

300401-0605010012



**CH2MHILL**

CH2M HILL  
Mound, Inc.  
1 Mound Road  
P.O. Box 3030  
Miamisburg, OH  
45343-3030

ER/WM-039/05  
January 25, 2005

Ms. Margaret L. Marks, Director  
Miamisburg Closure Project  
U. S. Department of Energy  
1075 Mound Road  
Miamisburg, OH 45342

ATTENTION: Paul Lucas

SUBJECT: Contract No. DE-AC24-03OH20152  
Statement of Work Requirement 055 - Regulator Reports  
**VARIOUS DOCUMENTS**

Dear Ms. Marks:

Attached are the following Final documents for your records:

- ✓ • Building 124 Action Memo, Final
- Contingent Removal Action, Action Memorandum Addendum 1: Structures, Final

If you or members of your staff have any questions regarding the documents, or if additional support is needed, please contact me at 937-865-4203.

Sincerely,

A handwritten signature in black ink, appearing to read "D. A. Rakel".

David A. Rakel  
CERCLA Lead

DAR/ms

Enclosures

cc: Tim Fischer, USEPA, (1) w/attachments  
Brian Nickel, OEPA, (1) w/attachments  
Ruth Vandegrift, ODH, (1) w/attachments  
Mary Wojciechowski, Tetra Tech, (1) w/attach  
Frank Schmaltz, DOE/MCP, (1) w/attachments  
Lisa Rawls, MCP, w/o attachments  
Randy Tormey, DOE/OH, (1) w/attachments  
Git Desai, DOE/HQ, (1) w/attachments  
Frank Bullock, MMCIC, (2) w/attachments  
Public Reading Room, (4) w/attachments  
CERCLA Records, CH2M Hill, (1) w/attachs

Chris Watson, CH2M Hill, (1) w/attachs  
ER Records, CH2M Hill, (1) w/attachs  
Admin Record (2) w/attachments  
DCC (1) w/attachments  
John Lehew, CH2M Hill, w/o attachments  
Dave Rakel, CH2M Hill, w/o attachments  
Val Darnell, CH2M Hill, w/o attachments  
Bo Wier, CH2M Hill, w/o attachments  
Karen Arthur, CH2M Hill, w/o attachments  
file

# **ACTION MEMORANDUM**

## **ENGINEERING EVALUATION/COST ANALYSIS**

# **BUILDING 124 (CWPF)**

## **REMOVAL ACTION**

JANUARY 2005

FINAL

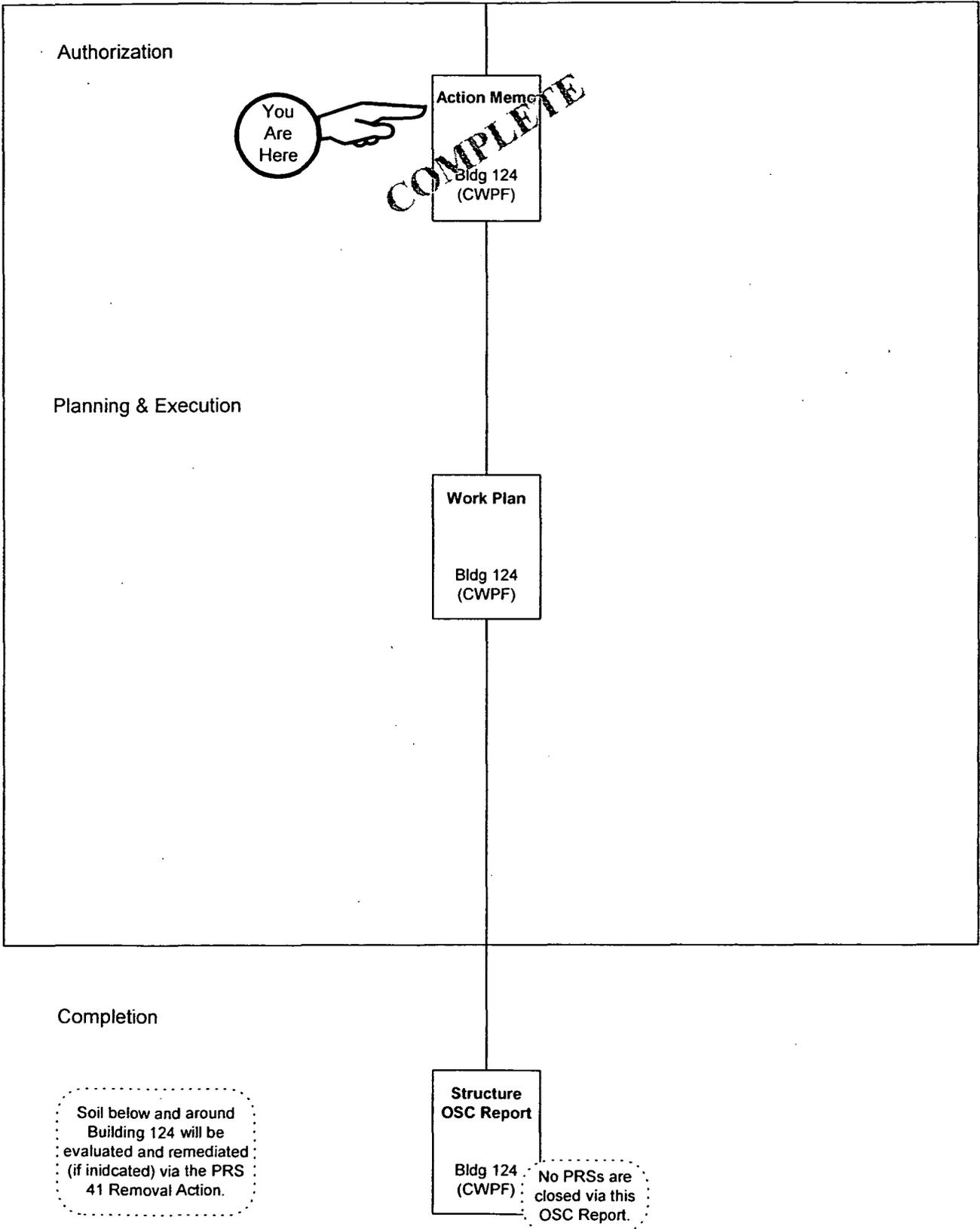


Department of Energy  
Miamisburg Closure Project



**CH2MHILL**

# Building 124



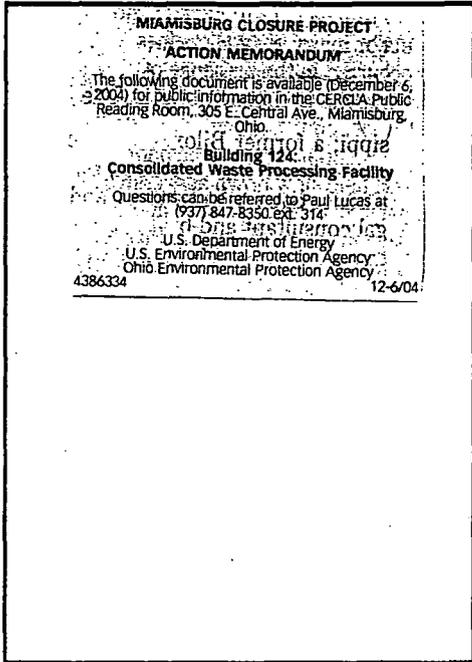
This page intentionally left blank.

# AFFIDAVIT OF PUBLICATION

State of Ohio

SS: CH2MHILL Mound

Montgomery County



Before me, the undersigned, a Notary public in and for said County, personally came Tina Sears, who being first duly sworn says she is the Legal Advertising Agent of the DAYTON DAILY NEWS, which she says is a newspaper of general circulation in Montgomery, Clark, Warren, Butler, Clinton, Greene, Preble, Miami, Darke, Mercer, Shelby, Fayette, Logan, Auglaize, and Champaign Counties, and State of Ohio, and she further says that the Legal Advertisement, a copy of which is hereunto attached, has been published in the said DAYTON DAILY NEWS 19 Lines, 1 Time(s), last day of publication being 12/6/04, and he/she further says

that the bona fide daily paid circulation of the said DAYTON DAILY NEWS was over Twenty-five Thousand (25,000) at the time the said advertisement was published, and that the price charged for same does not exceed the rates charged on annual contract for the like amount of space to other advertisers in the general display advertising columns.

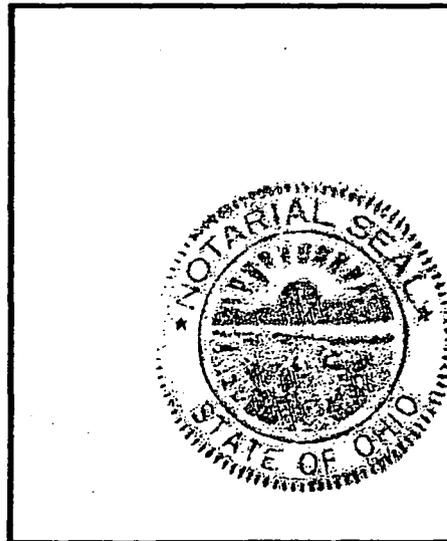
Signed Tina Sears

Sworn or affirmed to, and subscribed before me, this

6 day of December 2004

In Testimony Whereof, I have hereunto set my hand and affixed my official seal, the day and year aforesaid.

Kelli Jones  
Notary Public in and for the State of Ohio



**This page intentionally left blank.**



**The Mound Core Team**  
500 Capstone Circle  
Miamisburg, OH 45342

---

January 2005

Mr. Frank Bullock, PE  
Director of Operations  
Miamisburg Mound Community Improvement Corporation  
720 Mound Road  
COS Bldg. 4221  
Miamisburg, Ohio 45342-6714

Dear Mr. Bullock:

The Core Team, consisting of the U.S. Department of Energy Miamisburg Closure Project (DOE-MCP), U.S. Environmental Protection Agency (USEPA), and the Ohio Environmental Protection Agency (OEPA), appreciates your comments on the Building 124 Action Memorandum, Public Review Draft, December 2004. Attached is our response.

Should the responses to comments require additional detail, please contact Paul Lucas at (937) 847-8350, x314 and we will gladly arrange a meeting or telephone conference.

Sincerely,

DOE/MCP:	<u>Paul Lucas</u>	<u>1/11/05</u>
	Paul Lucas, Remedial Project Manager	date
USEPA:	<u>Timothy J. Fischer</u>	<u>1/11/05</u>
	Timothy J. Fischer, Remedial Project Manager	date
OEPA:	<u>Kathy Lee Fox - for -</u>	<u>1/11/05</u>
	Brian K. Nickel, Project Manager	date

**This page intentionally left blank.**

**Response to MMCIC/ EHS Technology Group, LLC Comments on the  
Building 124 Action Memorandum  
Public Review Draft  
December 2004**

**Comment 1.**

**Purpose:** The purpose of this document is to document and allow public comment on the proposed Removal Action (Building Demolition) of Building 124 Consolidated Waste Processing Facility (CWPF).

