

LABEL NBR: 1 Type: DEE
Kind: SPECIAL INSTRUMENT (DEED)
Recorded: 08/21/2025 at 11:09:45 AM
Fee Amt: \$703.00 Page 1 of 85
Montgomery County, OH
Lori Kennedy Recorder
File: 2025-00045320

ENVIRONMENTAL COVENANT

This Environmental Covenant is entered into by the United States of America, acting by and through the United States Department of Energy (US DOE); the United States Environmental Protection Agency (US EPA); and, the Ohio Environmental Protection Agency (Ohio EPA) (collectively known as the "Parties") pursuant to Ohio Revised Code (ORC) §5301.80 to 5301.92, and the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as amended, 42 U.S.C. §§ 9601-9675, for the purpose of subjecting the Property to the activity and use limitations set forth herein.

Whereas, US DOE and US EPA entered into a federal facility agreement (FFA) under Section 120(e) of CERCLA, 42 U.S.C. 9620(e) in June 1990 for the completion by US DOE of all necessary remedial action at former DOE Mound (Ohio) Plant Site, Miamisburg, Ohio (the "Site"). The Site was listed on the National Priorities List on November 21, 1989; and

Whereas, Ohio EPA became a party with US DOE and US EPA to a revised FFA on July 15, 1993; and

Whereas, in accordance with CERCLA and the FFA, a Record of Decision (ROD) for Operable Unit 1 (OU-1) selecting a remedy to address contaminated soil and groundwater in OU-1, which is located within Parcel 9 at the Site within was issued in June 1995;

Whereas, a ROD Amendment of the OU-1 ROD was completed in August 2011;

Whereas, the remedy for OU-1 requires certain restrictions on the use of the Property in accordance with the ROD;

Whereas, the Parties entered into an Environmental Covenant with the State of Ohio executed on December 22, 2011 to address OU-1 and Parcel 9, which includes restrictions regarding limitation on the use of groundwater, movement of soils and prohibition against residential uses or farming activities;

ju: FSI on behalf of
US DOE
2571 Leracy Way
Grand Junction, Co
81503

Whereas, another ROD Amendment of the OU-1 ROD was completed in September 2023 modifying the remedy to address contaminated groundwater and selecting a remedy to address vapor intrusion (VI);

Whereas, a requirement of the 2023 ROD Amendment is the development and implementation of additional soil and groundwater use restrictions on OU-1 and Parcel 9 to protect human health and the environment; and,

Now therefore, US DOE, US EPA, and Ohio EPA agree to the following:

1. Environmental Covenant. This instrument is an environmental covenant developed and executed pursuant to ORC §5301.80 to 5301.92.
2. Property. This Environmental Covenant applies to an approximately 18.5-acre tract of real property identified as the remainder of Parcel 9, which includes all of OU-1, owned by US DOE, located in Miamisburg, Montgomery County, Ohio and is more particularly described as follows and shown in Exhibit A attached hereto and hereby incorporated by reference herein ("Property").

Situated in Section 36, Town 2, Range 5, M.R.s., City of Miamisburg, Montgomery County, Ohio, and being the following Lot Numbers of the Record Plan of Mound Advanced Technology Center, Section 5, as recorded in Plat Book 234, Pages 37 and 37A of the Plat Records of Montgomery County, Ohio on October 19, 2021:

Lot Numbers.:

- K46 00503 0039 - Lot 8071 (5.9521 acres)
- K46 00503 0040 - Lot 8072 (5.7021 acres)
- K46 00503 0041 - Lot 8073 (4.8771 acres)
- K46 00503 0042 - Lot 8074 (2.0185 acres)

Prior Deed References: Deed Book 1214, Page 12 and Deed Book 1246, Page 45 and IR #12-082087 of the deed records of the Montgomery County, Ohio Recorder's office.

The larger Site boundary is also depicted on Exhibit A. The location of the current monitoring wells located at the Property is depicted in Exhibit B, attached hereto and hereby incorporated herein by reference. The environmental condition of said Property to be transferred is described in the CERCLA 120(h) Environmental Summary attached hereto and incorporated herein by reference as Exhibit C.

