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**FINAL**

**PROPOSED PLAN**

**INDOOR FIRING RANGE  
(AREA OF CONCERN #75)**

**FORMER LOCKBOURNE AFB  
COLUMBUS, OHIO**

FUDS Property No.: G05OH0007

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Prepared by:

U.S. Army Corps of Engineers  
Louisville District  
600 Dr. M.L. King Jr. Pl.  
Louisville, KY 40202-2232



July 2012, rev. 1

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## ACRONYMS AND ABBREVIATIONS

ACM	asbestos-containing material
AOC	area of concern
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CRAA	Columbus Regional Airport Authority
DD	Decision Document
DoD	Department of Defense
EPA	Environmental Protection Agency
EQM	Environmental Quality Management, Inc.
FLAFB	former Lockbourne Air Force Base
FUDS	Formerly Used Defense Site
MCL	Maximum Contaminant Level
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
OHANG	Ohio Air National Guard
ppb	parts per billion
PRG	Preliminary Remediation Goal
RANGB	Rickenbacker Air National Guard Base
RAO	remedial action objective
RPA	Rickenbacker Port Authority
SARA	Superfund Amendments and Reauthorization Act
SI	Site Investigation
TCLP	Toxicity Characteristic Leaching Procedure
TCRA	Time-Critical Removal Action
U.S.	United States
USACE	U.S. Army Corps of Engineers

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## 1.0 Introduction

This Proposed Plan addresses the indoor firing range (Building 687) [Area of Concern (AOC) #75, the site] at the former Lockbourne Air Force Base (FLAFB), Ohio. Figures 1, 2 and 3 illustrate the location of FLAFB and the indoor firing range.

The Department of Defense (DoD) used the FLAFB beginning in 1942. In 1982, the DoD began the process of transferring property to the Rickenbacker Port Authority (RPA), now the Columbus Regional Airport Authority (CRAA). USACE investigated the DoD-generated environmental contamination at the site and conducted a removal action. The site is on a FUDS property (FUDS Property Number G05OH0007). The response actions are funded by the Environmental Restoration-FUDS account through FUDS Project Number G05OH000723.

USACE is the lead agency for the site cleanup activities and is responsible for determining and conducting the cleanup activities at the site. The Ohio Environmental Protection Agency (Ohio EPA) is the lead regulatory agency for the site, overseeing cleanup activities. USACE, in coordination with Ohio EPA, prepared this Proposed Plan to gain input from the public on the proposed remedial alternative. This Proposed Plan summarizes the environmental investigations and removal actions performed to date at the site; presents the evaluation of USACE's proposed remedial action alternative for the site; and provides rationale for the preferred alternative. USACE is seeking public input on the alternative and encourages the public to review this Proposed Plan and provide comments. Comments on the Proposed Plan can be submitted during the public review period. After reviewing and considering the public comments received during this review period, USACE, in coordination with Ohio EPA, will select the alternative that will be implemented for the site.

Detailed information about the environmental studies performed at the site is in the report *Site Investigation of 21 Areas of Concern, Former Lockbourne AFB, Columbus, Ohio* (Shaw, 2006). Detailed information about the removal action conducted at the site is contained in the report *Construction Completion Report, Time Critical Removal Action, Former Lockbourne AFB Firing Range (Building 687)* (EQM, 2011). These and other supporting documents can be found online at <http://bit.ly/LockbourneAFB> and at the Columbus Metropolitan Library, Southeast Branch. USACE and Ohio EPA encourage the public to review these documents to gain a more comprehensive understanding of the site and activities that have been conducted to date.

USACE is issuing this Proposed Plan as part of its public participation responsibilities under Section 117(a) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980, as amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA) and Section 300.430(f)(2) of the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) (40 *Code of Federal Regulations*, Part 300).

## **2.0 Site Background**

FLAFB is located about 12 miles southeast of downtown Columbus Ohio and one half mile east of the Village of Lockbourne in Franklin and Pickaway Counties. FLAFB was originally named the Northeastern Training Center of the Army Air Corps and later renamed the Lockbourne Air Force Base. Construction on the base began in 1942. The base consisted of 1,574 acres by the end of 1942 and had two runways; a north-south and an east-west, and an X-shaped taxiway system connecting the runways. The current runway configuration was constructed in 1951 while the base was occupied by the Strategic Air Command. At that time the FLAFB encompassed over 4,000 acres. The base was renamed Rickenbacker Air Force Base in 1974. In 1980, the base was closed and transferred to the Ohio Air National Guard (OHANG) and renamed the Rickenbacker Air National Guard Base (RANGB).

The U.S. Air Force transferred 1,642 acres to the RPA in 1984 and 1985. The RPA name was later changed to the CRAA. The property owned by the CRAA is named the Rickenbacker International Airport.