**Assessment of Review:** Building 124 was constructed in 1998 as a temporary, pre-engineered Rubb Building (tent-type building). Building 124 was designed and constructed to perform various volume reduction and repackaging functions that included: soil blending of Transuranic (TRU) soils; opening/venting Tritium/TRU containers for repackaging; compaction of "compactable wastes" such as plastic bags of trash and cardboard; and decontamination of materials for disposal. This building was intended to process Low-Level Radioactive Waste (LLRW) materials that were generated from site demolition and safe-shutdown activities as well as legacy waste streams. As these activities continue to be eliminated from site operations, it is appropriate that this building be removed.

**Technical Analysis:** Building 124 is constructed of a crest, tent-type structure, which has a tension supported steel framework attached to an 8" thick concrete pad. The steel framework is covered with a rubberized fabric. The interior to the building includes a prefabricated Perma-Con enclosure (used to provide contamination control for the package opening station and drum compaction units) and a wood-framed tented enclosure (soil blending tent) adjoined to the Perma-Con enclosure. In late 2003, the wood-framed tented enclosure (soil blending tent) was removed and the facility was reconfigured for use as a heavy-duty equipment maintenance building. This portion of the floor slab, where the soil blending tent was previously located, was found to be contaminated with radioactive materials as a result of the soil blending processes. Since decontamination of this floor area failed to remove radiological constituents to a level below the Cleanup Objectives, the floor area was painted to seal the surface and a protective covering was placed over the painted area. This floor area is currently a Fixed Contamination Area (FCA). The demolition plan includes removal of the contaminated slab portion as a Low Level Radioactive Waste. The remaining uncontaminated slab area (remainder of the floor) is to be demolished and disposed of in a construction debris landfill unless radiological surveys indicate otherwise. Once the building and slab have been removed, the soils below the slab will be screened for contamination. Any removal action necessary for residual contamination in the soils will be part of the PRS 41 Removal Action.

As always, coordination between CH2M Hill, the cleanup contractor at the Mound site, and Miamisburg Mound Community Improvement Corp. (MMCIC - the developer of the site) will result in the return of these areas to that proposed in the Mound Comprehensive Reuse Plan.

**Substantive Comments:** EHS concurs with the proposed Removal Action for Building 124, including the building and slab. We understand that the soils below the slab will be screened and if removal is necessary it will be incorporated with the PRS 41 Removal Action. Coordination between CH2M Hill, the DOE and MMCIC is important to ensure that the Building 124 area is left in a condition consistent with the Mound Reuse Plan. This is more important after the PRS 41 Removal Action of the soils.

EHS, along with MMCIC, will monitor the progress of the removal action. Notification of the Verification Sampling and Analysis Plan and the On-Scene Coordinator Report for this site would be appreciated.

If EHS's understandings are correct, no specific response to the above comment is necessary, and we understand that these comments will be included in the OSC report.

**Response 1.** Thank you for your review and input to the document. Public comments are included in the final version of the document to which they pertain; accordingly, these comments will not be included in an OSC Report as your comment indicated, but are included in the Final version of the Building 124 Action Memorandum.

Because this Removal Action is for the Building 124 structure and slab only, no soil verification sampling will be performed as part of this project. As indicated in the Action Memorandum, the soil below and around Building 124 will be included in the PRS 41 Removal Action.

MMCIC is encouraged to coordinate with DOE and the clean-up contractor regarding demolition activities. The individual demolition Work Plans will specify any site restoration activities following structure removal. The Core Team understands MMCIC's request and encourages MMCIC to meet with DOE to obtain an agreeable end state.

# TABLE OF CONTENTS

Section	Page
1.0 PURPOSE.....	1
2.0 SITE CONDITIONS AND BACKGROUND.....	1
2.1 Site Description.....	1
2.1.1 Physical Location.....	1
2.1.2 Site Characteristics.....	1
2.1.3 Current Conditions.....	2
2.1.4 Radiological Characterization.....	3
2.1.5 Associated PRS Overview.....	4
2.1.6 Release or Threatened Release into the Environment.....	4
2.1.7 National Priorities List Status.....	4
2.2 Other Actions to Date.....	4
2.2.1 Previous Removal Actions.....	5
2.2.2 Current Actions.....	5
2.3 State and Local Authorities' Roles.....	5
2.3.1 State and Local Action to Date.....	5
2.3.2 Potential for Continued State and Local Response.....	5
3.0 THREAT TO PUBLIC HEALTH OR WELFARE OR THE ENVIRONMENT.....	6
3.1 Threats to Public Health or Welfare.....	6
3.2 Threats to the Environment.....	6
3.3 Removal Site Evaluation.....	6
4.0 ENDANGERMENT DETERMINATION.....	6
5.0 PROPOSED ACTION AND ESTIMATED COSTS.....	7
5.1 Proposed Action.....	7
5.1.1 Proposed Action Description.....	7
5.1.2 Contribution to Future Remedial Actions.....	9
5.1.3 Description of Alternative Technologies.....	9
5.1.4 EE/CA.....	9
5.1.5 Standards and Requirements.....	10
5.1.6 Project Schedule.....	11
5.2 Estimated Costs.....	11
6.0 EXPECTED CHANGE IN THE SITUATION SHOULD ACTION BE DELAYED OR NOT TAKEN.....	11
7.0 OUTSTANDING POLICY ISSUES.....	11
8.0 ENFORCEMENT.....	11
9.0 RECOMMENDATION.....	12
10.0 REFERENCES.....	13

# TABLE OF CONTENTS

---

---

Continued

## Appendices

### Appendix A Figures

Figure 1	Mound Site Map
Figure 2	PRSs in Vicinity of Building 124
Figure 3	URMA in Vicinity of Building 124
Figure 4	Schedule Summary

### Appendix B Tables

Table 1	PRSs in Proximity to Building 124
Table 2	Evaluation of Removal Action Appropriateness Criteria
Table 3	Soil Cleanup Objectives
Table 4	Fiscal Year Campaigns
Table 5	Removal Action Cost Estimate

### Appendix C Photographs

### Appendix D PRS Information

### Appendix E Floor Plans

# TABLE OF CONTENTS

Continued

## ACRONYMS

ACM	asbestos-containing material
AM	Action Memorandum
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
CWPF	Consolidated Waste Processing Facility
DOE	Department of Energy
DOT	Department of Transportation
EE/CA	Engineering Evaluation/Cost Analysis
FCA	Fixed Contamination Area
FFA	Federal Facilities Agreement
HASP/JSHA	Health and Safety Plan/Job Specific Hazard Analysis
HEPA	High Efficiency Particulate Air
LLRW	Low-Level Radioactive Waste
MCP	Miamisburg Closure Project
MMCIC	Miamisburg Mound Community Improvement Corporation
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
NFA	No Further Assessment
NPDES	National Pollutant Discharge Elimination System
NPL	National Priorities List
OAC	Ohio Administrative Code
OEPA	Ohio Environmental Protection Agency
OSC	On-Scene Coordinator
OSHA	Occupational Safety and Health Administration
pCi/g	picoCuries per gram
PRS	Potential Release Site
RA	Removal Action
RBGV	Risk-Based Guideline Value
REAPS	Reportable Excess Automated Property System
RMMA	Radiological Material Management Area
ROD	Record of Decision
RCRA	Resource Conservation and Recovery Act
RSE	Removal Site Evaluation
SARA	Superfund Amendments and Reauthorization Act
TRU	Transuranic
UB	unbinned
URMA	Underground Radioactive Material Area
USEPA	United States Environmental Protection Agency

This page intentionally left blank.

## **1.0 PURPOSE**

The United States Department of Energy (DOE) is the designated lead agency under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and removal actions (RAs) at the Miamisburg Closure Project (MCP) (previously called the Miamisburg Environmental Management Project or MEMP) are implemented as non-Superfund, federal-lead actions. DOE provides the On-Scene Coordinator (OSC). Non-Superfund, federal-lead RAs are not subject to United States Environmental Protection Agency (USEPA) limitations on the OSC (\$50,000 authority) and are not subject to National Oil and Hazardous Substances Pollution Contingency Plan (NCP) limitations on RAs (i.e., \$2,000,000 in cost and 12 months in duration).

This Action Memorandum (AM) Engineering Evaluation/Cost Analysis (EE/CA) has been generated to document the general site conditions that would justify application of a RA consistent with CERCLA, to propose the RA described herein, and to allow public input (Reference 1).

This RA is proposed for the removal of Building 124 (superstructure and slab only; soil below and around Building 124 is included in PRS 41 RA). There are no Potential Release Sites (PRSs) associated with Building 124. The location of Building 124 is shown on Figure 1 (Appendix A). Photographs (taken in 2004) are provided in Appendix C, and floor plans are provided in Appendix E.

## **2.0 SITE CONDITIONS AND BACKGROUND**

### **2.1 Site Description**

This section describes the physical site location, site characteristics, release of contaminants into the environment, and the site's National Priorities List (NPL) status.

#### 2.1.1 Physical Location

The MCP Site is located on the southern border of the City of Miamisburg in Montgomery County, Ohio, approximately 10 miles south-southwest of Dayton and 45 miles north of Cincinnati.

#### 2.1.2 Site Characteristics

Building 124, the Consolidated Waste Processing Facility (CWPF) was constructed as a temporary pre-engineered Rubb Building (tent-type building) in 1998. Building 124 is located in the plant valley, approximately 167 feet to the northeast of Building 72, and due north of the sewage treatment plant (see Figure 1).

Building 124 was designed and constructed to perform various volume reduction and repackaging functions that included: soil blending of Transuranic (TRU) soils; opening/venting Tritium/TRU containers for repackaging; compaction of "compactable wastes" (such as plastic bags of trash and cardboard); and decontamination of materials for disposal. The CWPF was intended to process Low-Level Radioactive Waste (LLRW)

materials that were generated from site demolition and safe-shutdown activities as well as legacy waste streams.