3. Environmental Response Project. The response actions performed or to be performed on the Property to implement the remedy selected in the Record of Decision for OU-1 dated June 1995, the Record of Decision Amendment dated August 2011, and the Record of Decision Amendment dated September 2023 are an Environmental Response Project as defined in ORC § 5301.80(E). An administrative record for the Record of Decision for OU-1 and Parcel 9 is maintained by US DOE at the US DOE-Legacy Management Business Center, 99 Research Park Road, Morgantown, WV 26505 and at <https://www.energy.gov/lm/mound-ohio-site>.

4. Owner. The United States of America, acting through the United States Department of Energy (US DOE), is the current owner of the Property.

5. Holder. The US DOE, headquartered at 1000 Independence Avenue SW, Washington, DC 20585 is the holder of this Environmental Covenant.

6. Agency. US EPA, Ohio EPA and any successor agency and its respective officer, agents, contractors, and other invitees is the "Agency" as defined in ORC § 5301.80(B) and the "Applicable Agency" as that term is used in ORC § 5301.80 to 5301.92 because US EPA determines or approves the Environmental Response Project pursuant to which this Environmental Covenant was created.

7. Activity and Use Limitations. As part of the remedial action described in the Record of Decision dated June 1995, the Record of Decision Amendment dated August 2011, and the Record of Decision Amendment dated September 2023, the Owner hereby imposes upon itself and for all assigns and successors in interest, including any Transferee, the following activity and use limitations:

- a. Prohibition against residential use or farming activities. The Property shall not be used for any residential or farming activities, or any other activities which result in the chronic exposure of children under eighteen years of age to soil or ground water from the Property. Prohibited uses shall include, but not be limited to:
 - (1) Single or multi-family dwellings or rental units;
 - (2) Day care facilities;
 - (3) Schools or other educational facilities for children under eighteen years of age; and
 - (4) Community centers, playgrounds or other recreational or religious facilities for children under eighteen years of age.
- b. Limitation on movement of soil. No soil from the Property shall be placed on any property outside the boundaries of the Site, described in Exhibit A, without prior written approval from US DOE, Ohio Department of Health (ODH), Ohio EPA and US EPA, or successor agencies.

- c. Prohibition against use of ground water. Ground water under the Property shall not be extracted, consumed, exposed, or used in any way without prior written approval of the US DOE, Ohio EPA and US EPA, or successor agencies. There are a number of monitoring wells currently located at the Property associated with the groundwater remedy as shown of Exhibit B. The Owner shall not tamper with or damage in any manner any monitoring well. The Owner shall notify and receive written approval from the US DOE, Ohio EPA and US EPA, or successor agencies if a well needs to be moved and/or replaced due to redevelopment. The Owner will notify US DOE, Ohio EPA and US EPA, or successor agencies within two (2) business days of any damage to these wells of which it has knowledge, and the US DOE, Ohio EPA and US EPA, or successor agencies will work with the Owner on a resolution.
- d. Mitigation of vapor intrusion (VI) through engineering controls at the Property. The Owner acknowledges that environmental contamination present at the Property may impact indoor air quality. Property owners subject to this Environmental Covenant shall choose from one of the alternatives below prior to performing any new construction of buildings at the Parcel:
- (1) Incorporate engineering controls (i.e., vapor mitigation system) at the Property or portion thereof at the time of construction and ensure continued operation, maintenance, and monitoring to ensure that the controls are effective in the long term to protect human health and the environment. Such plans, including operations and maintenance plans shall be provided to US DOE, US EPA, and Ohio EPA for review and approval prior to construction. Information and evidence regarding the final and as-built engineering controls shall be provided in writing to the parties identified in Paragraph 20 of this Environmental Covenant; or
 - (2) Provide information and evidence that demonstrates the conditions at the Property or portion thereof are such that the VI exposure pathway is incomplete and engineering controls (i.e., vapor mitigation system) are not necessary to protect human health and the environment. Such information shall be provided to US DOE, US EPA, and Ohio EPA for review and approval prior to construction. Information and evidence that demonstrate there is no risk from VI should be obtained through samples collected from the property. A final determination of the risk that concentrations of subsurface vapors could pose to building occupants shall be provided in writing to the parties identified in Paragraph 20 of this Environmental Covenant.