The inactive indoor firing range was located in the southeast portion of FLAFB (Figure 2). The indoor firing range was approximately 40 feet wide by 80 feet long and consisted of an unpainted wood and metal frame structure covered with corrugated metal siding. The building was in disrepair, and the floor was covered with 6 inches to 3 feet of sand. The building was constructed on top of the former concrete runway and was partially surrounded by an earthen berm along the north, east, and south sides. Refer to Figures 4 and 5 for exterior and interior pictures of the indoor firing range.

Reconnaissance of the building was conducted in April 2009 to assess building features and site conditions. No insulation or mechanical systems were noted in the building. Utility connections to the building had been removed. Pre-demolition building inspection was performed by a certified building inspector in June 2009. The building inspection determined that the floor tile located in the building foyer was asbestos-containing material (ACM).

## **3.0 Site Characteristics**

### **3.1 Characterization of Site – Prior to Removal Action**

A Site Investigation (SI) was conducted for several AOCs, including the indoor firing range in the mid-2000s (Shaw, 2006). During the SI, samples of sand from within the building were obtained for analysis of metals. Hazards within the indoor firing range were confirmed during the site investigation. The concentrations of lead and antimony in sand were found to be greater than their respective preliminary remediation goals (PRGs) (i.e., U.S. Environmental Protection Agency Region 9 PRGs), which had been established as the project action levels.

### 3.2 Removal Action

Based on the findings of the SI, a time-critical removal action (TCRA) was completed. Implementation of the TCRA was identified by USACE because the indoor firing range was determined to present a threat to human health or welfare or the environment because of the following conditions:

- Actual or potential exposure to nearby human populations, animals, or the food chain from hazardous substances, pollutants or contaminants;
- High levels of hazardous substances, pollutants, or contaminants in soils largely at or near the surface that may migrate; and,
- Weather conditions that may cause hazardous substances, pollutants, or contaminants to migrate or be released.

Although access to the area of the indoor firing range was controlled, that condition was anticipated to change in the future based on reasonably foreseeable redevelopment activities of the CRAA. The area around the indoor firing range was used as a lay-down and stockpiling area by the CRAA and its contractors to support construction projects and, as such, the site was open for various time periods. While the building structure afforded some containment, it was in a deteriorated state, thus allowing for the potential uncontrolled migration of lead to the surrounding surface soils and potentially to surface water via runoff following precipitation events. The USACE deemed it appropriate to designate this as a TCRA to expedite cleanup based on the increased potential for migration of lead-containing sand as the structure continued to deteriorate. Based on the prior use of the building, lead dust was also assumed to exist on the interior building surfaces. This assumption was later confirmed when lead was detected at 30 parts per billion (ppb) in the rinsate water collected from these surfaces. A cost analysis performed during the TCRA planning stage concluded that it would be more cost effective to demolish the building instead of delineating the contaminated surfaces, fully decontaminating them in place (if possible due to the condition of the building), and performing confirmation sampling of the surfaces.

Field activities associated with the TCRA were initiated on 4 October 2010. On that date, asbestos abatement was completed. Asbestos abatement activities consisted of removal and off-site disposal of the ACM at the Frank Road C&D Landfill in Grove City, Ohio.

On 4 and 5 October 2010, soil and sand from around the outside of building was removed. Soil and sand that had accumulated on the paved apron around the perimeter of the building were removed. Water was used to suppress dust during removal activities. The soil was collected and placed in a roll-off container staged on site. The container was covered with a tarp.

On 5, 6 and 7 October 2010, sand was removed from inside the building. Water was used to suppress dust during removal activities. Debris scattered in the sand and wooden structures (i.e., baffles and cladding) that contained lead projectiles was removed along with the sand. The removed sand and debris were placed in a roll-off box container staged on site. The container was covered with a tarp. The sand was disposed with soil from outside the building as a characteristically hazardous waste for lead as established during the site investigation when the

sand was tested using the toxicity characteristics leaching procedure (TCLP). Approximately 207 cubic yards of sand and soil were transported to Envirite in Canton, Ohio for disposal.

Prior to demolition of the building and after removal of the sand and debris, the interior surfaces of the building and the floor were washed with a detergent and rinsed. A water truck with high-pressure equipment and clean, potable water with detergents were used for this effort. Vacuum equipment was used to recover the wash water and rinsate. The wash/rinse water was collected and stored temporarily on site in a poly-tank. After cleaning was complete, the water from the tank was sampled for waste characterization and then transferred by a tanker truck for off-site disposal as a non-hazardous waste at Clean Waters, LLC in Dayton, Ohio.

From 7 through 13 October 2010, demolition of the indoor firing range was completed. Prior to demolition miscellaneous debris was removed and sent off site for disposal.

The building was then demolished. Water misting was used as necessary for dust control. Demolition materials were segregated and transferred to the established waste staging area. Non-metallic/wooden materials and debris were stockpiled with the solid waste materials for disposal at the Waste Management Suburban Recycling and Disposal Facility in Newark, Ohio. Scrap metal was taken to Joyce Iron & Metal Co., Columbus, Ohio, for recycling. Upon completion of demolition, the entire footprint of the building and apron was cleaned.