Building 124 is a 60-ft. wide x 87.5-ft. long (approximately 5,250 square foot), 30 ft tall at the crest, tent-type structure, which has a tension supported steel framework attached to an 8" thick concrete pad. The steel framework is covered with a rubberized fabric. The main ventilation system for the Rubb Building is a high efficiency particulate air (HEPA) filtered system designed to keep the facility under negative pressure. This ventilation system is connected to an exterior fan blower and 30-foot tall, 30-inch diameter stainless steel stack. Interior to the Rubb structure is a prefabricated Perma-Con® enclosure (used to provide contamination control for the package opening station and drum compaction units) and a wood-framed tented enclosure (soil blending tent) adjoined to the Perma-Con® enclosure for decontamination and waste size reduction operations. There are overhead doors on each end of the CWPF. The general layout and arrangement of the equipment inside the CWPF structure, as configured for waste reduction activities, is depicted in Appendix E. In late 2003 the wood-framed tented enclosure (soil blending tent) was removed (reference demolition workplan # BOSS 38193-00, *Dismantle Soil Blending Tent in Building 124 (CWPF)*) and the facility was reconfigured for use as a heavy-duty equipment maintenance building.

Building 124 is scheduled for decommissioning and demolition in fiscal year 2005. Decommissioning includes Safe Shutdown activities to be performed prior to demolition, and is not included in this AM. This AM covers the demolition of the structure, interior facilities, slab, and foundations. This work also covers any required surface decontamination exterior to Building 124 but within the building's 15-foot perimeter.

Building 124 is situated within the boundary of an Underground Radioactive Material Area (URMA), as shown on Figure 3. Additionally, a portion of PRS 7 (plant sanitary outfall pipeline) lies under the northwest corner the building slab. The sub-slab soils under Building 124 and soils surrounding the building will be evaluated/characterized and included within the work plan and SUD (and remediated as indicated) as part of the PRS 41 RA. Following completion of the RRE, ROD, and when CERCLA 120 h requirements are met,, the property on which Building 124 stands will be transitioned to the Miamisburg Mound Community Improvement Corporation (MMCIC).

### 2.1.3 Current Conditions

The building is currently being used as maintenance "garage" for heavy-duty equipment. All waste repacking operations have been discontinued. The Rubb structure, including the tubular steel framing, is believed to be uncontaminated; however, radiological surveys will be performed to confirm appropriate disposition. The Perma-Con® enclosure, excess equipment, ventilation components (ducting, HEPA filtration, and heating equipment), and abandoned systems will be removed from the building only if they are contaminated and/or have been identified for future use. Otherwise, these materials will be demolished with the building.

A portion of the floor slab within Building 124 (where the soil blending tent enclosure was previously located) is contaminated with radioactive materials as a result of the steel plate box/drum venting and soil blending processes. The plan is to remove the contaminated slab portion as LLRW. The remaining uncontaminated slab area is to be demolished and disposed of in a landfill unless radiological surveys indicate otherwise.

The Rubb building main area (excluding the Perma-Con® unit) is not heated or cooled. A split heating and air conditioning unit recirculation system serviced the Perma-Con® structure. This system provided the heating/cooling for the Perma-Con® from makeup air from outside and exhausted approximately 15% through the HEPA filter into the Rubb building. Two window units provided additional heating/cooling for the Perma-Con® structure: one for the observation room and the other on the east end of the Perma-Con® structure. The Perma-Con® air recirculation system is equipped with a HEPA filter.

The electrical service for the CWPF is 480 Volt, 250-Ampere service supplied to the service entrance/main disconnect from existing overhead sources. All power wiring is exposed rigid ground conduit. No under slab wiring is included. A transformer and 120-Volt distribution panel is used for lighting and 120-Volt process equipment power feeds.

No potable water, service water, or fire system water is provided to Building 124.

#### *2.1.3.1 Asbestos Survey*

A room-by-room inspection of all accessible spaces was conducted on September 29, 2004, by Mr. Christopher Ahlquist, an Industrial Hygienist with CH2M Hill Mound, Inc., to prepare an inventory of the location and approximate quantities of any asbestos-containing materials. No materials were identified within or on the structure that would be considered suspect for containing asbestos in accordance with EPA protocol for conducting such inspections.

#### *2.1.3.2 Lead Survey*

On September 29, 2004, Mr. Christopher Ahlquist, an Industrial Hygienist with CH2M Hill Mound, Inc. (CH2M), completed a walkthrough survey of Building 124 for purpose of identifying any existing or potential lead paint hazards. The paint coatings present were observed to be intact and no potential hazards observed. Untested paint should be assumed to contain lead until such time that testing proves otherwise.

Since the building is scheduled for imminent demolition, painted surfaces will be tested for lead content as planned work indicates the need for such testing in order to avoid worker exposure to lead. This restriction will be incorporated into work plans for which disturbance of paint is a possibility.

#### 2.1.4 Radiological Characterization

Building 124 underwent radiological characterization in 2003 to prepare for decommissioning. The characterization identified several areas of fixed contamination. The existing floor plan of Building 124 along with the Perma-Con® unit is depicted in

Appendix E. The soil blending tent enclosure adjoining the Perma-Con® structure was removed (Circa 2003) as part of the decommissioning process. The floor slab area where the soil blending tent enclosure stood is a Fixed Contamination Area (FCA). Decontamination of the floor area failed to remove radiological constituents to a level below Cleanup Objective. The floor area was painted to seal the floor surface and protective covering was placed over the painted area. Additional characterization is underway and is expected to be completed in October 2004.

#### 2.1.5 Associated PRS Overview

As a result of the investigations and documentation accomplished to comply with the CERCLA cleanup process via the Federal Facilities Agreement (FFA), DOE and the site contractor tabulated all the PRSs identified under the various regulatory programs in effect at the site. Of the site PRSs identified, five are in the vicinity of Building 124 (Appendix B, Table 1). Their locations are shown on Figure 2, and additional information is included in Appendix D.

None of the PRSs are associated with Building 124 and no PRSs will be closed with this RA.

#### 2.1.6 Release or Threatened Release into the Environment

The potential release of radionuclides and/or hazardous chemicals prompted this RA.

#### 2.1.7 National Priorities List Status

The USEPA placed the Mound Site on the NPL by publication in the Federal Register on November 21, 1989.

### **2.2 Other Actions to Date**

The site initiated a CERCLA program in 1989, now guided by the agreement among the DOE, Ohio Environmental Protection Agency (OEPA), and USEPA. An FFA under CERCLA Section 120 was executed between DOE and USEPA Region V on October 12, 1990. It was revised on July 15, 1993 (EPA Administrative Docket No. OH 890-008984) to include OEPA as a signatory. The general purposes of the FFA are to:

- ensure that the environmental impacts associated with past and present activities at the site are thoroughly investigated and appropriate remedial actions taken as necessary to protect the public health, welfare, and the environment,
- establish a procedural framework and schedule for developing, implementing, maintaining, and monitoring appropriate RAs at the site in accordance with CERCLA, Superfund Amendments and Reauthorization Act (SARA), the NCP, Superfund guidance and policy, and Resource Conservation and Recovery Act (RCRA) guidance and policy, and
- facilitate cooperation, exchange of information, and participation of the parties in such actions.

## 2.2.1 Previous Removal Actions

A partial decontamination of Building 124 was performed in 2003. This work included the removal of the soil blending tent enclosure and a partial decontamination of the floor surface area interior to the previously tented enclosure.

### *2.2.1.1 Completed Tasks*

*Building Preparation:* Processes associated with the soil blending of TRU soils, opening/venting Tritium/TRU containers for repackaging, compaction of compactable wastes, and decontamination of materials for disposal have been discontinued. Radiological surveys were performed to determine the extent of contamination in the soil-blending tent and in areas that were to be reused to support the structures use as a heavy-duty maintenance garage. Decontamination activities were performed as needed for the release of areas for reuse.

*Removal of Wood-Framed Tented Structure (Soil Blending Tent):* The wood-framed tented structure, where soil blending of TRU soils and opening/venting Tritium/TRU containers occurred has been dismantled and disposed as LLRW. The floor slab in this area could not be decontaminated to the extent for free-release/reuse (< Cleanup Objective) and was determined to be a FCA. The slab area was painted to seal the surface of the area and covered with protective sheeting.

## 2.2.2 Current Actions

Characterization activities are being performed as summarized below.

1. Characterize the Rubb Building's interior and exterior surfaces
2. Characterize HEPA filters/filter units for Rubb Building and PermaCon® unit. Contain and remove the filters and filter units based on the radiological characterization and then dismantle for disposal (as landfill waste or LLRW per Waste Management direction).

## **2.3 State and Local Authorities' Roles**

### 2.3.1 State and Local Action to Date

In 1990, as a result of the site's placement onto the NPL, DOE and USEPA entered into an FFA that specified the manner in which the site CERCLA-based environmental restoration was to be implemented. In 1993, the FFA was amended to include the OEPA as a signatory. DOE remains the lead agency.

### 2.3.2 Potential for Continued State and Local Response

Eventual release of the site for industrial/commercial use is planned. Periodic environmental monitoring of the area may be required until a final Record of Decision (ROD) is implemented for the parcel. This monitoring would require coordination with local, state, and federal authorities. Current plant-wide environmental monitoring programs will

continue until such time as remediation is completed. OEPA will continue its oversight role until all terms of the FFA have been completed.

### **3.0 THREAT TO PUBLIC HEALTH OR WELFARE OR THE ENVIRONMENT**

#### **3.1 Threats to Public Health or Welfare**

The potential release of radionuclides and/ or hazardous chemicals may create a potential threat to the public health or welfare.

#### **3.2 Threats to the Environment**

The potential release of radionuclides and/or hazardous chemicals may create a potential threat to the environment.

#### **3.3 Removal Site Evaluation**

The Removal Site Evaluation (RSE) requirements, as outlined under USEPA's NCP regulations in the Code of Federal Regulations (CFR) 40 CFR 300.415, are presented throughout this AM/EE/CA. The source and nature of the potential releases include the following: fixed radiological contamination on building slab surfaces, soil underneath the building is within an URMA boundary (from Thorium staging and redrumming activities prior to the construction of Building 124), PRS 41 (also from Thorium staging and redrumming activities prior to the construction of Building 124), and PRS 7 (Plant sanitary outfall pipeline). On the basis of this information, the Core Team recommends a RA for Building 124. Following demolition of Building 124, verification soil sampling will be performed per a Core Team-approved SUD to ensure that the historic isolated remediations meet the PRS 41 RA cleanup objectives..

An evaluation by public health agencies has not been performed for this area, and, therefore, is not included in this AM/EE/CA. The NCP identifies eight factors that must be considered in determining the appropriateness of a RA [40 CFR 300.415(b)(2)]. These criteria are evaluated in Table 2 of Appendix B.

### **4.0 ENDANGERMENT DETERMINATION**

As the location is currently configured and access controlled, actual or threatened releases of pollutants and contaminants from this site do not pose an endangerment to public health or welfare or to the environment. However, to eliminate the possibility of endangerment, as the site transfers from DOE ownership and control, DOE has determined that removal of the contaminants is appropriate.

## 5.0 PROPOSED ACTION AND ESTIMATED COSTS

### 5.1 Proposed Action

The proposed action is the demolition of Building 124 (photographs provided in Appendix C). Since the proposed action is within the site boundaries, it is not expected to have a disproportionate impact on low income or minority populations.

