec lat83:	37.255622		
Rec lng83:	-87.206985	Site id:	KYOG11000141919

2
SSE
1/2 - 1 Mile

OIL_GAS KYOG11000141402

Api:	16177041030000	Kgs recno:	2030692
Letter:	I	Number :	28
Section:	2	Fns:	700
Ns:	N	Few:	50
Ew:	W	Surf elev:	478
Usqs quad:	GREENVILLE	County:	MUHLENBERG
Org farm:	RAY, OLLIE		
Org oper:	CREEK OIL CO		
Org wellno:	1	Td:	2235
Tdfm:	333MSSPM	Deepst pay:	000
lof ip:	Not Reported	Org wclass:	UNC
Org result:	D&A	Cmpl date:	30-DEC-60
Plug date:	04-JAN-61	Plug afdvt:	Not Reported
Core:	Not Reported	Cuttings:	0
Elog:	Not Reported	Plotsymbol:	D&A
Kgs permit:	1565		
Images:	http://kgs.uky.edu/oilgasimages/0/2/0/3/0/R02030692/R02030692.djvu?djvuopts&thumbnails=yes&menu=yes&zoom=page		
Bore type:	V		
Rec lat27:	37.248077		
Rec lng27:	-87.199828		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Rec lat83:
Rec lng83:

37.24812
-87.199824

Site id:

KYOG11000141402

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS RADON

AREA RADON INFORMATION

State Database: KY Radon

Radon Test Results

Zip	Test Date	Test Result
42345	10/13/2003	12.10
42345	3/17/2004	1.00
42345	5/21/2004	1.00
42345	8/31/2004	1.80
42345	2/1/2002	1.40
42345	2/11/2002	1.50
42345	2/1/2002	1.40
42345	2/11/2002	1.50
42345	1/27/2003	0.20
42345	3/9/2003	0.90
42345	2/17/2003	0.90
42345	4/16/2003	2.20

Federal EPA Radon Zone for MUHLENBERG County: 2

Note: Zone 1 indoor average level > 4 pCi/L.
: Zone 2 indoor average level >= 2 pCi/L and <= 4 pCi/L.
: Zone 3 indoor average level < 2 pCi/L.

Federal Area Radon Information for Zip Code: 42345

Number of sites tested: 2

Area	Average Activity	% <4 pCi/L	% 4-20 pCi/L	% >20 pCi/L
Living Area - 1st Floor	0.500 pCi/L	100%	0%	0%
Living Area - 2nd Floor	Not Reported	Not Reported	Not Reported	Not Reported
Basement	8.500 pCi/L	0%	100%	0%

PHYSICAL SETTING SOURCE RECORDS SEARCHED

TOPOGRAPHIC INFORMATION

USGS 7.5' Digital Elevation Model (DEM)

Source: United States Geologic Survey

EDR acquired the USGS 7.5' Digital Elevation Model in 2002 and updated it in 2006. The 7.5 minute DEM corresponds to the USGS 1:24,000- and 1:25,000-scale topographic quadrangle maps. The DEM provides elevation data with consistent elevation units and projection.

Current USGS 7.5 Minute Topographic Map

Source: U.S. Geological Survey

HYDROLOGIC INFORMATION

Flood Zone Data: This data was obtained from the Federal Emergency Management Agency (FEMA). It depicts 100-year and 500-year flood zones as defined by FEMA. It includes the National Flood Hazard Layer (NFHL) which incorporates Flood Insurance Rate Map (FIRM) data and Q3 data from FEMA in areas not covered by NFHL.

Source: FEMA

Telephone: 877-336-2627

Date of Government Version: 2003, 2015

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005 and 2010 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Wetland Inventory

Source: Environmental & Public Protection Cabinet

Telephone: 502-564-6736

HYDROGEOLOGIC INFORMATION

AQUIFLOW^R Information System

Source: EDR proprietary database of groundwater flow information

EDR has developed the AQUIFLOW Information System (AIS) to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted to regulatory authorities at select sites and has extracted the date of the report, hydrogeologically determined groundwater flow direction and depth to water table information.

GEOLOGIC INFORMATION

Geologic Age and Rock Stratigraphic Unit

Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - A digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

STATSGO: State Soil Geographic Database

Source: Department of Agriculture, Natural Resources Conservation Service (NRCS)

The U.S. Department of Agriculture's (USDA) Natural Resources Conservation Service (NRCS) leads the national Conservation Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps.

SSURGO: Soil Survey Geographic Database

Source: Department of Agriculture, Natural Resources Conservation Service (NRCS)

Telephone: 800-672-5559

SSURGO is the most detailed level of mapping done by the Natural Resources Conservation Service, mapping scales generally range from 1:12,000 to 1:63,360. Field mapping methods using national standards are used to construct the soil maps in the Soil Survey Geographic (SSURGO) database. SSURGO digitizing duplicates the original soil survey maps. This level of mapping is designed for use by landowners, townships and county natural resource planning and management.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

LOCAL / REGIONAL WATER AGENCY RECORDS

FEDERAL WATER WELLS

PWS: Public Water Systems

Source: EPA/Office of Drinking Water

Telephone: 202-564-3750

Public Water System data from the Federal Reporting Data System. A PWS is any water system which provides water to at least 25 people for at least 60 days annually. PWSs provide water from wells, rivers and other sources.

PWS ENF: Public Water Systems Violation and Enforcement Data

Source: EPA/Office of Drinking Water

Telephone: 202-564-3750

Violation and Enforcement data for Public Water Systems from the Safe Drinking Water Information System (SDWIS) after August 1995. Prior to August 1995, the data came from the Federal Reporting Data System (FRDS).

USGS Water Wells: USGS National Water Inventory System (NWIS)

This database contains descriptive information on sites where the USGS collects or has collected data on surface water and/or groundwater. The groundwater data includes information on wells, springs, and other sources of groundwater.

STATE RECORDS

Kentucky Water Well Records Database

Source: Kentucky Geological Survey

Telephone: 859-257-5500

Water Wells in Kentucky. Data from the Kentucky Ground Water Data Repository.

OTHER STATE DATABASE INFORMATION

Oil and Gas Well Locations

Source: Kentucky Geological Survey

Telephone: 859-257-5500

Oil and gas well locations in the state of Kentucky

RADON

State Database: KY Radon

Source: Department of Public Health

Telephone: 502-564-4856

Radon Test Results

Area Radon Information

Source: USGS

Telephone: 703-356-4020

The National Radon Database has been developed by the U.S. Environmental Protection Agency (USEPA) and is a compilation of the EPA/State Residential Radon Survey and the National Residential Radon Survey. The study covers the years 1986 - 1992. Where necessary data has been supplemented by information collected at private sources such as universities and research institutions.

EPA Radon Zones

Source: EPA

Telephone: 703-356-4020

Sections 307 & 309 of IRRA directed EPA to list and identify areas of U.S. with the potential for elevated indoor radon levels.