Following removal of the indoor firing range, sampling and analysis activities were completed to evaluate the levels of antimony and lead in soil and groundwater. To facilitate the TCRA process, the PRGs were conservatively chosen as the cleanup goals. The initial phases of soil sampling were conducted on 5 and 21 October 2010. Soil samples were collected from beneath the building floor and surrounding apron and beyond the pavement. This round of sampling indicated that additional removal of soil was necessary to achieve the lead and antimony cleanup goals in soil.

On 2 June 2011, additional soil was removed north, east, and south of where the indoor firing range was formerly located. Approximately 40 cubic yards of soil were excavated and disposed offsite as a hazardous waste at Envirite in Canton, Ohio. Following removal of the soil, samples collected from the excavation demonstrated that the reported concentrations of lead and antimony were below the cleanup goals.

On 21 October 2010, one monitoring well was installed through the indoor firing range floor, and on 26 October 2010, a groundwater sample was obtained for chemical analysis. The EPA maximum contaminant levels (MCLs) were selected as conservative groundwater cleanup goals for the TCRA. The reported concentrations of lead and antimony were below the MCLs for drinking water.

#### **4.0 Scope and Role**

The USACE serves as the DoD Execution Agent for cleanup of FUDS nationwide. The USACE Louisville District is responsible for the environmental investigation and cleanup programs at the indoor firing range in accordance with CERCLA. The Louisville District determined that the site

was eligible for evaluation under the FUDS Program. In 2010, USACE Louisville District and its agent, Environmental Quality Management, Inc. (EQM) removed the building and contaminated sand and soil.

This Proposed Plan addresses the evaluation of the preferred cleanup alternative for the indoor firing range only. It does not include or directly affect any other sites at FLAFB. The cleanup at the site represents the final action for the indoor firing range and addressed all media, as necessary.

## **5.0 Summary of Site Risks**

Soil and groundwater sampling conducted following removal of the indoor firing range and the sand and soil around it demonstrates that the concentrations of lead and antimony in soil and groundwater are below the cleanup goals. Additionally, the post-removal concentrations of lead and antimony in soil are below the Ohio EPA criteria for un-restricted use. Previously completed reports and investigations did not identify any ecological concerns.

## **6.0 Remedial Action Objectives**

The following Remedial Action Objectives (RAOs) were developed for protection of human health and/or for protection of ecological receptors for the TCRA:

1. Remove the building and contents, which were likely contaminated with lead dust.
2. Remove soil containing lead and antimony above the cleanup goals from around the building.
3. Demonstrate that there are no groundwater impacts.

The RAOs were met by the TCRA and thus no further actions are necessary.

## **7.0 Summary of Alternative**

Since the site no longer poses an unacceptable risk to human health or the environment, a set of remedial action alternatives was not developed or evaluated. Therefore, only the no further action alternative is presented in this Proposed Plan.

## **8.0 Evaluation of Alternative**

The no further action alternative was evaluated and has been determined to be protective of human health and the environment.

## 9.0 Preferred Alternative

The preferred alternative is no further action. USACE, in consultation with Ohio EPA, is recommending no further action with respect to the indoor firing range. If this recommendation is selected, no additional environmental investigation or remediation will be performed and the Army's environmental actions for the indoor firing range will be considered complete.

## 10.0 Community Participation

USACE and Ohio EPA provide information to the public regarding the cleanup of the FLAFB indoor firing range through public meetings and notices, the Administrative Record File for the site (online at <http://bit.ly/LockbourneAFB>), and the Information Repository. USACE and Ohio EPA encourage the public to gain a more comprehensive understanding of the site and the cleanup activities for it by participating in these community participation activities.

Copies of this proposed plan and supporting documents are available for public review at the following information repositories:

Columbus Metropolitan Library,  
Southeast Branch  
3980 S. Hamilton Road  
Groveport OH 43125  
614-645-2275

### Hours

Monday –Thursday: 9 a.m. to 9 p.m.  
Friday and Saturday: 9 a.m. to 6 p.m.  
Sunday: 1 p.m. to 5 p.m.

And

U.S. Army Corps of Engineers  
600 Dr. Martin Luther King Jr. Place  
Environmental Engineering Branch, Room 351  
Louisville, KY 40202-2232  
502-315-6333

### Hours

Monday-Friday: 8 a.m. to 4 p.m.