#### 5.1.1 Proposed Action Description

The Building 124 RA is scheduled to begin in mid-January 2005, and is planned to continue through the end of January 2005. The proposed action is expected to result in multiple fieldwork efforts. Components of the proposed action include the following:

- **Public Notification**

A notice of the availability of this AM/EE/CA for 30-day public review will be published in a local newspaper.

- **Demolition**

Demolition activities will be as specified in the Work Plan as summarized below.

1. Demolish Rubb Building superstructure.
2. Remove any remaining contaminated equipment and/or piping associated with PermaCon® unit.
3. Demolish PermaCon® unit/equipment.
4. Saw cut building floor slab to isolate contaminated slab area.
5. Remove the uncontaminated floor slab area.
6. Remove the contaminated floor slab area.
7. Remove the foundation, down to at least three feet below grade.

Note: All demolition debris to be debris-pile surveyed in accordance with procedures MD-80036, *Radiological Operations Procedures, Op 1011, Debris Pile, Rolloff, and RMMA Deposting Surveys* and MD-80043, *Radiological Work Requirements, Op 400, Radioactive Material Transfer and Unrestricted Release of Property/Waste*. Procedures controlling waste characterization are contained in Mound Technical Manuals MD-10167, *Radioactive Waste Procedures, Operations 420: Waste Stream Characterization* and 428: *Waste Radionuclide Identification and Quantification*, and MD-70523, *Management of Hazardous Waste, Trash, and Recyclable Materials, Operation 001: Waste Verification Sampling and Analysis*. Additional direction is contained in these manuals in operations specific to the waste type and container being used.

- **Verification**

Verification of completion of this RA will be per photographs showing the complete removal of Building 124, which will be included in the OSC Report. Soil below and around Building 124 is not included in this RA, but will be evaluated and remediated (if indicated) via the PRS 41 RA.

- **Documentation of Completion**

The completion of the Building 124 RA will be documented in the OSC Report.

#### *5.1.1.1 Rationale, Technical Feasibility, and Effectiveness*

The RA chosen is necessary for the removal of known contamination and to ensure that migration of the contamination does not occur. Verification of completion of demolition will be per photographs included in the OSC Report. Soil below and around Building 124 will be evaluated and remediated (if indicated) via the PRS 41 RA.

#### *5.1.1.2 Monitoring*

Health and Safety monitoring will be performed throughout the RA according to standard MCP procedures, as specified in the Work Package(s), JSHA/HASP, and Radiological Work Permit(s).

#### *5.1.1.3 Uncertainties*

The major uncertainties are the concentration levels of the contaminants. The extent of contamination (surface area) has been defined through previous radiological surveys. Minor uncertainties include ventilation and support equipment (in PermaCon® unit) that may have possible radiological contamination.

#### *5.1.1.4 Institutional Controls*

DOE will remain in control of the location addressed by this RA until transfer of ownership of the parcel it is in. As with the entire property, site-wide institutional controls will be implemented to ensure industrial/commercial reuse of the Mound property and will be documented in the proposed plan, ROD, and property deed associated with this area to ensure future protection of human health and the environment.

#### *5.1.1.5 Post-Removal Site Control*

Initially, post-removal site control will be provided by DOE/MCP. The property is to be sold to MMCIC. The institutional and site controls needed at the time of the site transfer in order to ensure future protection of human health and the environment will be included in the ROD.

#### 5.1.1.6 *Cross-Media Relationships and Potential Adverse Impacts*

The potential cross-media impact associated with the RA is the potential for unintended release of contaminated materials into the atmosphere or surface/groundwater. Careful monitoring and control will be implemented during the RA. No potential adverse impacts of the RA have been identified.

#### 5.1.2 Contribution to Future Remedial Actions

To facilitate Further Assessments and RAs in or near the site of this RA, the exact dimensions of the removal and the levels of contamination identified and removed will be documented. The OSC Report will document the RA with photographs, drawings, and other information collected during the fieldwork. The information obtained as a result of this RA will be used in determining the availability of the site for final disposition and will be subject to review in the subsequent residual risk evaluation.

#### 5.1.3 Description of Alternative Technologies

Alternative technologies frequently evaluated for CERCLA remediation include institutional controls, containment, collection, treatment, and disposal. Based on the prevailing conditions, the following alternatives (in addition to the proposed alternative of dismantlement) were developed.

1. No Action
2. Institutional Controls

The performance capabilities of each alternative with respect to the specific criteria are discussed below.

##### 5.1.3.1 *No Action*

The "No Action" option was eliminated from further consideration. The Core Team determined that a RA is warranted for Building 124.

##### 5.1.3.2 *Institutional Controls*

Existing Plant institutional controls effectively minimize the potential for contact of the subject contamination with the general public. However, after ownership is transferred, these same institutional controls will be difficult to monitor and enforce. Thus, institutional controls were eliminated from further consideration. A RA is warranted.

#### 5.1.4 EE/CA

This document serves as the AM and EE/CA.

## 5.1.5 Standards and Requirements

The following standards, code of federal regulations (CFR), or requirements have been identified as applicable, or relevant and appropriate to the implementation of this RA. Other standards or requirements related to the actual implementation of the RA may be identified subsequently and will be incorporated into the Work Plan for this RA. Mound personnel will comply with the following requirements, as applicable.

### *5.1.5.1 Air Quality*

- 40 CFR Part 61 Subpart H: National Emissions Standards for Emissions of Radionuclides other than Radon from Department of Energy Facilities.
- Ohio Administrative Code (OAC) 3745-15-07(A): Air Pollution Nuisances Prohibited.
- OAC 3745-17-02 (A, B, C): Particulate Ambient Air Quality Standards
- OAC 3745-17-05: Particulate Non-Degradation Policy
- OAC 3745-17-08: (A1), (A2), (B), (D): Emission Restrictions for Fugitive Dust

### *5.1.5.2 Worker Safety*

- 29 CFR Part 1910: Occupational Safety and Health Act (OSHA) - General Industry Standards
- 29 CFR Part 1926: OSHA - Safety and Health Standards
- 29 CFR Part 1904: OSHA - Record keeping, Reporting, and Related Regulations

### *5.1.5.3 Storm water Runoff*

- National Pollutant Discharge Elimination System (NPDES) Permit No. 11O00005\*HD, June 1998.

### *5.1.5.4 Transportation*

- 49 CFR 172, 173: Department of Transportation (DOT) hazardous material transportation and employee training requirements.

### *5.1.5.5 To Be Considered*

- EPA/230/02-89/042: Methods for Evaluating the Attainment of Cleanup Standards.
- DOE Order 5400.5: Radiation Protection of the Public and the Environment

### 5.1.6 Project Schedule

The schedule established for planning and implementing the RA is provided in Figure 4.

### **5.2 Estimated Costs**

The cost estimate to perform the RA is shown in Table 5. Costs include the construction activities, all engineering and construction management, disposal, and site restoration.

### **6.0 EXPECTED CHANGE IN THE SITUATION SHOULD ACTION BE DELAYED OR NOT TAKEN**

There is the potential for the contaminants to migrate if action is delayed or not taken.

### **7.0 OUTSTANDING POLICY ISSUES**

There are currently no outstanding policy issues affecting performance of this RA.

### **8.0 ENFORCEMENT**

The Core Team consisting of DOE, USEPA, and OEPA has agreed on the need to perform the removal. The work described in this document does not create a waiver of any rights under the FFA, nor is it intended to create a waiver of any rights under the FFA. The DOE is the sole party responsible for implementing this cleanup. Therefore, DOE is undertaking the role of lead agency, per CERCLA and the NCP, for the performance of this RA. The funding for this RA will be through DOE budget authorization and no Superfund monies will be required.

**9.0 RECOMMENDATION**

This decision document represents the selected Removal Action for Building 124, developed in accordance with CERCLA as amended by SARA, and not inconsistent with the NCP. This decision is based on the administrative record for the site.

Conditions at the site meet the NCP Section 300.415 (b)(2) criteria for a removal and we recommend initiation of the removal action.

Approved:

DOE/MCP:	<u>Paul Lucas</u> Paul Lucas, OSC	<u>12/2/04</u> Date
USEPA:	<u>Timothy J. Fischer</u> Timothy J. Fischer, Remedial Project Manager	<u>12/1/04</u> Date
OEPA:	<u>Brian K. Nickel</u> Brian K. Nickel, Project Manager	<u>12/2/04</u> Date

## 10.0 REFERENCES

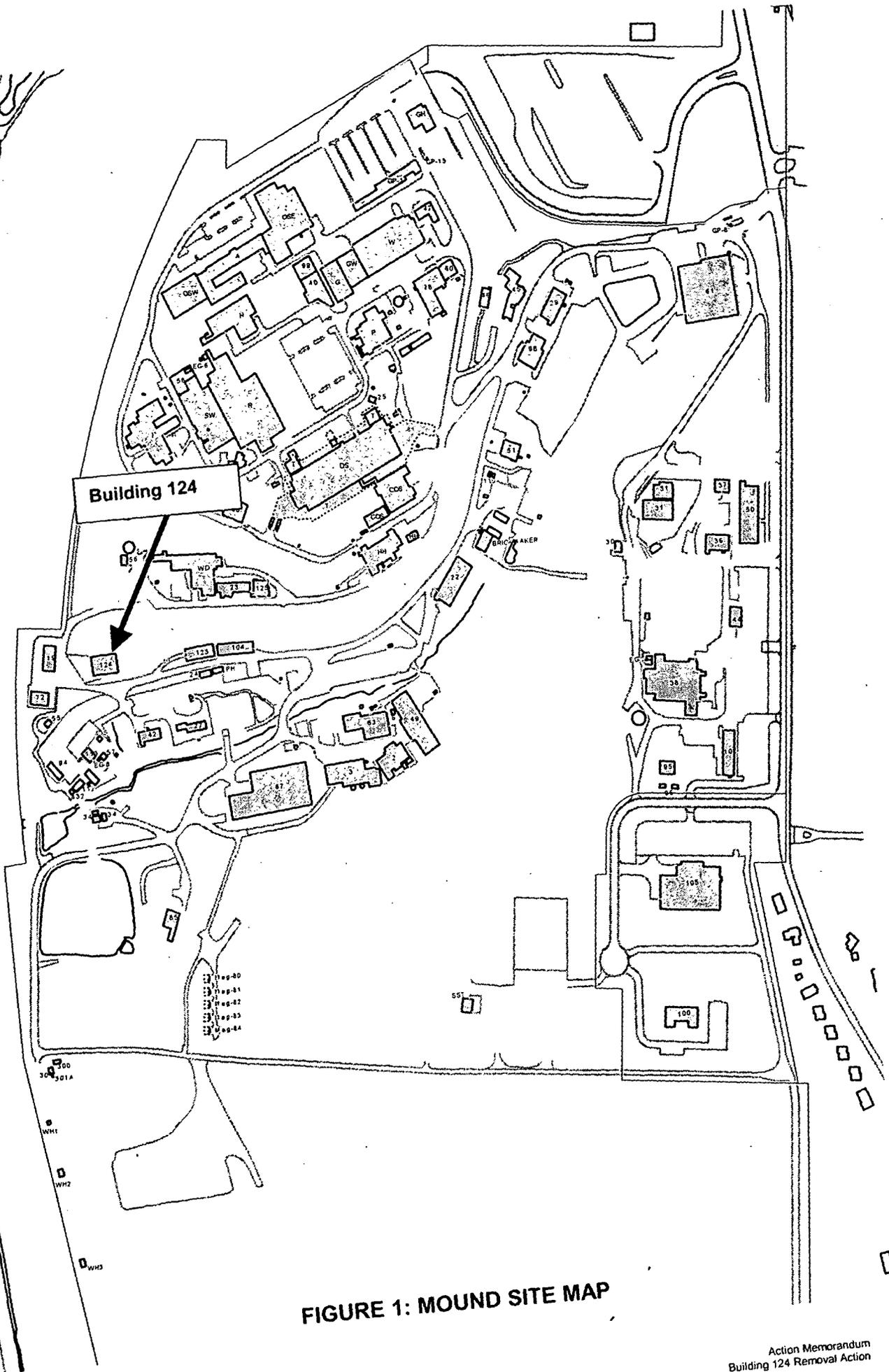
1. Federal Facilities Agreement under CERCLA Section 120, USEPA, October 12, 1990.
2. List of Ohio Administrative Code and Ohio Revised Code ARARs, Letter from Nickel to Kleinrath, August 19, 1998.