OTHER

Airport Landing Facilities: Private and public use landing facilities

Source: Federal Aviation Administration, 800-457-6656

Epicenters: World earthquake epicenters, Richter 5 or greater

Source: Department of Commerce, National Oceanic and Atmospheric Administration

Earthquake Fault Lines: The fault lines displayed on EDR's Topographic map are digitized quaternary faultlines, prepared in 1975 by the United State Geological Survey

PHYSICAL SETTING SOURCE RECORDS SEARCHED

STREET AND ADDRESS INFORMATION

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4675 St. Rt 181181 N

4675 St. Rt 181181 N

Greenville, KY 42345

Inquiry Number: 5319051.3

June 01, 2018

Certified Sanborn® Map Report



6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

Certified Sanborn® Map Report

06/01/18

Site Name:

4675 St. Rt 181181 N
4675 St. Rt 181181 N
Greenville, KY 42345
EDR Inquiry # 5319051.3

Client Name:

AECOM
12120 Shamrock Plaza
Omaha, NE 68154
Contact: Jacquelyn Harrington



The Sanborn Library has been searched by EDR and maps covering the target property location as provided by AECOM were identified for the years listed below. The Sanborn Library is the largest, most complete collection of fire insurance maps. The collection includes maps from Sanborn, Bromley, Perris & Browne, Hopkins, Barlow, and others. Only Environmental Data Resources Inc. (EDR) is authorized to grant rights for commercial reproduction of maps by the Sanborn Library LLC, the copyright holder for the collection. Results can be authenticated by visiting www.edrnet.com/sanborn.

The Sanborn Library is continually enhanced with newly identified map archives. This report accesses all maps in the collection as of the day this report was generated.

Certified Sanborn Results:

Certification # EEA0-40BE-BFA2

PO # NA

Project Wendell H. Ford RTC

UNMAPED PROPERTY

This report certifies that the complete holdings of the Sanborn Library, LLC collection have been searched based on client supplied target property information, and fire insurance maps covering the target property were not found.



Sanborn® Library search results

Certification #: EEA0-40BE-BFA2

The Sanborn Library includes more than 1.2 million fire insurance maps from Sanborn, Bromley, Perris & Browne, Hopkins, Barlow and others which track historical property usage in approximately 12,000 American cities and towns. Collections searched:

- ☒ Library of Congress
- ☒ University Publications of America
- ☒ EDR Private Collection

The Sanborn Library LLC Since 1866™

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4675 St. Rt 181181 N

4675 St. Rt 181181 N

Greenville, KY 42345

Inquiry Number: 5319051.5

June 04, 2018

The EDR Aerial Photo Decade Package



6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

EDR Aerial Photo Decade Package

06/04/18

Site Name:

4675 St. Rt 181181 N
4675 St. Rt 181181 N
Greenville, KY 42345
EDR Inquiry # 5319051.5

Client Name:

AECOM
12120 Shamrock Plaza
Omaha, NE 68154
Contact: Jacquelyn Harrington



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Search Results:

<u>Year</u>	<u>Scale</u>	<u>Details</u>	<u>Source</u>
2016	1"=625'	Flight Year: 2016	USDA/NAIP
2012	1"=625'	Flight Year: 2012	USDA/NAIP
2008	1"=625'	Flight Year: 2008	USDA/NAIP
1997	1"=625'	Acquisition Date: February 28, 1997	USGS/DOQQ
1994	1"=750'	Flight Date: March 06, 1994	USGS
1981	1"=625'	Flight Date: April 06, 1981	USDA
1962	1"=625'	Flight Date: February 19, 1962	USGS
1951	1"=625'	Flight Date: March 26, 1951	USGS

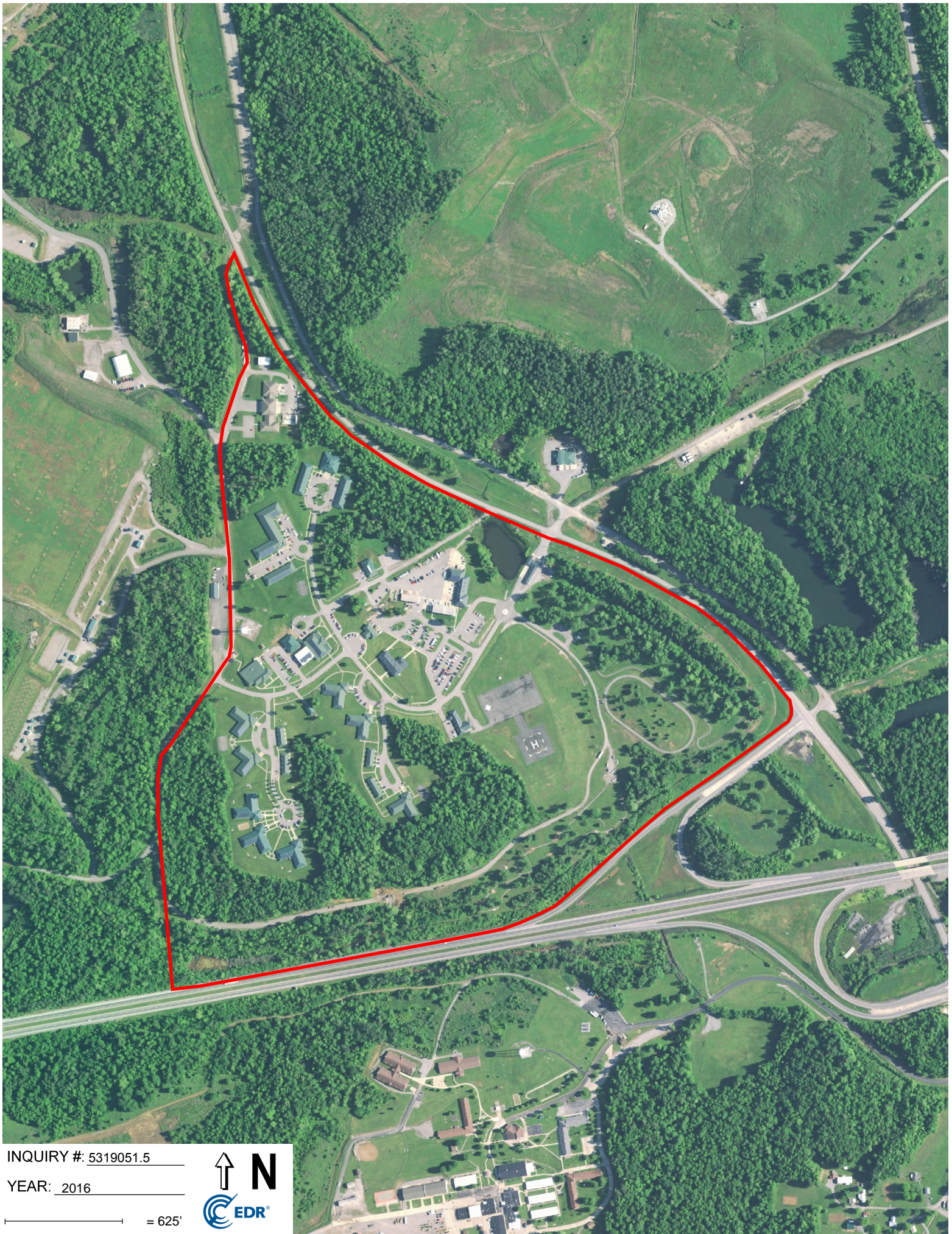
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INQUIRY #: 5319051.5

YEAR: 2016

— = 625'





INQUIRY #: 5319051.5

YEAR: 2012

— = 625'





INQUIRY #: 5319051.5

YEAR: 2008

— = 625'





INQUIRY #: 5319051.5

YEAR: 1997

— = 625'