The public comment period provides time to review and comment on the information provided in the Proposed Plan. The public comment period for this Proposed Plan is July 13 until August 13, 2012. Comments on the Proposed Plan or other relevant issues can be submitted in writing via email or mail (postmarked no later than August 13, 2012) to the following addressee:

Joshua Van Bogaert  
Army Engineer District Louisville  
Engineering Division, Environmental Engineering  
Branch  
P.O. Box 59, Rm. 351, Louisville, KY 40201  
[Joshua.Vanbogaert@usace.army.mil](mailto:Joshua.Vanbogaert@usace.army.mil)

During the public comment period, USACE may hold a public meeting that will provide an additional opportunity for the public to learn about the preferred alternative and to comment on the Proposed Plan. If a public meeting is to be held, a notice of place and time will be placed in the local newspaper. If held, the USACE will develop a transcript of the public meeting, and a copy of the transcript will be placed in the Administrative Record File.

All comments received on the Proposed Plan during the comment period will be summarized, and responses will be provided in the responsiveness summary section of the Decision Document (DD). The DD will present the selected remedy and will be included in the Administrative Record File. USACE will review and consider the public's input as part of the process before reaching a final decision on the most appropriate action to be taken.

## **11.0 References**

Shaw, 2006. *Site Investigation of 21 Areas of Concern, Former Lockbourne AFB, Columbus, Ohio.*

Environmental Quality Management, Inc., 2010. *Action Memorandum for Time-Critical Removal Action, Former Lockbourne Air Force Base, Former Indoor Firing Range (Area of Concern #75), Columbus, Ohio.*

Environmental Quality Management, Inc., 2010. *Work Plan, Former Lockbourne AFB, Indoor Firing Range (Area of Concern #75), Columbus, Ohio.*

Environmental Quality Management, Inc., 2011. *Construction Completion Report, Time Critical Removal Action, Former Lockbourne AFB Firing Range (Building 687).*

## 12.0 Glossary

**Administrative Record File:** A file containing information that is used to make decisions about an environmental site, including work plans, verified sampling data, final reports and studies, maps, and public health assessments. This file is available for public review.

**Area of Concern (AOC):** An area at a site (e.g., former Lockbourne Air Force Base, etc.) where contamination is identified or suspected that is subject to requirements of CERCLA.

**Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA):** The federal law, commonly known as Superfund, passed in 1980 and modified in 1986 by the Superfund Amendments and Reauthorization Act (SARA). It requires responsible parties to cleanup releases of hazardous substances and certain pollutants and contaminants and sets out a process for investigating and making decisions about sites that may need to be cleaned up.

**Decision Document (DD):** A legal document that sets forth the selected remedy for cleanup of a site as decided by the lead federal agency.

**Environmental Media:** Physical components of the environment that can harbor and/or transfer contamination (typically soil, groundwater, surface water and air).

**Formerly Used Defense Site (FUDS) Program:** The Department of Defense program that cleans up environmental contamination resulting from DoD activities still remaining at properties formerly owned by, leased to, or otherwise possessed by the United States and under the jurisdiction of the Secretary of Defense. A property is eligible for cleanup under the FUDS program if the DoD transferred the property before October 17, 1986. The Army is the executive agent for the program, and the U.S. Army Corps of Engineers is responsible for carrying out the program. FUDS policy is defined in USACE Engineer Regulation 200-3-1, *Formerly Used Defense Sites (FUDS) Program Policy*, May 2004.

**Information Repository:** Under CERCLA, an information repository is a collection of copies of all the information related to a cleanup action that has been made available to the public (40 *Code of Federal Regulations* 300.430). This contrasts with the Administrative Record, which contains only those documents that form the basis for selecting a response action.

**National Contingency Plan (NCP):** A short title for the National Oil and Hazardous Substances Pollution Contingency Plan. The NCP, 40 CFR Part 300, outlines the responsibilities and authorities for responding to releases into the environment of hazardous substances and other pollutants and contaminants under the statutory authority of CERCLA and section 311 of the Clean Water Act.

**Ohio Environmental Protection Agency (Ohio EPA):** The state agency responsible for enforcement of state laws protecting the environment.

**Proposed Plan (PP):** A plan for a site cleanup that is available to the public for comment.

**Proposed Remediation Goal (PRG):** U.S. Environmental Protection Agency Region 9 PRGs are risk-based tools for evaluating and cleaning up contaminated sites. They are being used to streamline and standardize all stages of the risk decision-making process. PRGs focus on common exposure pathways (e.g., inhalation and ingestion) to populations (e.g., residential and industrial) at CERCLA / RCRA sites. For the indoor firing range the PRG values were published in 2004. These values have now been superseded.

**public comment period:** A reasonable time period, of at least 30 days, for the public to review and comment on various documents and actions.

**Responsiveness Summary:** A summary of oral and written public comments received during a public comment period. The responsiveness summary is a key part of the decision document, highlighting community concerns.