# Appendix A

---

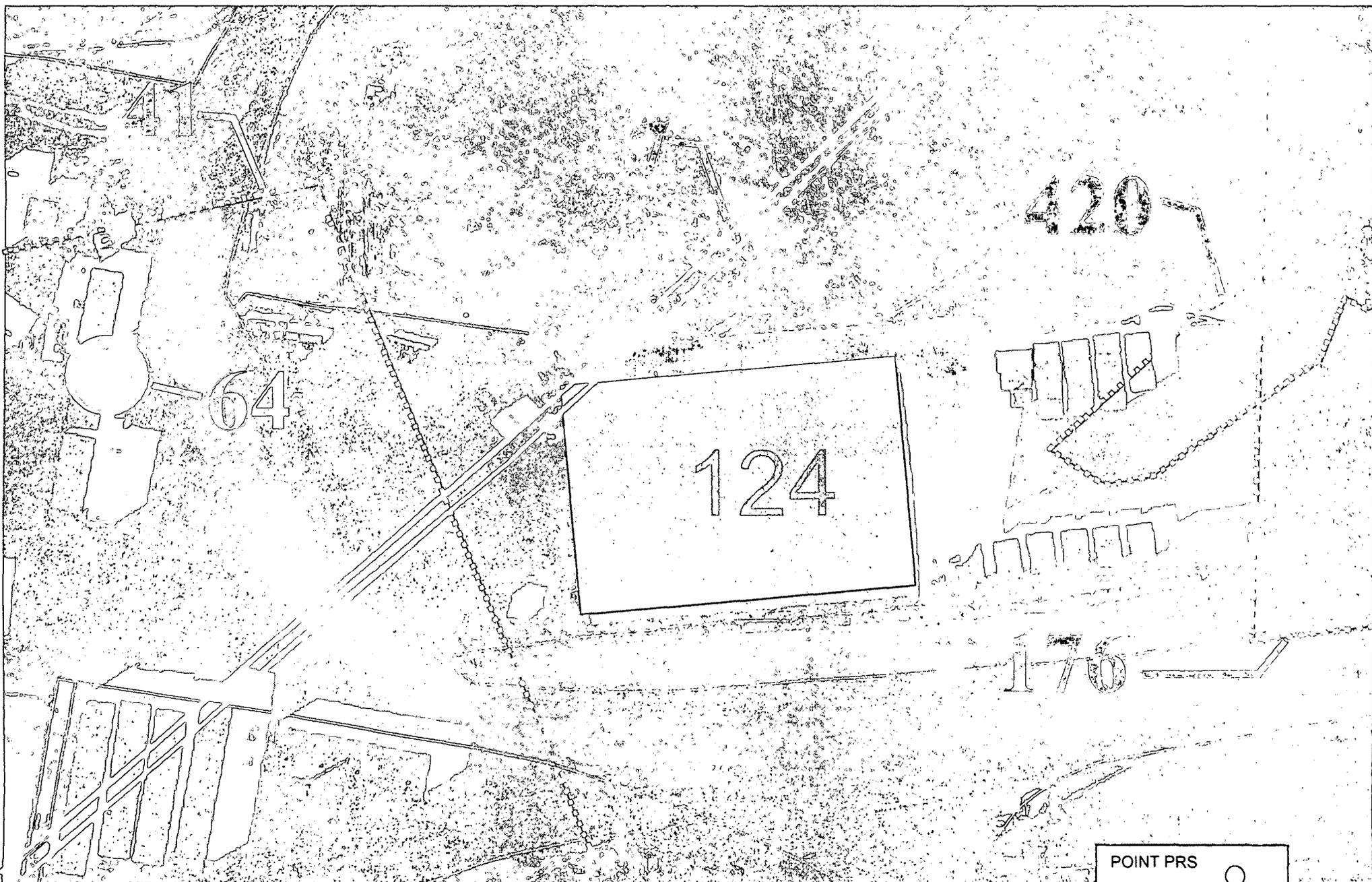
---

## Figures

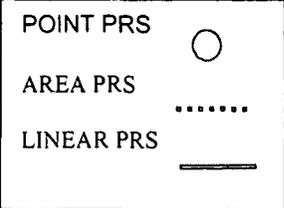


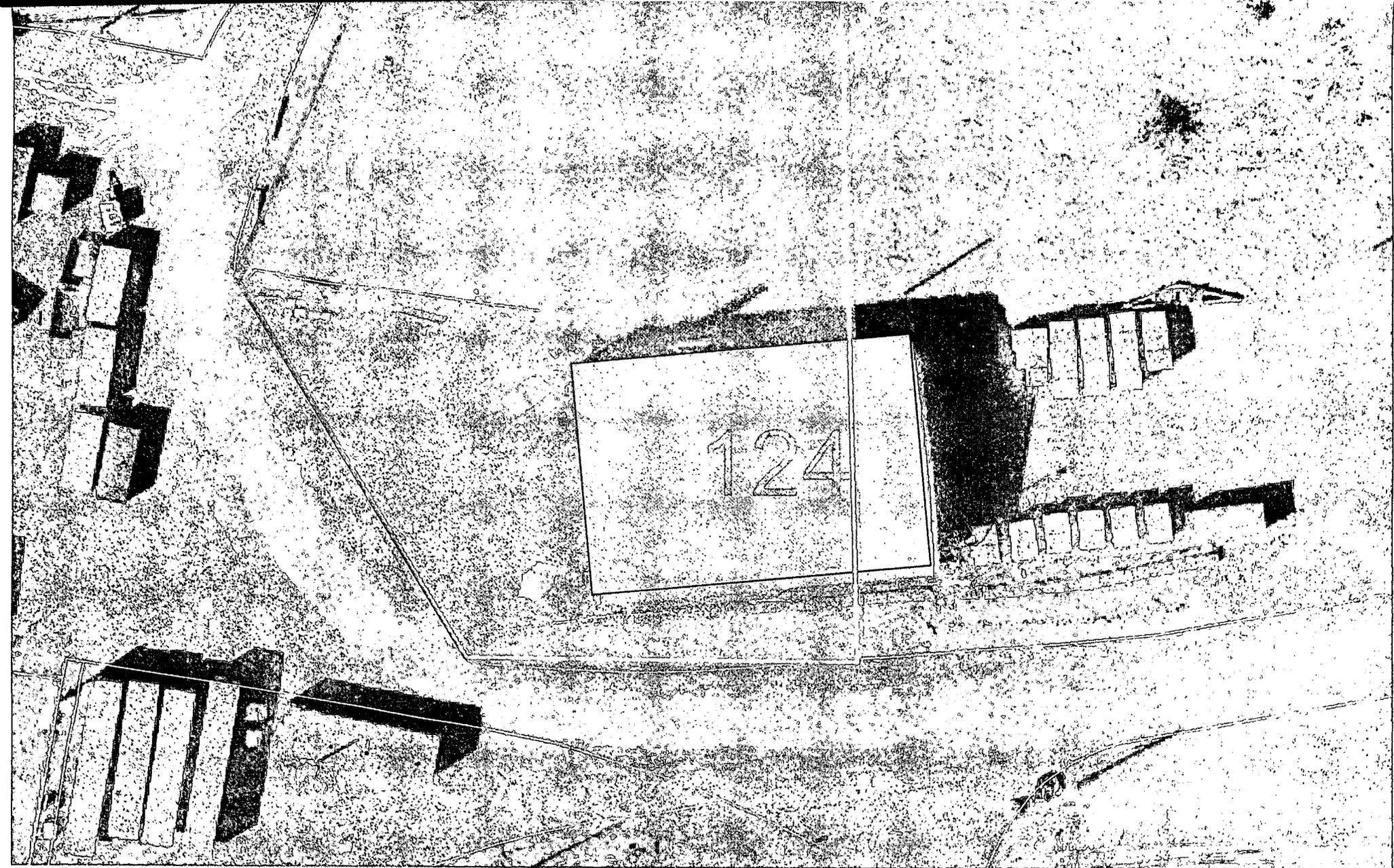
**Building 124**

**FIGURE 1: MOUND SITE MAP**



**FIGURE 2: PRSs IN VICINITY OF BUILDING 124**





**FIGURE 3: URMA IN VICINITY OF BUILDING 124**



# Appendix B

---

---

## Tables

**Table 1: PRSs in Proximity to Building 124\***

PRS	CERCLA or Bldg. Related	Binning Status	Comments
7	CERCLA	Further Assessment (FA)	Plant Sanitary Outfall pipeline.
41	CERCLA	RA	Area 3, Thorium drum storage and redrumming area.
64	CERCLA	No Further Assessment (NFA)	Building 19 historic gasoline tank (Tank 238)
176	CERCLA	NFA	Area 14, radioactive waste line break.
420	CERCLA	NFA	Wetland

\* No PRSs are closed via the Building 124 Action Memo.