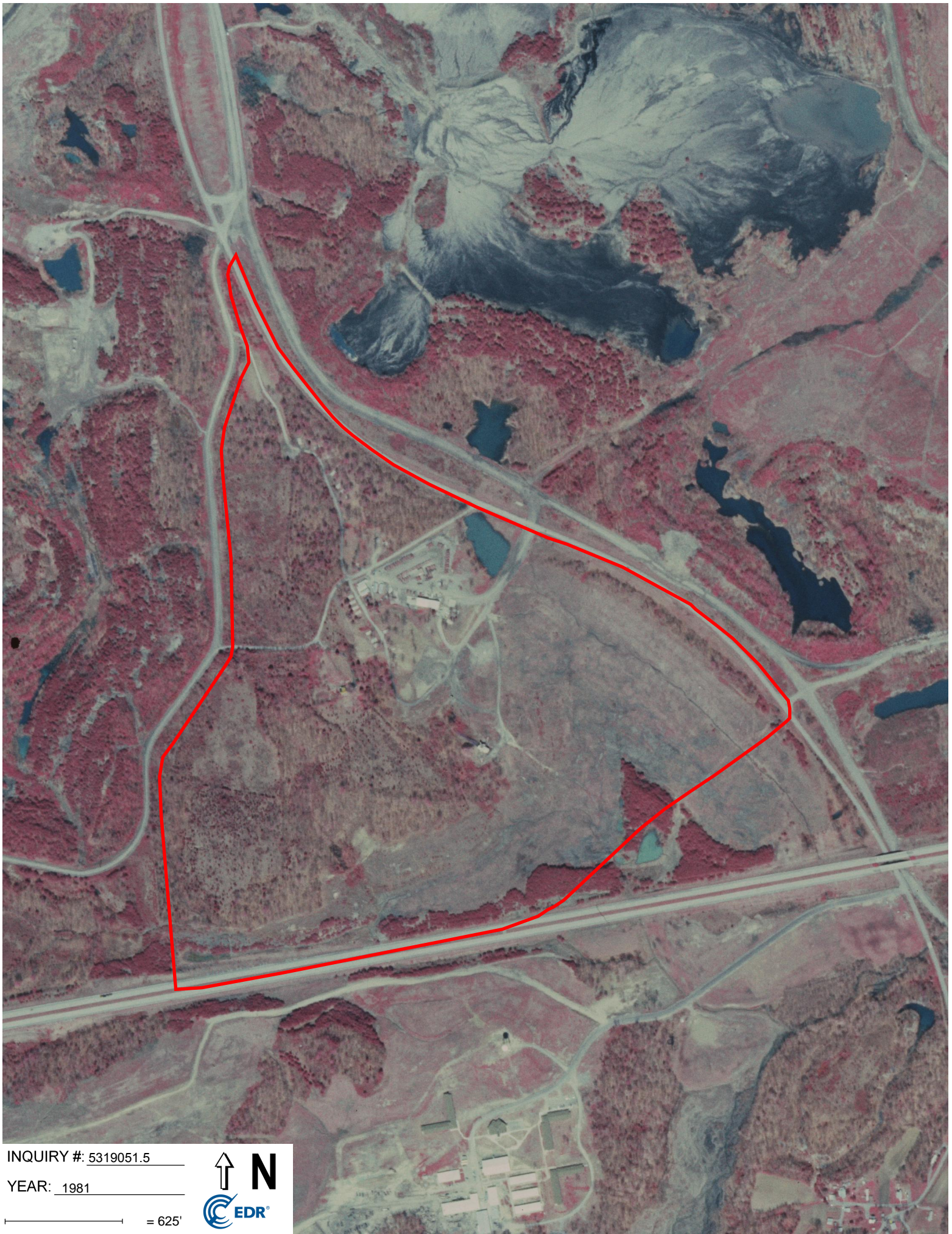
INQUIRY #: 5319051.5

YEAR: 1994

— = 750'



Subject boundary not shown because it exceeds image extent or image is not georeferenced.

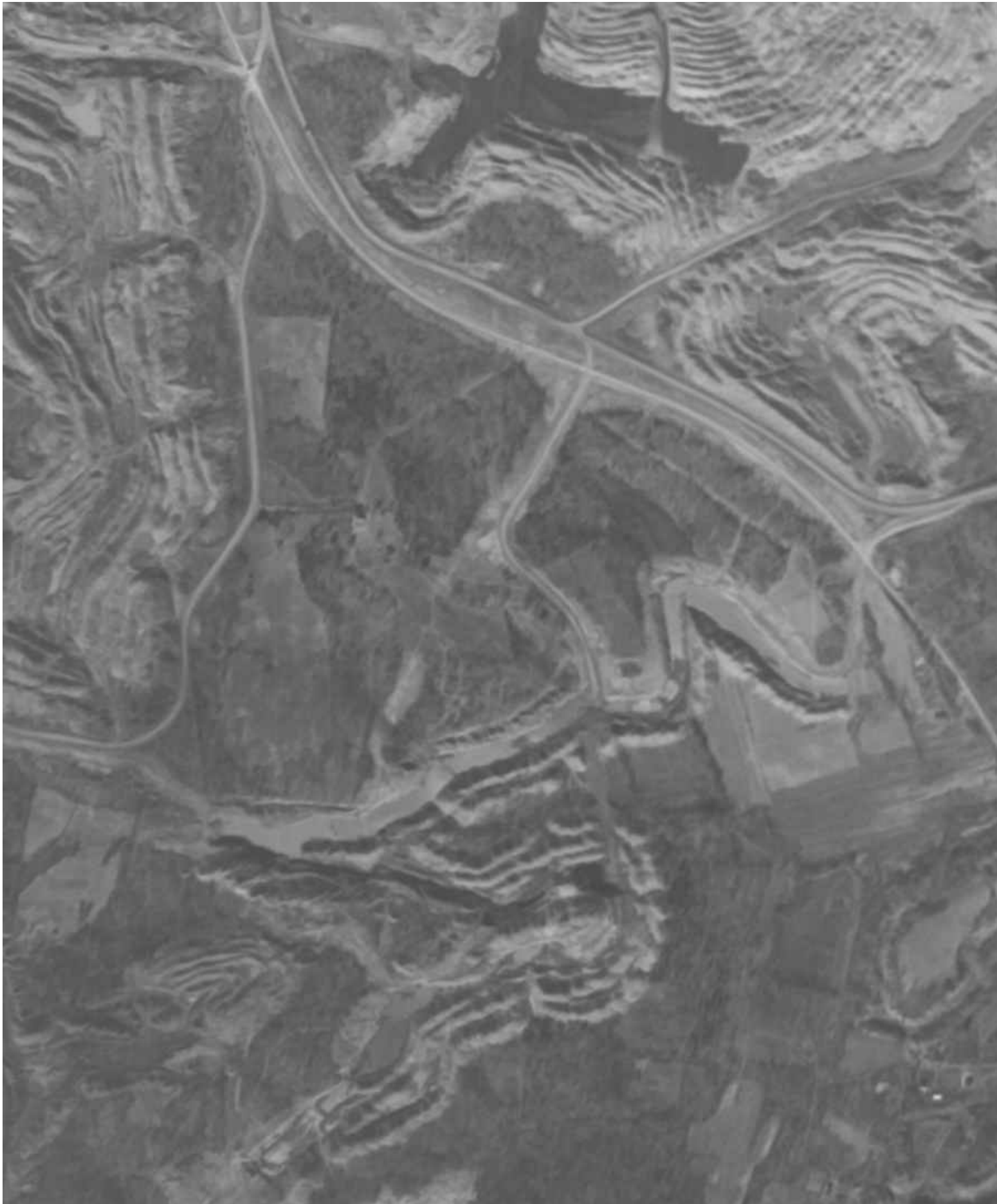


INQUIRY #: 5319051.5

YEAR: 1981

— = 625'





INQUIRY #: 5319051.5

YEAR: 1962

— = 625'



Subject boundary not shown because it exceeds image extent or image is not georeferenced.