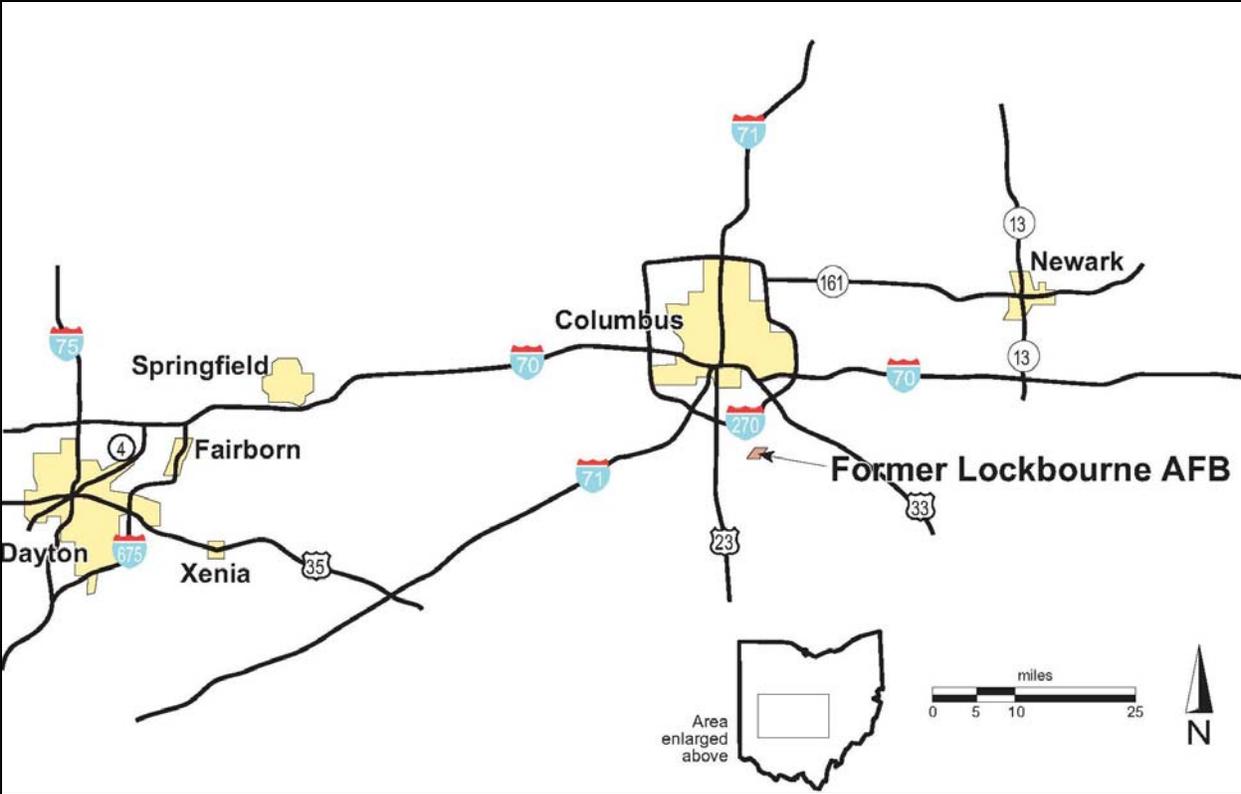
**Site Investigation (SI):** The physical inspection of a site that may include limited soil and water sampling to determine the nature of chemicals of potential concern. This investigation occurs before a remedial investigation.

**Superfund:** Superfund is the name given to the environmental program established by U.S. EPA to address abandoned hazardous waste sites. It is also the name of the fund established by CERCLA, and is often a term used interchangeably with CERCLA. The fund allows U.S. EPA to cleanup such sites and to require the responsible parties to perform cleanups or reimburse the government for U.S. EPA-lead cleanups.