**Table 2: Evaluation of Removal Action Appropriateness Criteria**

Criteria	Evaluation
"...potential exposure to nearby human populations, animals, or the food chain..."	There is potential exposure to nearby human populations, animals, or the food chain from radionuclides and/or hazardous chemicals if present institutional controls were relaxed.
"Actual or potential contamination of drinking water supplies..."	There is potential for contamination of onsite drinking water supplies by radionuclides and/or hazardous chemicals. The contaminants could migrate to the groundwater that is the source for the plant drinking water.
"Hazardous substances or pollutants or contaminants in drums, barrels, tanks, or other bulk storage containers, that may pose a threat of release;"	Not applicable.
"High levels of hazardous substances or pollutants or contaminants in soils largely at or near the surface, that may migrate;"	Not applicable.
"Weather conditions that may cause hazardous substances to migrate or be released;"	Not applicable.
"Threat of fire or explosion;"	Not applicable.
"The availability of other appropriate federal or state response mechanisms to respond to the release;" and	There are no other state or federal mechanisms required to respond. The FFA established a combined state and federal mechanism to respond under CERCLA. DOE is the designated lead agency at the site under CERCLA.
"Other situations or factors that may pose threats to public health or welfare or the environment."	Not applicable.

**Table 3: Soil Cleanup Objectives (pCi/g)**

Contaminant	Background	Guideline Value (10 <sup>-5</sup> )	Cleanup Objective
Actinium-227 +D	0.11	4.5	4.6
Plutonium-238	0.13	61	55*
Thorium-232 +D	1.4	0.7	2.1

Radionuclides labeled with a "+D" indicate that pertinent daughters are included within the risk calculation.

Cleanup objectives are 10<sup>-5</sup> RBGVs plus background, unless otherwise specified.

pCi/g – picoCuries per gram

\* Value of 55 was based on Core Team decision.

Soil remediation (if indicated) and verification will be handled via the PRS 41 RA.

**Table 4: Fiscal Year Campaigns**

Fiscal Year Campaign	Actions
FY05-Q1	Safe Shutdown Activities
FY05-Q1	Asbestos Abatement
FY05-Q1	Decontamination Activities
FY05-Q1	Demolition
FY05-Q2	Project Closure

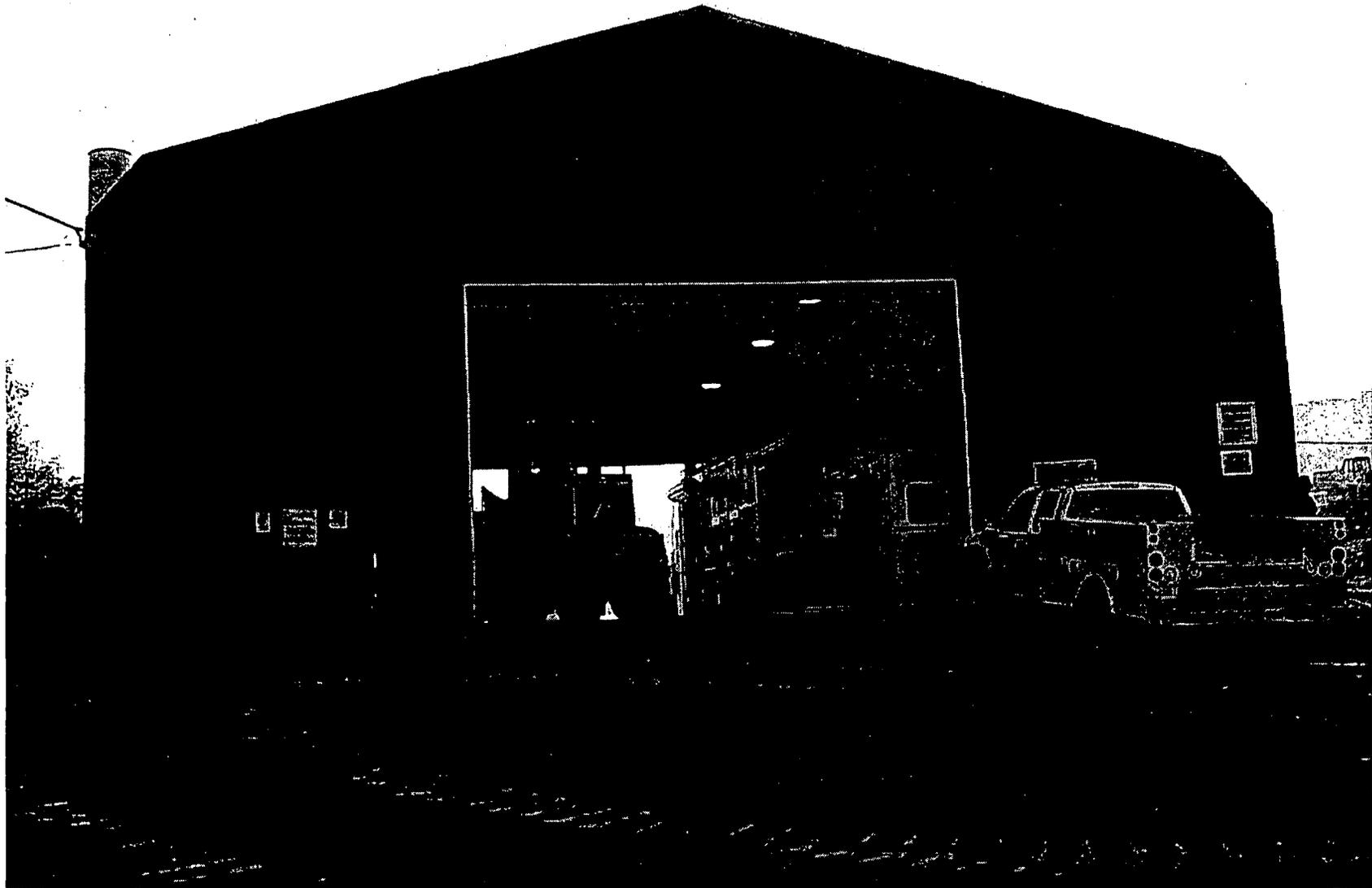
**Table 5: Removal Action Cost Estimate**

Activity	Cost
Work Planning	\$31,000
Safe Shutdown	\$27,000
Characterization/ Decontamination	\$63,000
Demolition	\$129,000
Disposal	\$113,200
OSC Report	\$6,000
<b>TOTAL</b>	<b>\$369,200</b>