-116

G

INQUIRY #: 5319051.5

YEAR: 1951

— = 625'



Subject boundary not shown because it exceeds image extent or image is not georeferenced.

Appendix B

Preliminary Assessment Documentation

Appendix B.1

Interview Records

PA Interview Questionnaire - Environmental Manager

Facility: WHFRTC
 Interviewer: J. Witte
 Date/Time: 5-19-18

Interviewee: <u>Ricky French</u> Title: <u>Environmental Manager</u> Phone Number: <u>270-543-0507</u> Email: <u>Rondal.Hambrick</u>	Can your name/role be used in the PA Report? Y or N <input checked="" type="radio"/> Y Can you recommend anyone we can interview? Y or N <u>Rondal Hambrick</u>
1. Roles or activities with the Facility/years working at the Facility. <u>Environmental Manager with KYARNG</u> <u>Stationed at Boone National Guard Center (1998 - Present)</u> <u>502-607-6031</u> <u>ricky.a.french3.nfg@mail.mil</u>	
2. Where can I find previous facility ownership information? <u>Ownership information has been requested. WHFRTC is a state-owned facility.</u>	
3. What can you tell us about the history of PFAS including aqueous film forming foam (AFFF) at the Facility? Was it used for any of the following activities, circle all that apply and indicate years of active use, if known? Identify these locations on a facility map. Maintenance <u>No</u> Fire Training Areas <u>No</u> Firefighting (Active Fire) <u>Potentially</u> Crash <u>No</u> Fire Suppression Systems (Hangers/Dining Facilities) <u>Potentially</u> Fire Protection at Fueling Stations <u>Potentially</u> Non-Technical/Recreational/ Pest Management <u>No</u> Metals Plating Facility <u>No</u> Waterproofing Uniforms (Laundry Facilities) <u>No</u> Other <u>No</u>	
4. Fill out CSM Information worksheet with the Environmental Manager.	
5. Are any current buildings constructed with AFFF dispensing systems or fire suppression systems? What are the AFFF/suppression system test requirements? What is the frequency of testing the AFFF/suppression system? Do you have "As Built" drawings for the buildings? <u>Fire Chief at WHFRTC can answer this question. As-built drawings for the Fire Station at WHFRTC have been requested.</u>	

PA Interview Questionnaire - Environmental Manager

Facility: _____
Interviewer: _____
Date/Time: _____

6. Are fire suppression systems currently charged with AFFF or have they been retrofitted for use of high expansion foam? If retrofitted, when was that done?

Unknown, but unlikely.
WAFRTC Fire Chief can answer.

7. How is AFFF procured? Do you have an inventory/procurement system that tracks use?

AFFF is procured through the USFPO.

8. What type of AFFF has been/is being used (3%, 6%, Mil Spec Mil-F-24385, High Expansion)? Manufacturer (3M, Dupont, Ansul, National Foam, Angus, Chemguard, Buckeye, Fire Service Plus)?

* Angus Tidel is 3% AFFF and Tridex 3% AFFF viewed during site visit.

9. Where is the AFFF stored? How is it stored (tanks, 55-gallon drums, 5-gallon buckets)? What size are the storage tanks? Is the AFFF stored as a mixed solution (3% or 6%) or concentrated material?

Unknown. Fire Chief will know.

10. How many FTAs are/were on this facility and where are they? Locate on a map. How many FTAs are active and inactive? For inactive FTAs, when was the last time that fire training using AFFF was conducted at them?

There are no FTAs at WAFRTC.

PA Interview Questionnaire - Environmental Manager

Facility: _____
Interviewer: _____
Date/Time: _____

11. When a release of AFFF occurs during a fire training exercise, now and in the past, how is the AFFF cleaned and disposed of? Were retention ponds built to store discharged AFFF? Was the AFFF trickled to the sanitary sewer or left in the pond to infiltrate? *Unknown. No known AFFF releases have occurred.*
12. Can you recall specific times when city, county, and/or state personnel came on-post for training? If so, please state which state/county agency or military entity? Do you have any records, including photographs to share with us? *No. Records have been requested for any possible AFFF use.*
13. Did military routinely or occasionally fire train off-post? List the units that you can recall used/trained at various areas. *No routine use off-post, but the WHFRTC Fire Dept. does respond to emergencies in the surrounding community (i.e. Central City). WHFRTC may have used AFFF in response to a large house fire in Central City.*
14. Did individual units come with their own safety personnel, did they also bring their own AFFF? Was training with AFFF part of these exercises? How were emergencies handled under these circumstances? *No non-KYARNG unit brought AFFF to the facility.*
15. Are there specific emergency response incident reports (i.e., aircraft or vehicle crash sites and fires)? If so, may we please copy these reports? Who (entity) was the responder? *No crashes or emergencies are known at WHFRTC.*

PA Interview Questionnaire - Environmental Manager

Facility: _____
Interviewer: _____
Date/Time: _____

16. Do you have records of fuel spill logs? Was it common practice to wash away fuel spills with AFFF? Is/was AFFF used as a precaution in response to fuel releases or emergency runway landings to prevent fires? *No fuel spill log records exist or are available. Fire Chief will understand fuel spill response.*
17. Was AFFF used for forest fires or fire management on-post/off-post? If so, please describe what happened and who was involved? *No.*
18. Are there mutual aid/use agreements between county, city, and local fire department? Please list, even if informal. If formalized, may we have a copy of the agreement? *Yes, WHFRTC has an agreement to respond to emergencies in the surrounding community, maybe Muhlenberg County. The agreement has been requested.*
19. Can you provide any other locations where AFFF has been stored, released, or used (i.e. hangars, buildings, fire stations, firefighting equipment testing and maintenance areas, emergency response sites, storm water/surface water, waste treatment plants, and AFFF ponds)? *WHFRTC does not have any WWTPs or landfills. AFFF storage areas unknown.*
20. Are you aware of any other creative uses of AFFF? If so, how was AFFF used? What entities were involved? *No creative uses known.*

PA Interview Questionnaire - Environmental Manager

Facility: _____
Interviewer: _____
Date/Time: _____

21. Are there past studies you are aware of with environmental information on plants/animals/groundwater/soil types, etc., such as Integrated Cultural Resources Management Plans or Integrated Natural Resources Management Plans? *An INRMP and IFWMP exist for WHFRTC. Those and any other relevant investigations have been requested.*
22. What other records might be helpful to us (environmental compliance, investigation records, admin record) and where can we find them? *USFPO procurement records*
23. Do you have or did you have a chrome plating shop on base? What were/are the years of operation of that chrome plating shop? *No*
24. Do you know whether the shop has/had a foam blanket mist suppression system or used a fume hood for emissions control? If foam blanket mist suppression was used, where was the foam stored, mixed, applied, etc.? *No known foam suppression systems at WHFRTC.*
25. How is off-spec AFFF disposed (used for training, turned in, or given to a local Fire Station)? If applicable, do you know the name of the vendor that removes off-spec AFFF? Do you have copies of the manifest or B/L? *Unknown. Fire Chief will know. Expired AFFF is likely returned ~~to~~ via USFPO.*