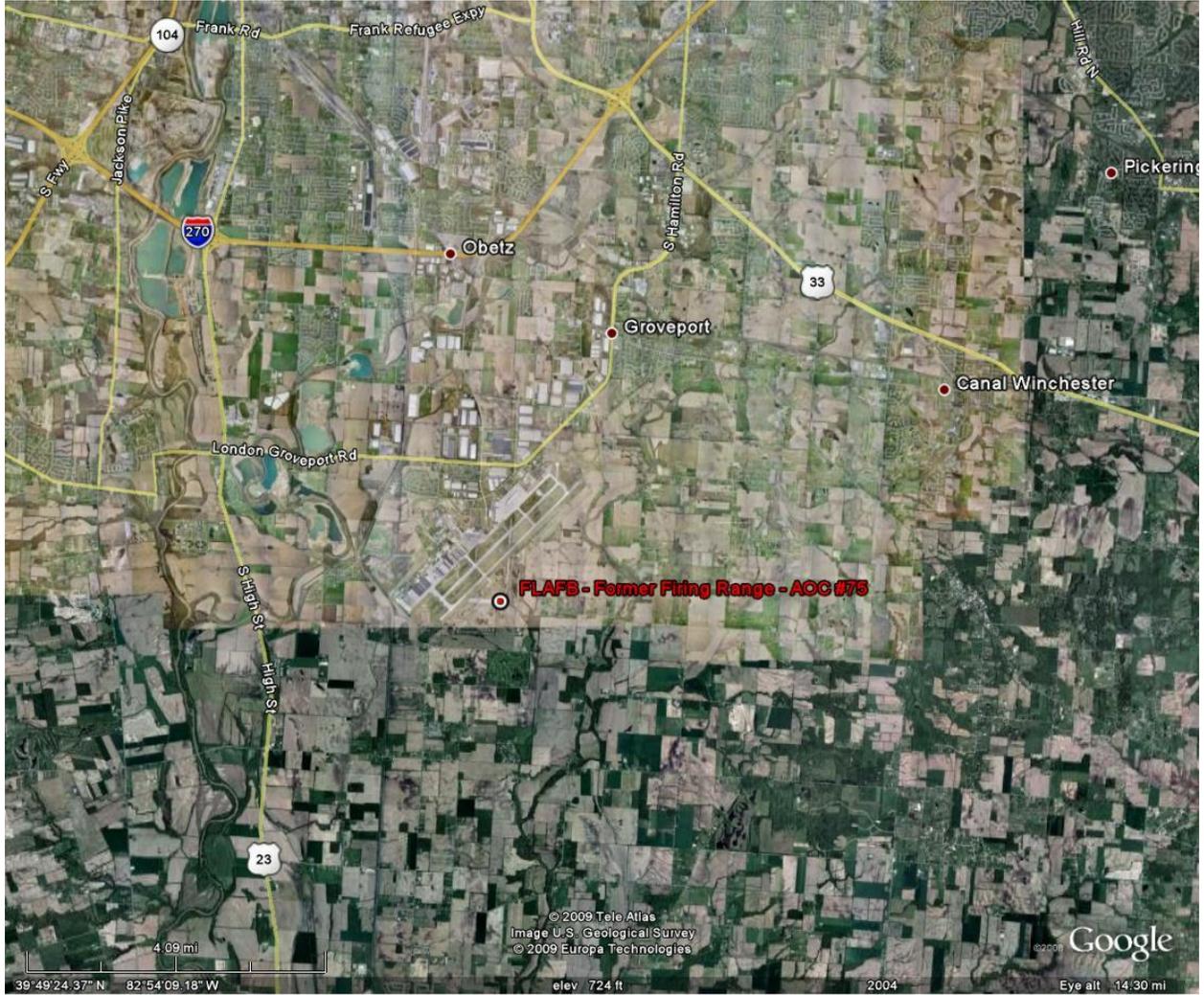
**Superfund Amendments and Reauthorization Act of 1986 (SARA):** The law that refined and expanded CERCLA in 1986, formally establishing the Defense Environmental Restoration Program and its funding mechanism, the Defense Environmental Restoration Account.

**Time-Critical Removal Action (TCRA):** A response to a release or threat of release that poses such a risk to public health or the environment that clean up or stabilization actions must be initiated within 6 months.