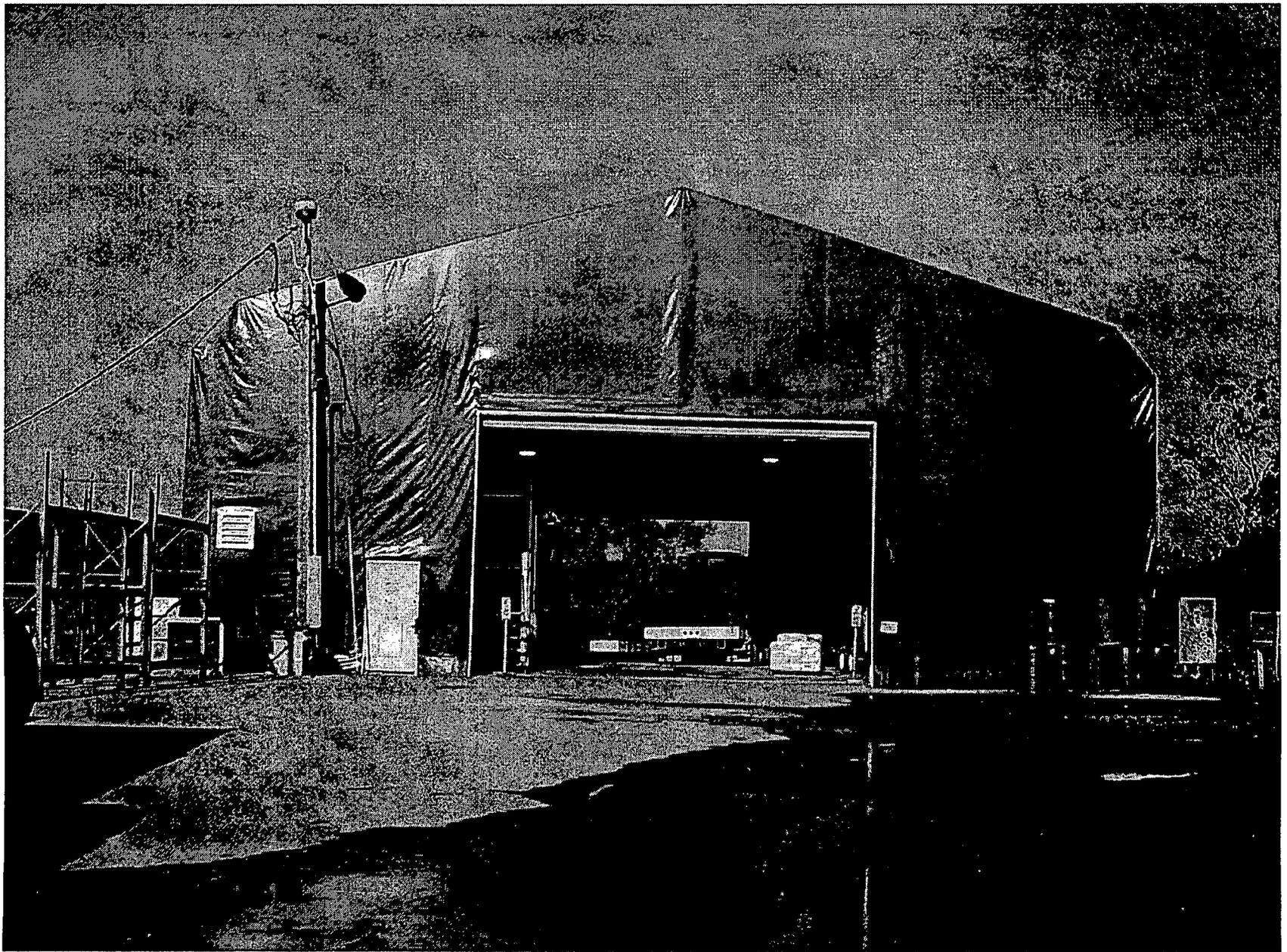
# Appendix C

---

## Photographs



**Building 124 – View From West Side**



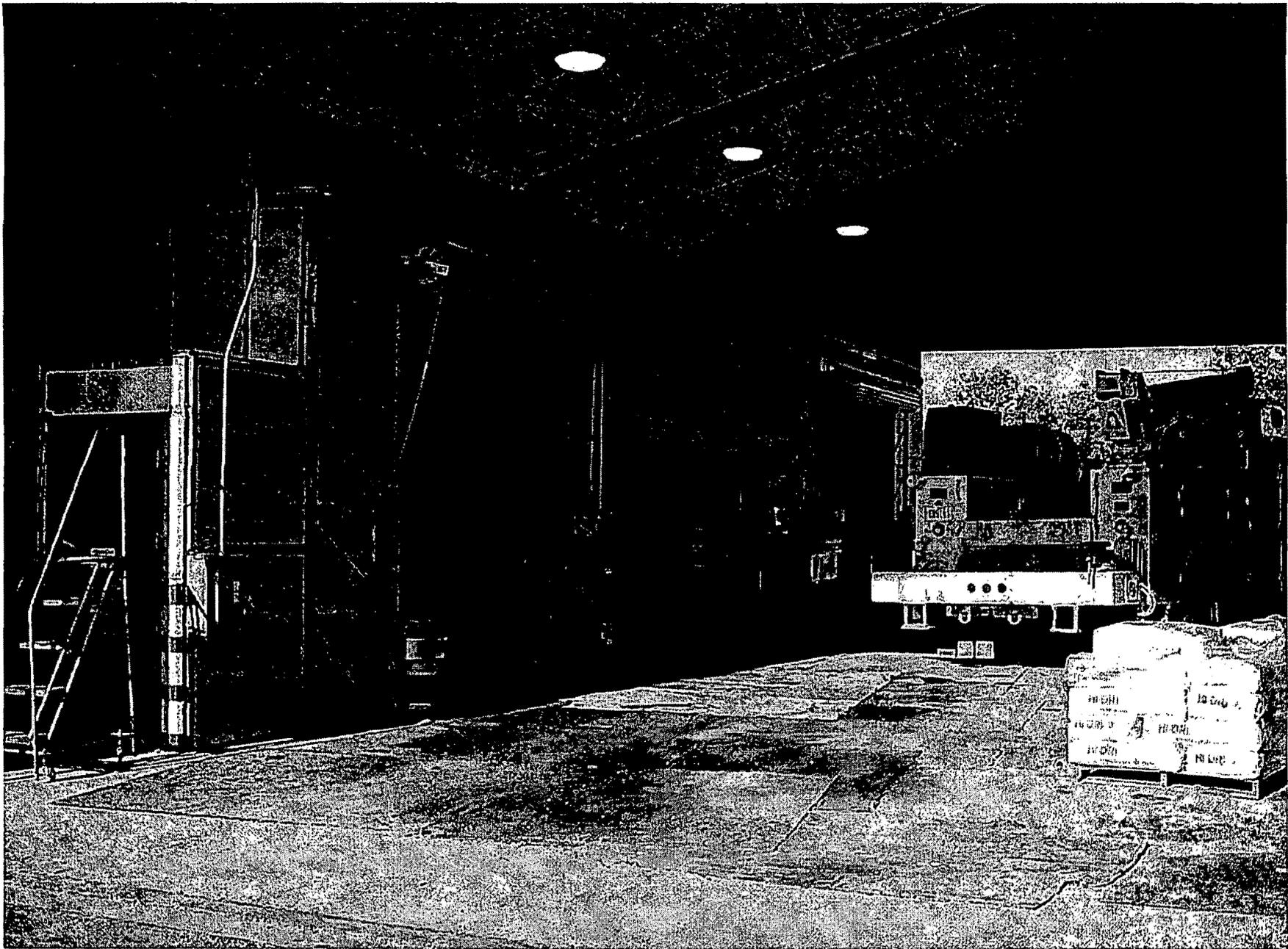
**Building 124 – View From East Side**



**Building 124 – RUBB Building HEPA Ventilation Stack**



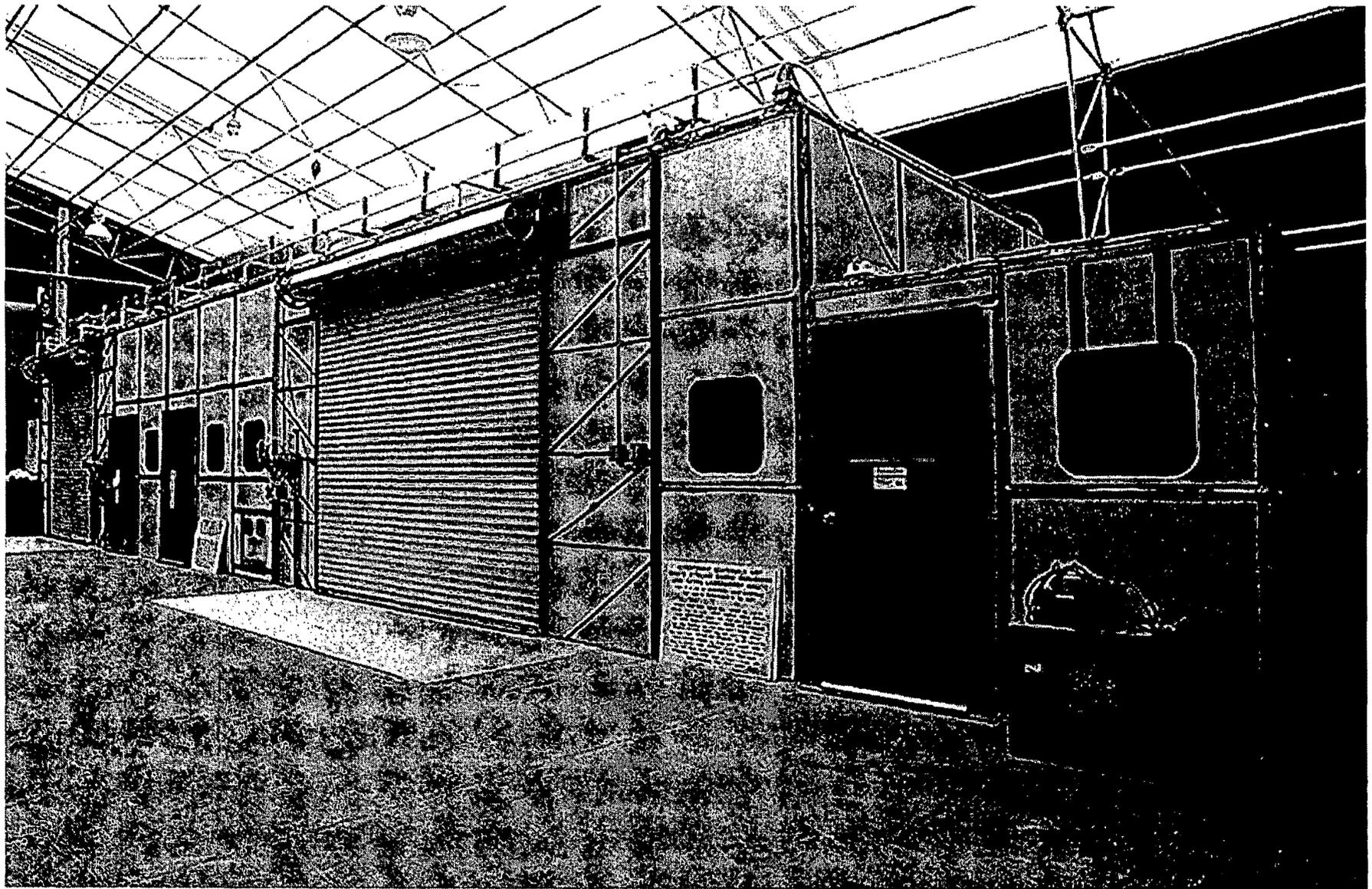
**Wood-Framed Tented Soil-Blending Work Area (removed)**



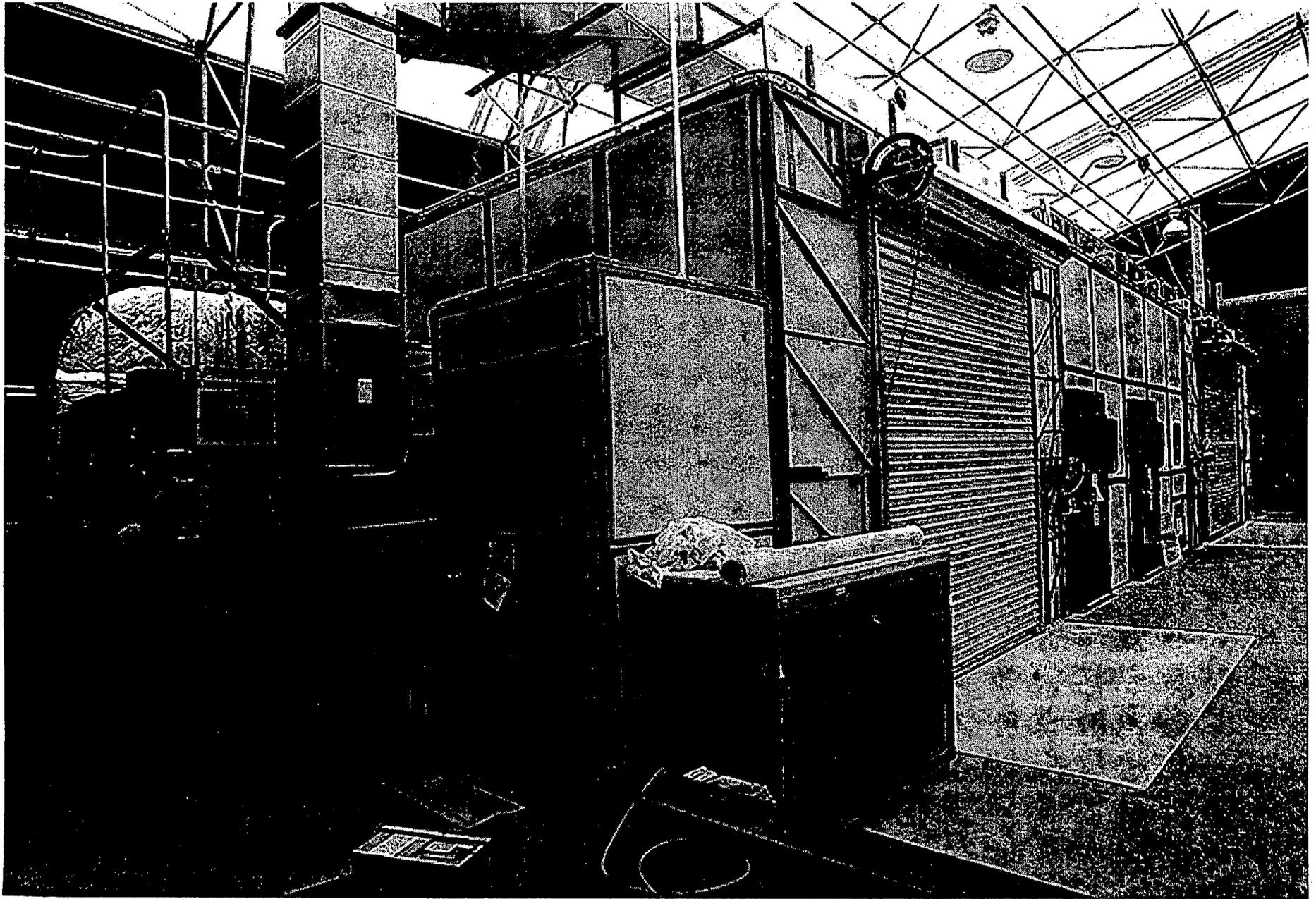
**View of Fixed Contamination Area (FCA) – Painted and Covered With Sheeting**



**View From West Side of Fixed Contamination Area (FCA)**



**Interior of Building 124 – PermaCon Structure**



View of Air Handling Unit at East End of PermaCon Unit

# Appendix D

---

## PRS Information

Recommendation sheets for PRSs 41, 64, 176 and 420 are attached. Recommendation sheets are not generated for PRSs that require Further Assessment (FA) or that are unbinned. Accordingly, there is no recommendation sheet included herein for PRS 7 (FA).