PA Interview Questionnaire - Environmental Manager

Facility: _____
Interviewer: _____
Date/Time: _____

26. Do you recommend anyone else we can interview? If so, do you have contact information for them?

- Rondal Hambrick
- Env. Manager at WHFRTC (currently unavailable)

PA Interview Questionnaire – Fire Station

Facility: WHFRTC
 Interviewer: J. Witte
 Date/Time: 5-15-18

Interviewee: <u>Rondal Hambrick</u> Title: <u>WHFRTC Fire Chief</u> Phone Number: <u>270-543-0509</u> Email: <u>rondal.hambrick.afg@mail.mil</u>	Can your name/role be used in the PA Report? <u>Y</u> or N Can you recommend anyone we can interview? Y or N <u>Mark Kays</u>
1. Roles or activities with the Facility/years working at the Facility. <u>Fire Chief at WHFRTC</u> <u>12 years at WHFRTC with KYABNG</u>	
2. What can you tell us about the history of AFFF at the Facility? Was it used for any of the following activities, circle all that apply and indicate years of active use, if known? Identify these locations on a facility map. Maintenance (e.g., ramp washing) <u>No</u> Fire Training Areas <u>No</u> Firefighting (Active Fire) <u>No (but used on recycled tire facility in Central City)</u> Crash <u>No</u> Fire Suppression Systems (Hangers/Dining Facilities) <u>None known</u> Fire Protection at Fueling Stations <u>None known</u> Non-Technical/Recreational/ Pest Management <u>No known</u>	
3. Are any current buildings constructed with AFFF dispensing systems or fire suppression systems? What are the AFFF/suppression system test requirements? What is the frequency of testing at the AFFF/suppression systems? <u>No. DFAC uses potassium carbonate solution.</u> <u>Other suppression systems at WHFRTC use water.</u>	
4. Are fire suppression systems currently charged with AFFF or have they been retrofitted for use of high expansion foam? <u>No</u>	
5. How is AFFF procured? Do you have an inventory/procurement system that tracks use? <u>AFFF is procured through USFPO</u>	

PA Interview Questionnaire – Fire Station

Facility: _____
Interviewer: _____
Date/Time: _____

6. What type of AFFF has been/is being used (3%, 6%, Mil Spec Mil-F-24385, High Expansion)? Manufacturer (3M, Dupont, Ansul, National Foam, Angus, Chemguard, Buckeye, Fire Service Plus)?

Angus Tridel 3% AFFF and Tridel 3% AFFF observed on two fire trucks and in the Fire station at WHFRTC.

7. Is AFFF formulated on base? If so, where is the solution mixed, contained, transferred, etc.?

No, AFFF is not formulated at WHFRTC.

8. Where is the AFFF stored? How is it stored (tanks, 55-gallon drums, 5-gallon buckets)? What size are the storage tanks? Is the AFFF stored as a mixed solution (3% or 6%) or concentrated material?

Two Fire Dept. trucks carry AFFF in 5-gallon buckets (one crash/rescue truck and one fire engine truck). 5-gallon AFFF buckets are also stored along-side ABC, wet, and dry agents at the WHFRTC Fire Station (Building 325).

9. How is the AFFF transferred to emergency response vehicles, suppression systems, flightline extinguishers? Is/was there a specified area on the facility where vehicles are filled with AFFF and does this area have secondary containment in case of spills? How and where are vehicles storing AFFF cleaned/decontaminated?

AFFF is carried on two fire trucks in 5-gallon buckets.

10. Provide a list of vehicles that carried AFFF, now and in the past, and where are/were they located?

Two vehicles carry AFFF:

- One fire rescue truck
- One crash/fire rescue truck

11. Any vehicles have a history of leaking AFFF? Do you/did you test the vehicles spray patterns to make sure equipment is working properly? How often are/were these spray tests performed and can you provide the locations of these tests, now and in the past?

No history of leaks. AFFF nozzles aren't tested/used at WHFRTC. AFFF at WHFRTC is now likely expired, but has not been disposed of.

PA Interview Questionnaire – Fire Station

Facility: _____
Interviewer: _____
Date/Time: _____

12. How many FTAs are/were on this facility and where are they? Locate on a map. How many FTAs are active and inactive? For inactive FTAs, when was the last time that fire training using AFFF was conducted at them?

WHFRTC has no FTAs.

13. What types of fuels/flammables were used at the FTAs?

Not applicable.

14. What was the frequency of AFFF use at each location? When a release of AFFF occurs during a fire training exercise, now and in the past, how is/was the AFFF cleaned and disposed of? Were retention ponds built to store discharged AFFF? Was the AFFF trickled to the sanitary sewer or left in the pond to infiltrate?

No AFFF use at FTAs. Runoff at the Fire Station drains to an oil-water separator before discharged.

15. Are there mutual aid/use agreements between county, city, local fire department? Please list, even if informal. If formalized, may we have a copy of the agreement? Can you recall specific times when city, county, state personnel came on-post for training? If so, please state which state/county agency, military entity? Do you have any records, including photographs to share with us?

Yes, WHFRTC has an agreement with Muhlenberg County. This agreement has been requested. WHFRTC responded to a recycled rubber facility fire in Center City and used AFFF in response.

16. Did individual units come on-post with their own safety personnel, did they also bring their own AFFF? Was training with AFFF part of these exercises? How were emergencies handled under these circumstances?

WHFRTC brought their own personnel off facility during the Center City emergency. No units have responded to WHFRTC for an emergency.

PA Interview Questionnaire – Fire Station

Facility: _____
Interviewer: _____
Date/Time: _____

17. Did military routinely or occasionally fire train off-post? List units that you can recall used/trained at various areas.

No

18. Are there specific emergency response incident reports (i.e., aircraft or vehicle crash sites and fires)? If so, may we please copy these reports? Who (entity) was the responder?

Emergency response reports have been requested, although no reports known for WHFRTC.

19. Do you have records of fuel spill logs? Was it common practice to wash away fuel spills with AFFF? Is/was AFFF used as a precaution in response to fuel releases or emergency runway landings to prevent fires?

Fuel spill records are not kept. AFFF is not used to wash away fuel spills.

20. Was AFFF used for forest fires or fire management on-post/off-post? If so, please describe what happened and who was involved?

WHFRTC performs prescribed burnings and responds to wild fires but does not use AFFF for such tasks.

21. Can you provide any other locations where AFFF has been stored, released, or used (i.e. hangars, buildings, fire stations, firefighting equipment testing and maintenance areas, emergency response sites, storm water/surface water, waste water treatment plants, and AFFF ponds)?

no other areas use AFFF. DFAC uses a potassium carbonate wet solution in its fire suppression system.

PA Interview Questionnaire – Fire Station

Facility: _____
Interviewer: _____
Date/Time: _____

22. Are you aware of any other creative uses of AFFF? If so, how was AFFF used? What entities were involved?

No "creative" uses of AFFF known.

23. How is off-spec AFFF disposed (used for training, turned in, or given to a local Fire Station)? If applicable, do you know the name of the vendor that removes off-spec AFFF? Do you have copies of the manifest or B/L?

AFFF at WHFRTC has not been disposed of.
Procurement records have been requested.