## **FIGURES**



*FIGURE 1. LOCATION OF THE FLAFB*



*FIGURE 2. LOCATION OF AOC #75*



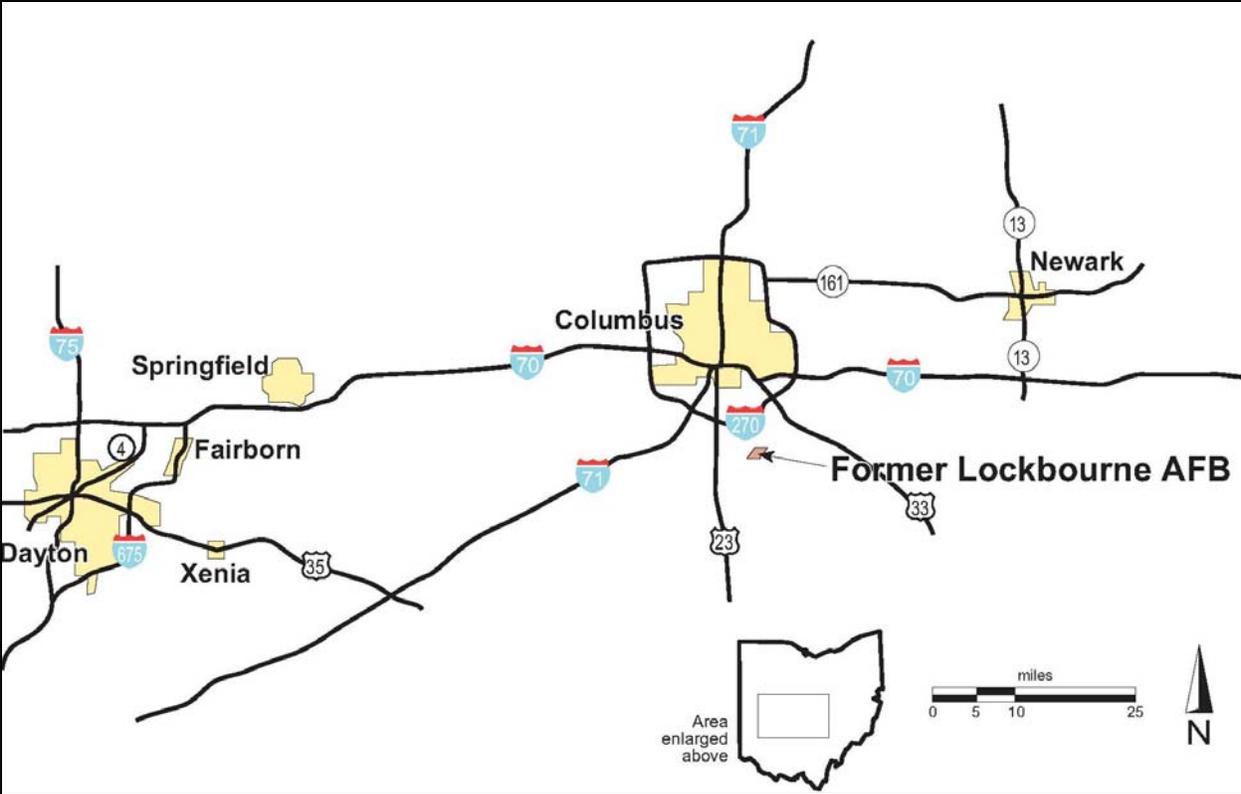
*FIGURE 3. AERIAL VIEW OF AOC #75*



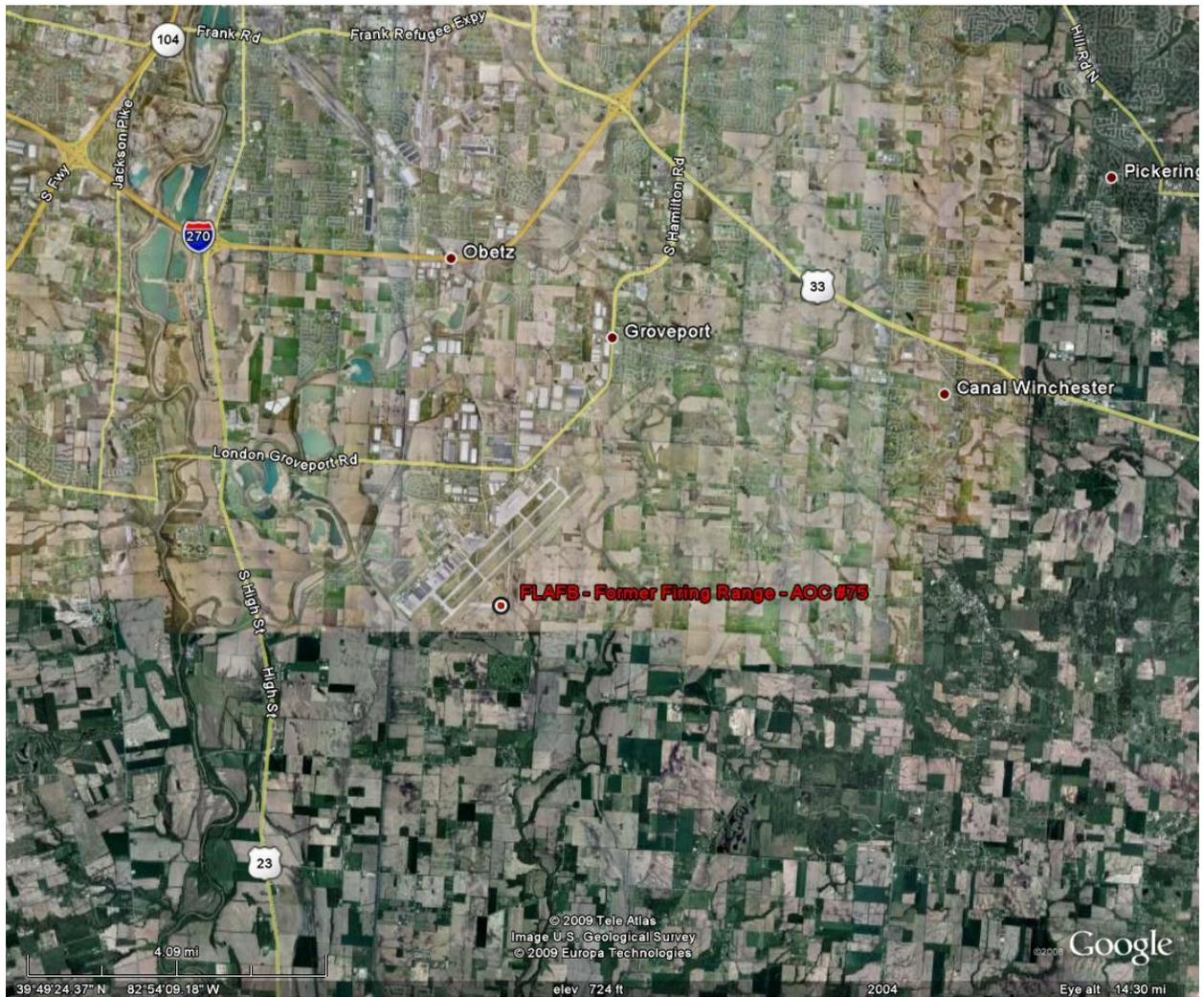
*FIGURE 4. PHOTOGRAPH OF AOC #75 EXTERIOR*