MIAMISBURG CLOSURE PROJECT  
PRS 41

RECOMMENDATION:

Potential Release Site (PRS) 41 is located on the western portion of the site (Figure 1) and was binned Further Assessment by the Core Team on 2 October 1996. PRS 41 was identified based on potential impacts from historic thorium staging and re-drumming operations. Based on elevated historic soil sample results for plutonium-238, a portion of a small drainage feature within PRS 41 (41 Ditch) was also assessed. Further Assessment was performed and confirmed that thorium-232 (at PRS 41) and plutonium-238 (at 41 Ditch) exceed the cleanup objectives of 2.1 pCi/g and 55 pCi/g respectively. The cleanup objective is the  $10^{-5}$  RBGV plus background.

Therefore, the Core Team recommends a Removal Action for PRS 41 and 41 Ditch.

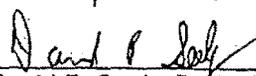
This Removal Action will be performed under a specific Action Memorandum or under the Action Memorandum for Contingent Removal Actions. Successful completion of the Removal Action will be documented via an On-Scene Coordinator (OSC) Report signed by the Core Team, which will be placed in the Public Reading Room.

CONCURRENCE:

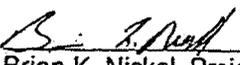
DOE/MCP:

  
Robert S. Rothman, Remedial Project Manager 2/19/03  
(date)

USEPA:

  
David P. Seely, Remedial Project Manager 2/19/03  
(date)

OEPA:

  
Brian K. Nickel, Project Manager 2/19/03  
(date)

**MIAMISBURG CLOSURE PROJECT  
PRS 64**

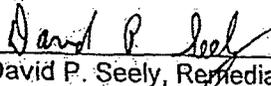
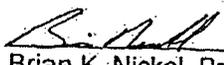
**RECOMMENDATION:**

Potential Release Site (PRS) 64 is located on the western portion of the site (Figure 1) and was binned Further Assessment (FA) by the Core Team on 2 October 1996. PRS 64 is the location of an underground storage tank that was reportedly removed but soil sampling results could not be found. Further Assessment was performed and confirmed that all sample results were below screening levels for BTEX and TPH.

Therefore, the Core Team recommends **No Further Assessment** for PRS 64.

A PRS Package with an NFA recommendation signed by the Core Team will be placed in the Public Reading Room for a 30-day review period. Upon closure of the public review comments, if any, the PRS Package will be issued as a final document and made available in the Public Reading Room.

**CONCURRENCE:**

DOE/MCP:		<u>2/19/03</u>
	Robert S. Rothman, Remedial Project Manager	(date)
USEPA:		<u>2/19/03</u>
	David P. Seely, Remedial Project Manager	(date)
OEPA:		<u>2/19/03</u>
	Brian K. Nickel, Project Manager	(date)

**MOUND PLANT**  
**PRS 176/177/178/300**  
**WASTE TRANSFER SYSTEM LINE, TANKS AND SOIL**

**RECOMMENDATION:**

These Potential Release Sites (PRSs) deal with the transfer of plutonium-238 contaminated waste solutions via the Waste Transfer System (PRS 300) to the Waste Disposal Building (WD) and to two underground storage tanks in Building 41 (PRSs 177 and 178). The PRSs were created as a result of historical knowledge of leaks in the underground Waste Transfer System (WTS).

The WTS was built in 1967 and remained in operation until 1974 when repeated leaks in the WTS lines forced the WTS to be abandoned. In 1974, the soils associated with the WTS leaks (PRS 176) were remediated. In the mid 1980s, the WTS line, the two holding tanks, and Building 43 were removed. Post removal sampling results obtained from the November 1993 *OU6, Area 19 and Area 14 Verification Report* indicated all concentrations of VOCs, SVOCs, pesticides/PCBs and inorganics, in the soil, were below their  $10^{-6}$  Risk Based guideline values. Additionally, the *OU6, Area 19 and Area 14 Verification* sampling showed, within the 95% upper confidence level (UCL), plutonium-238 and thorium soil concentrations were below their respective guideline criteria of 25 pCi/g (Mound ALARA goal for plutonium) and 15 pCi/g (regulatory guideline criteria for subsurface thorium). No other contaminants were detected above guideline criteria.

Therefore, NO FURTHER ASSESSMENT is recommended for PRSs 176, 177, 178, and 300.

**CONCURRENCE:**

DOE/MB: Arthur W. Kleinrath 11/26/96  
Arthur W. Kleinrath, Remedial Project Manager (date)

USEPA: Timothy J. Fischer 12/3/96  
Timothy J. Fischer, Remedial Project Manager (date)

OEPA: Brian K. Nickel 12/17/96  
Brian K. Nickel, Project Manager (date)

**SUMMARY OF COMMENTS AND RESPONSES:**

Comment period from 1/9/97 to 2/13/97

- No comments were received during the comment period.
- Comment responses can be found on page \_\_\_\_\_ of this package.

Page R

**MOUND PLANT  
PRS 420  
Man-Made Wetland Area**

**RECOMMENDATION:**

Potential Release Site (PRS) 420 is the isolated man-made wetland area located between Buildings 123 and 124. It is oblong in shape and approximately 0.06 acres in size. It was identified as a PRS because of the presence of previously identified contaminants, including plutonium-238 (Pu<sup>238</sup>), that likely were present as a result of a historical breach in a nearby waste transfer line - PRS 176. Removal Actions for plutonium have been conducted several times in this area. Recent sampling confirms that all levels of plutonium are below the 10<sup>-5</sup> guideline value of 55 pCi/g and all thorium results are below the Mound cleanup criteria of 3 pCi/g.

Therefore NO FURTHER ASSESSMENT is recommended for PRS 420.

**CONCURRENCE:**

DOE/MEMP:

Arthur W. Kleinrath 4/14/99  
Arthur W. Kleinrath, Remedial Project Manager (date)

USEPA:

Timothy J. Fischer 4/14/99  
Timothy J. Fischer, Remedial Project Manager (date)

OEPA:

Brian K. Nickel 4/14/99  
Brian K. Nickel, Project Manager (date)

**SUMMARY OF COMMENTS AND RESPONSES:**

Comment period from 3/15/2000 to 4/15/2000

- No comments were received during the comment period.
- Comment responses can be found on page \_\_\_\_\_ of this package.

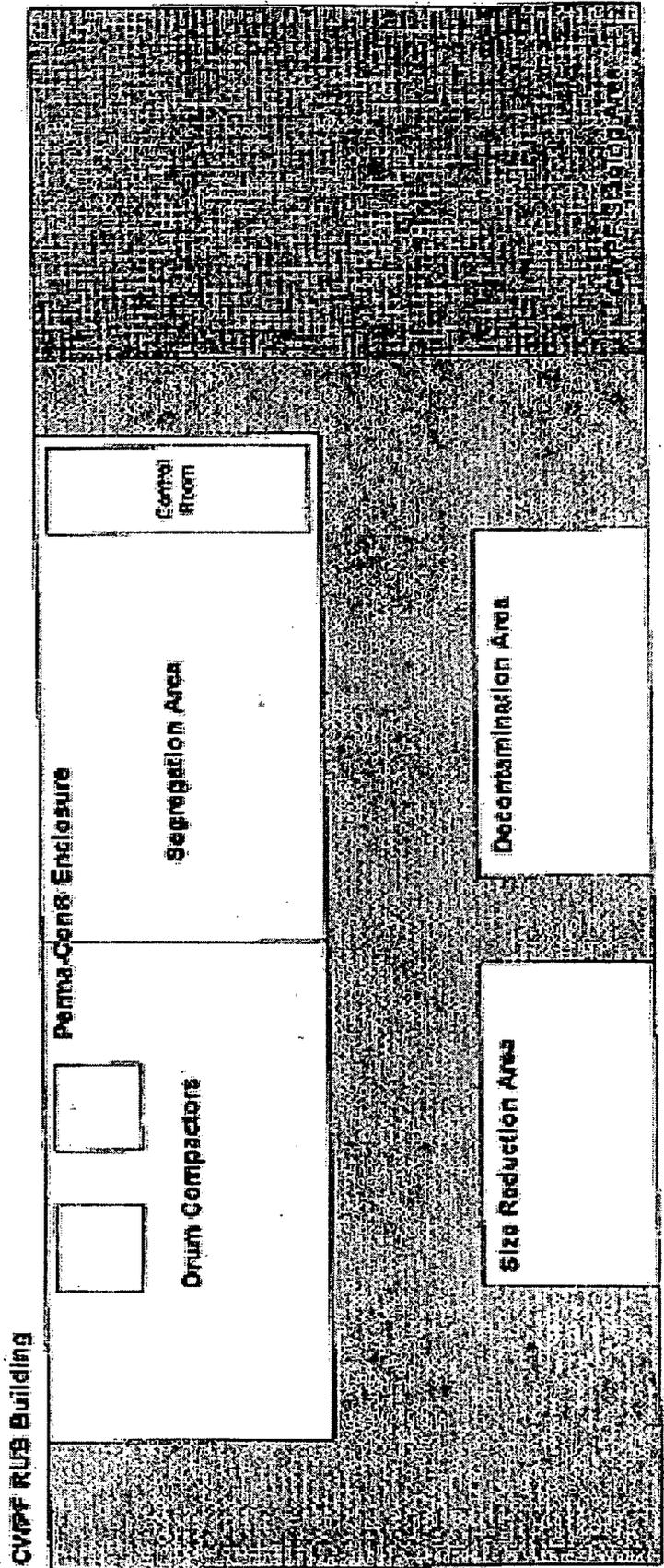
# Appendix E

---

---

## Floor Plans





**CWPF FACILITY WORK AREAS**