24. Do you recommend anyone else we can interview? If so, do you have contact information for them?

- WHFRTC Env. Manager - Benny Morris (currently unavailable)
- Assistant Env. Manager Rebecca Ijames

Appendix B.2

Visual Site Inspection Checklists

Visual Site Inspection Checklist

Names(s) of people performing VSI: Joe Witte, Joe Davis

Recorded by: J. Witte

ARNG Contact: J. Davis

Date and Time: 5/15/2018

Method of visit (walking, driving, adjacent): Driving / walking

Source/Release Information

Site Name / Area Name / Unique ID: WHFRTC Fire Station - Bldg. 325

Site / Area Acreage: _____

Historic Site Use (Brief Description): Fire Station

Current Site Use (Brief Description): Fire Station

Physical barriers or access restrictions: Perimeter fence around RTC cantonment area

1. Was PFAS used (or spilled) at the site/area?

☒ Y ☐ N

1a. If yes, document how PFAS was used and usage time (e.g., fire fighting training 2001 to 2014):

Never used, no recorded spills

2. Has usage been documented?

☒ Y ☐ N

2a. If yes, keep a record (place electronic files on a disk):

Only stored at site

3. What types of businesses are located near the site?

Industrial / Commercial / Plating / Waterproofing / Residential

3a. Indicate what businesses are located near the site

None, wildlife area ~ 0.8 mi southeast

4. Is this site located at an airport/flightline?

☒ Y ☐ N

4a. If yes, provide a description of the airport/flightline tenants:

Visual Survey Inspection Log

Other Significant Site Features:

1. Does the facility have a fire suppression system?

Y/N

1a. If yes, indicate which type of AFFF has been used:

1b. If yes, describe maintenance schedule/leaks:

NA

1c. If yes, how often is the AFFF replaced:

AFFF procured / returned through USEPO.

1d. If yes, does the facility have floor drains and where do they lead? Can we obtain an as built drawing?

As-built drawings requested

Transport / Pathway Information

Migration Potential:

1. Does site/area drainage flow off installation?

Y/N

1a. If so, note observation and location:

Rains capture runoff. Potential runoff on eastern side may flow to State road 181.

2. Is there channelized flow within the site/area?

Y/N

2a. If so, please note observation and location:

3. Are monitoring or drinking water wells located near the site?

Y/N

3a. If so, please note the location:

EDR requested

4. Are surface water intakes located near the site?

Y/N

4a. If so, please note the location:

5. Can wind dispersion information be obtained?

Y/N

5a. If so, please note and observe the location.

6. Does an adjacent non-ARNG PFAS source exist?

Y/N

6a. If so, please note the source and location.

6b. Will off-site reconnaissance be conducted?

Y/N

Visual Survey Inspection Log

Significant Topographical Features:

1. Has the infrastructure changed at the site/area?

☒ Y ☐ N

1a. If so, please describe change (ex. Structures no longer exist):

2. Is the site/area vegetated?

☒ Y ☐ N

2a. If not vegetated, briefly describe the site/area composition:

Grasses surround area, but Fire Station is paved

3. Does the site or area exhibit evidence of erosion?

☒ Y ☐ N

3a. If yes, describe the location and extent of the erosion:

4. Does the site/area exhibit any areas of ponding or standing water?

☒ Y ☐ N

4a. If yes, describe the location and extent of the ponding:

Receptor Information

1. Is access to the site restricted?

☒ Y ☐ N

1a. If so, please note to what extent:

Perimeter fence around WHFRTC

2. Who can access the site?

☒ Site Workers / Construction Workers / Trespassers / Residential / Recreational
Users / Ecological

2a. Circle all that apply, note any not covered above:

INARNG staff only

3. Are residential areas located near the site?

☒ Y ☐ N

3a. If so, please note the location/distance:

4. Are any schools/day care centers located near the site?

☒ Y ☐ N

4a. If so, please note the location/distance/type:

5. Are any wetlands located near the site?

☒ Y ☐ N

5a. If so, please note the location/distance/type:

Visual Survey Inspection Log

Additional Notes

Photographic Log

Photo ID/Name	Date & Location	Photograph Description

Visual Site Inspection Checklist

Names(s) of people performing VSI: Joe Witte, Joe Davis

Recorded by: Joe Witte

ARNG Contact: Joe Davis

Date and Time: 5/15/2018

Method of visit (walking, driving, adjacent): driving/walking

Source/Release Information

Site Name / Area Name / Unique ID: Ambulance pick-up point / Helicopter Pad

Site / Area Acreage: _____

Historic Site Use (Brief Description): Same

Current Site Use (Brief Description): Same

Physical barriers or access restrictions: WHFRTC Perimeter fence

1. Was PFAS used (or spilled) at the site/area?

☒ Y ☐ N

1a. If yes, document how PFAS was used and usage time (e.g., fire fighting training 2001 to 2014): _____

2. Has usage been documented?

☒ Y ☐ N

2a. If yes, keep a record (place electronic files on a disk): _____

3. What types of businesses are located near the site?

Industrial / Commercial / Plating / Waterproofing / Residential

3a. Indicate what businesses are located near the site

None

4. Is this site located at an airport/flightline?

☒ Y ☐ N

4a. If yes, provide a description of the airport/flightline tenants:

Helicopter pad

Visual Survey Inspection Log

Other Significant Site Features:

1. Does the facility have a fire suppression system?

☒ Y ☐ N

1a. If yes, indicate which type of AFFF has been used:

Mobile ABC extinguishers stationed at the site

1b. If yes, describe maintenance schedule/leaks:

None

1c. If yes, how often is the AFFF replaced:

NA

1d. If yes, does the facility have floor drains and where do they lead? Can we obtain an as built drawing?

NA

Transport / Pathway Information

Migration Potential:

1. Does site/area drainage flow off installation?

☒ Y ☐ N

1a. If so, note observation and location:

2. Is there channelized flow within the site/area?

☒ Y ☐ N

2a. If so, please note observation and location:

3. Are monitoring or drinking water wells located near the site?

☒ Y ☐ N

3a. If so, please note the location:

EDR requested

4. Are surface water intakes located near the site?

☒ Y ☐ N

4a. If so, please note the location:

Freshwater pond ~0.1 mi N, stream 0.2 mi S

5. Can wind dispersion information be obtained?

☒ Y ☐ N

5a. If so, please note and observe the location.

6. Does an adjacent non-ARNG PFAS source exist?

☒ Y ☐ N

6a. If so, please note the source and location.

6b. Will off-site reconnaissance be conducted?

☒ Y ☐ N

Visual Survey Inspection Log

Significant Topographical Features:

1. Has the infrastructure changed at the site/area?

☒ Y / ☐ N

1a. If so, please describe change (ex. Structures no longer exist):

2. Is the site/area vegetated?

☒ Y / ☐ N

2a. If not vegetated, briefly describe the site/area composition:

Grasses surround asphalt pad

3. Does the site or area exhibit evidence of erosion?

☒ Y / ☐ N

3a. If yes, describe the location and extent of the erosion:

4. Does the site/area exhibit any areas of ponding or standing water?

☒ Y / ☐ N

4a. If yes, describe the location and extent of the ponding:

Receptor Information

1. Is access to the site restricted?

☒ Y / ☐ N

1a. If so, please note to what extent:

Perimeter fence

2. Who can access the site?

☒ Site Workers / ☐ Construction Workers / ☐ Trespassers / ☐ Residential / ☐ Recreational Users / ☐ Ecological

2a. Circle all that apply, note any not covered above:

INARING staff only

3. Are residential areas located near the site?

☒ Y / ☐ N

3a. If so, please note the location/distance:

4. Are any schools/day care centers located near the site?

☒ Y / ☐ N

4a. If so, please note the location/distance/type:

5. Are any wetlands located near the site?

☒ Y / ☐ N

5a. If so, please note the location/distance/type:

See previous page

Visual Survey Inspection Log

Additional Notes

Photographic Log

Photo ID/Name	Date & Location	Photograph Description

Visual Site Inspection Checklist

Names(s) of people performing VSI: Joe Witte, Joe Davis
Recorded by: Joe Witte
ARNG Contact: Joe Davis
Date and Time: 5/15/2018
Method of visit (walking, driving, adjacent): walking

Source/Release Information

Site Name / Area Name / Unique ID: DFAC - Bldg. 301
Site / Area Acreage: _____
Historic Site Use (Brief Description): DFAC
Current Site Use (Brief Description): DFAC
Physical barriers or access restrictions: WHFRTC Perimeter fence

1. Was PFAS used (or spilled) at the site/area?

☒ Y ☐ N

1a. If yes, document how PFAS was used and usage time (e.g., fire fighting training 2001 to 2014):

2. Has usage been documented?

☒ Y ☐ N

2a. If yes, keep a record (place electronic files on a disk):

3. What types of businesses are located near the site?

Industrial / Commercial / Plating / Waterproofing / Residential

3a. Indicate what businesses are located near the site

None

4. Is this site located at an airport/flightline?

☒ Y ☐ N

4a. If yes, provide a description of the airport/flightline tenants:

Visual Survey Inspection Log

Other Significant Site Features:

1. Does the facility have a fire suppression system?

☒ Y / ☐ N

1a. If yes, indicate which type of AFFF has been used:

ABC (potassium carbonate solution)

1b. If yes, describe maintenance schedule/leaks:

NA

1c. If yes, how often is the AFFF replaced:

NA

1d. If yes, does the facility have floor drains and where do they lead? Can we obtain an as built drawing?

As-built drawings requested

Transport / Pathway Information

Migration Potential:

1. Does site/area drainage flow off installation?

☒ Y / ☐ N

1a. If so, note observation and location:

2. Is there channelized flow within the site/area?

☒ Y / ☐ N

2a. If so, please note observation and location:

3. Are monitoring or drinking water wells located near the site?

☒ Y / ☐ N

3a. If so, please note the location:

EDR requested

4. Are surface water intakes located near the site?

☒ Y / ☐ N

4a. If so, please note the location:

5. Can wind dispersion information be obtained?

☒ Y / ☐ N

5a. If so, please note and observe the location.

6. Does an adjacent non-ARNG PFAS source exist?

☒ Y / ☐ N

6a. If so, please note the source and location.

6b. Will off-site reconnaissance be conducted?

☒ Y / ☐ N

Visual Survey Inspection Log

Significant Topographical Features:

1. Has the infrastructure changed at the site/area?

☒ Y ☐ N

1a. If so, please describe change (ex. Structures no longer exist):

2. Is the site/area vegetated?

☒ Y ☐ N

2a. If not vegetated, briefly describe the site/area composition:

3. Does the site or area exhibit evidence of erosion?

☒ Y ☐ N

3a. If yes, describe the location and extent of the erosion:

4. Does the site/area exhibit any areas of ponding or standing water?

☒ Y ☐ N

4a. If yes, describe the location and extent of the ponding:

Receptor Information

1. Is access to the site restricted?

☒ Y ☐ N

1a. If so, please note to what extent:

Perimeter fence, locked doors at DFAC when closed

2. Who can access the site?

☒ Site Workers / ☒ Construction Workers / ☒ Trespassers / ☒ Residential / ☒ Recreational
☒ Users / ☒ Ecological

2a. Circle all that apply, note any not covered above:

INARNG staff only

3. Are residential areas located near the site?

☒ Y ☐ N

3a. If so, please note the location/distance:

4. Are any schools/day care centers located near the site?

☒ Y ☐ N

4a. If so, please note the location/distance/type:

5. Are any wetlands located near the site?

☒ Y ☐ N

5a. If so, please note the location/distance/type:

Visual Survey Inspection Log

Additional Notes

Photographic Log

Photo ID/Name	Date & Location	Photograph Description

Appendix B.3

Conceptual Site Model Information

Preliminary Assessment – Conceptual Site Model Information

Site Name: WHFRTC

Why has this location been identified as a site?

AFFF is stored at the facility. The facility has ranges, maintenance shops, a fire station, a helicopter pad, and dining facility.

Are there any other activities nearby that could also impact this location?

No, but the WHFRTC responds to county fires off-facility.

Training Events

Have any training events with AFFF occurred at this site? No

If so, how often? NA

How much material was used? Is it documented? NA

Identify Potential Pathways: Do we have enough information to fully understand over land surface water flow, groundwater flow, and geological formations on and around the facility? Any direct pathways to larger water bodies?

Surface Water:

Surface water flow direction? NE, generally. Radially away from facility.

Average rainfall? ~ 50 inches annually

Any flooding during rainy season? No

Direct or indirect pathway to ditches? Potentially

Direct or indirect pathway to larger bodies of water?

Does surface water pond any place on site? Yes

Any impoundment areas or retention ponds? Yes

Any NPDES location points near the site? NPDES permits requested

How does surface water drain on and around the flight line? NA

Preliminary Assessment – Conceptual Site Model Information

Groundwater:

Groundwater flow direction? North to Cypress Creek

Depth to groundwater? Unknown.

Uses (agricultural, drinking water, irrigation)? None

Any groundwater treatment systems? None

Any groundwater monitoring well locations near the site? EDR requested

Is groundwater used for drinking water? No

Are there drinking water supply wells on installation? No

Do they serve off-post populations? No

Are there off-post drinking water wells downgradient None known. EDR requested.

Waste Water Treatment Plant:

Has the installation ever had a WWTP, past or present? No

If so, do we understand the process and which water is/was treated at the plant? NA

Do we understand the fate of sludge waste? NA

Is surface water from potential contaminated sites treated? NA

Equipment Rinse Water

1. Is firefighting equipment washed? Where does the rinse water go? Through an OWS and discharged.

2. Are nozzles tested? How often are nozzles tested? Where are nozzles tested? Are nozzles cleaned after use? Where does the rinse water flow after cleaning nozzles?

No AFFF nozzles used/ tested/ cleaned.

3. Other?

Preliminary Assessment – Conceptual Site Model Information

Identify Potential Receptors:

Site Worker

Construction Worker

Recreational User

Residential

Child

Ecological

Note what is located near by the site (e.g. daycare, schools, hospitals, churches, agricultural, livestock)?

Wildlife areas and mining land.

Documentation

Ask for Engineering drawings (if applicable). Requested.