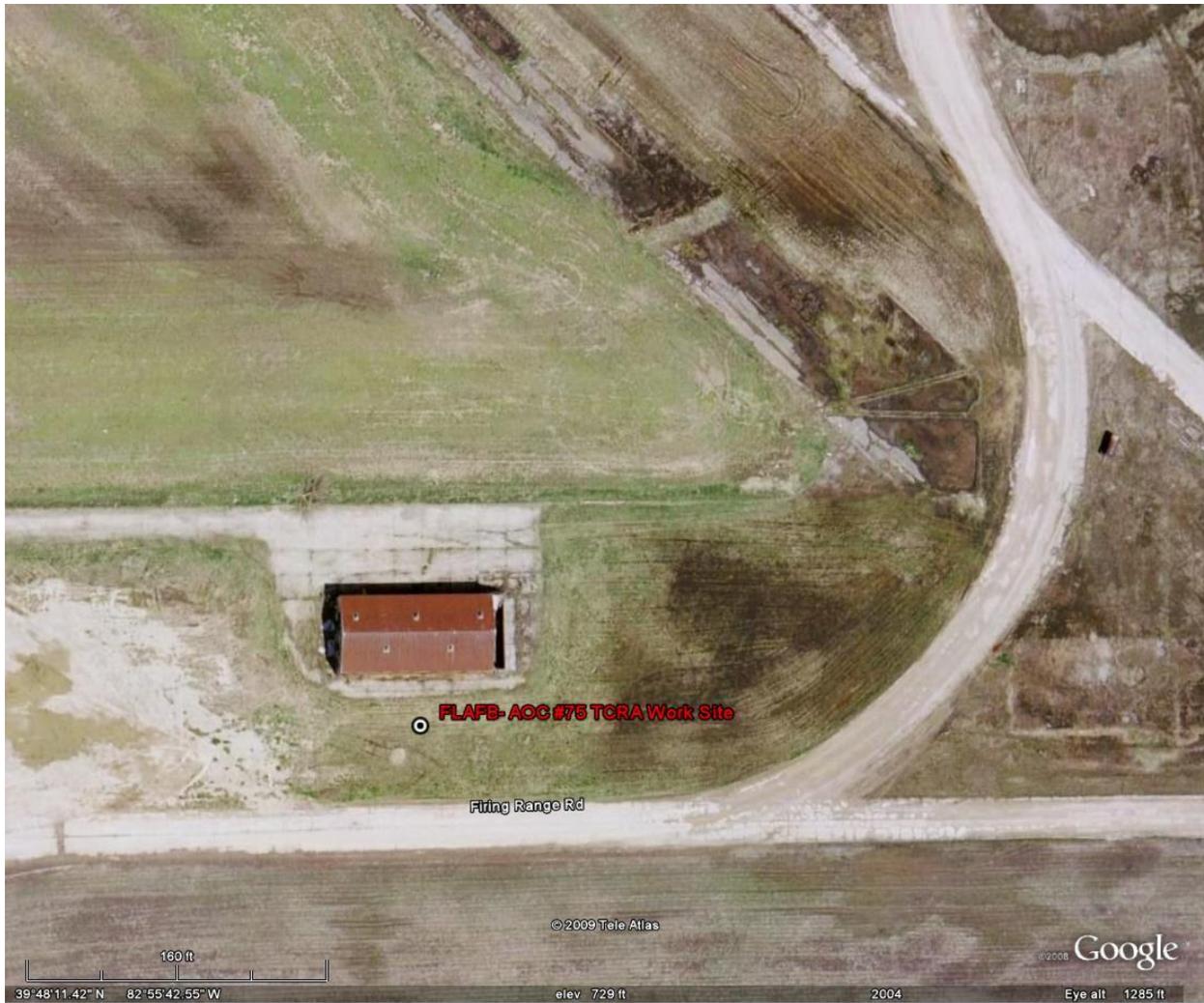
*FIGURE 5. PHOTOGRAPH OF AOC #75 INTERIOR*



*FIGURE 1. LOCATION OF THE FLAFB*



*FIGURE 2. LOCATION OF AOC #75*



*FIGURE 3. AERIAL VIEW OF AOC #75*



*FIGURE 4. PHOTOGRAPH OF AOC #75 EXTERIOR*



*FIGURE 5. PHOTOGRAPH OF AOC #75 INTERIOR*