Has there been a reconstruction or changes to the drainage system? When did that occur? No

Appendix C

Photographic Log

APPENDIX C – Photographic Log

Army National Guard, Preliminary Assessment for PFAS	Wendell H. Ford Regional Training Center	Muhlenberg County, Kentucky
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Photograph No. 1

Description:

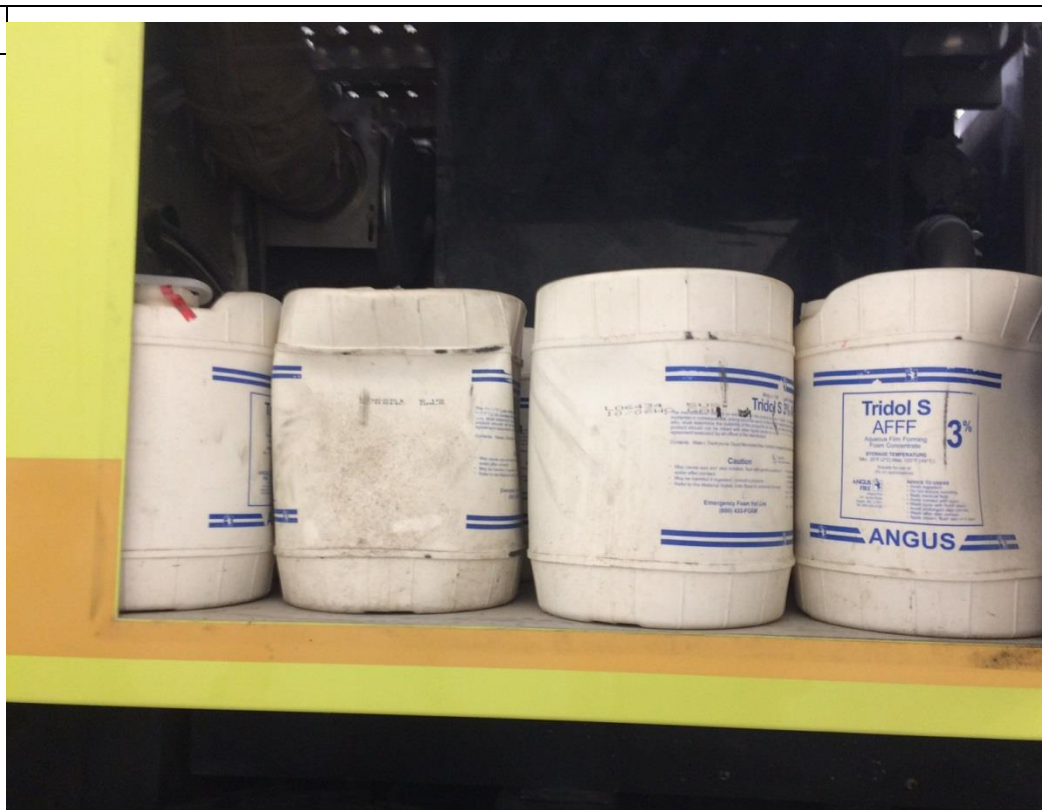
Wendell H. Ford Regional Training Center Fire Department crash/fire rescue truck stored at the facility Fire Station, Building 325. Buckets of AFFF concentrate are stored on the truck.



Photograph No. 2

Description:

Angus Tridol S 3% AFFF concentrate in 5-gallon buckets at the facility Fire Station, Building 325. Buckets pictured are stored on a Fire Engine truck.



APPENDIX C – Photographic Log

Army National Guard, Preliminary
Assessment for PFAS

Wendell H. Ford Regional Training
Center

Muhlenberg County, Kentucky

Photograph No. 3

Description:

Angus Tridol S 3% AFFF concentrate label on 5-gallon buckets at the facility Fire Station, Building 325. Buckets pictured are stored on a Fire Engine truck.



Photograph No. 4

Description:

Wendell H. Ford Regional Training Center Fire Department fire rescue truck stored at the facility Fire Station, Building 325. Buckets of AFFF concentrate are stored on the truck.



APPENDIX C – Photographic Log

Army National Guard, Preliminary
Assessment for PFAS

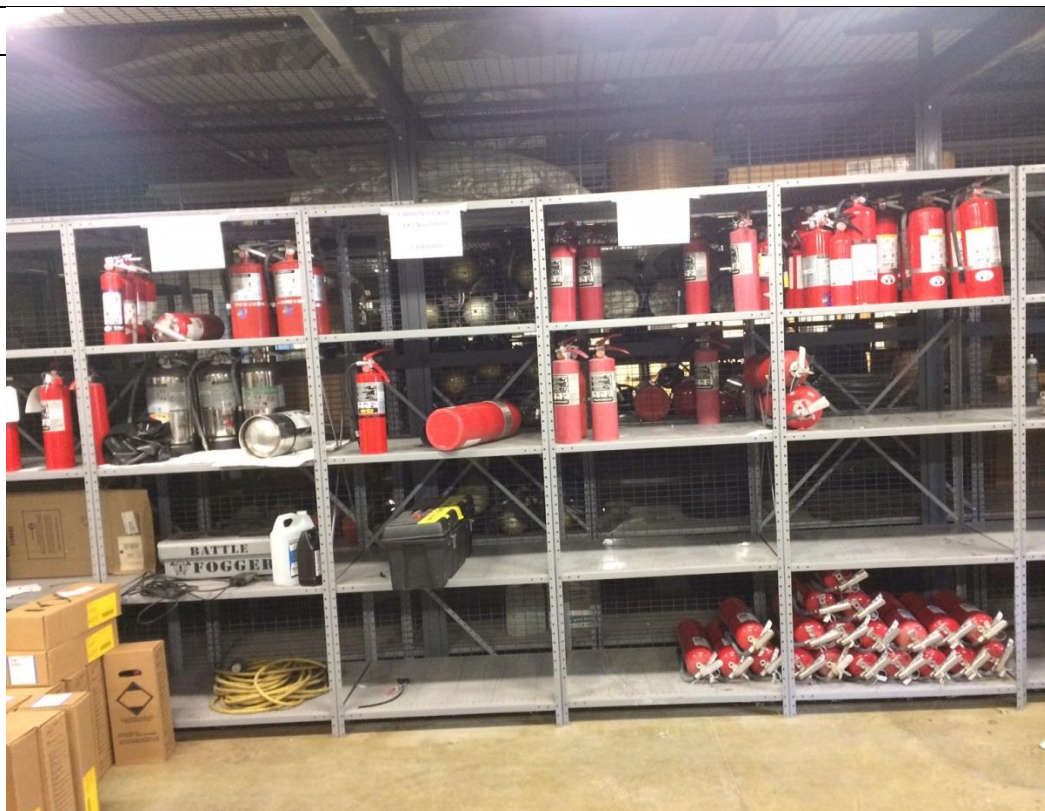
Wendell H. Ford Regional Training
Center

Muhlenberg County, Kentucky

Photograph No. 5

Description:

Various fire extinguisher units stored at the facility Fire Station, Building 325. ABC extinguishers, Purple K extinguishers, and AFFF concentrate stored.



Photograph No. 6

Description:

Tridex 3% AFFF concentrate stored in 5-gallon buckets at the facility Fire Station, Building 325.



APPENDIX C – Photographic Log

Army National Guard, Preliminary Assessment for PFAS	Wendell H. Ford Regional Training Center	Muhlenberg County, Kentucky
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Photograph No. 7

Description:

Tridex 3% AFFF concentrate stored in 5-gallon buckets at the facility Fire Station, Building 325.



Photograph No. 8

Description:

Badger wheeled fire extinguisher model B150A-1 stationed on the southwest corner of the helicopter pad.



APPENDIX C – Photographic Log

Army National Guard, Preliminary Assessment for PFAS	Wendell H. Ford Regional Training Center	Muhlenberg County, Kentucky
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Photograph No. 9

Description:

Badger wheeled fire extinguisher model B150A-1 stationed on the northeast corner of the helicopter pad.



Photograph No. 10

Description:

Label on the Badger wheeled fire extinguisher model B150A-1 stationed on the southwest corner of the helicopter pad.