8. Running with the Land. This Environmental Covenant shall be binding upon the Owner and all assigns and successors in interest, including any Transferee, and shall run with the land in perpetuity, pursuant to ORC § 5301.85, subject to amendment or termination as set forth herein. The term "Transferee," as used in this Environmental Covenant, shall mean any future owner of any interest in the Property or any portion thereof, including, but not limited to, owners of an interest in fee simple, mortgagees, easement holders, or lessees.

9. Compliance Enforcement. Compliance with this Environmental Covenant may be enforced pursuant to ORC §5301.91 or other applicable law. Failure to timely enforce compliance with this Environmental Covenant or the activity and use limitations contained herein by any party shall not bar subsequent enforcement by such party and shall not be deemed a waiver of the party's right to take action to enforce any non-compliance. Nothing in this Environmental Covenant shall restrict US DOE, US EPA, or the Director of Ohio EPA from exercising any authority under applicable law.

10. Rights of Access. Owner hereby grants to US EPA, Ohio EPA and ODH, their agents, contractors, and employees the right of access to the Property, including but not limited to Vanguard Boulevard, for implementation or enforcement of this Environmental Covenant. Any Transferee shall grant to US EPA, Ohio EPA, ODH, US DOE, its agents, contractors, and employees this right of access to the Property for implementation or enforcement of this Environmental Covenant.

The right of access granted under Paragraph 10 of this Environmental Covenant shall provide the Parties with access at all reasonable times to OU-1 for the purpose of conducting any and all activities related to the Record of Decision for OU-1 dated June 1995, the Record of Decision Amendment dated August 2011, and the Record of Decision Amendment dated September 2023. These activities will be conducted as an Environmental Response Project as defined in ORC § 5301.80(E), including but not limited to the following activities: a) performing or implementing any activity relating to response actions described in the ROD and amendments thereto; b) verifying any data or information submitted to US EPA and/or Ohio EPA; c) verifying that no action is being taken on the Property in violation of the terms of this Environmental Covenant or any federal or state environmental laws or regulations; d) monitoring response actions on the Property and conducting investigations relating to the response actions, including but not limited to sampling of air, water, sediment or soils, installation and/or removal of monitoring wells; and, e) conducting periodic reviews of responses actions.

11. Compliance Reporting. US DOE, or its successors or assigns, shall submit to US EPA, Ohio EPA, and ODH on an annual basis written documentation, in accordance with the Record of Decision for OU-1 dated June 1995 and the Record of Decision Amendment dated August 2011, and Record of Decision Amendment dated September 2023, verifying that the activity and use limitations are being complied with and remain in place. In addition, CERCLA Five-Year Reviews will be conducted by US DOE to ensure that the protectiveness of the Environmental Covenant and

other institutional controls will be maintained.

12. Notice upon Conveyance. Each instrument hereafter conveying any interest in the Property, or any portion of the Property shall contain a notice of the activity and use limitations set forth in this Environmental Covenant and provide the recorded location of this Environmental Covenant. The notice shall be substantially in the following form:

"THE INTEREST CONVEYED HEREBY IS SUBJECT TO AN ENVIRONMENTAL COVENANT, DATED_____, 20____, RECORDED IN THE DEED OR OFFICIAL RECORDS OF THE MONTGOMERY COUNTY RECORDER ON____, 20____, IN [DOCUMENT_____, or BOOK____, PAGE____,]. THE ENVIRONMENTAL COVENANT CONTAINS THE FOLLOWING ACTIVITY AND USE LIMITATIONS:

- a. Prohibition against residential use or farming activities. The Property shall not be used for any residential or farming activities, or any other activities which result in the chronic exposure of children under eighteen years of age to soil or ground water from the Property. Prohibited uses shall include, but not be limited to:
 - (1) Single or multi-family dwellings or rental units;
 - (2) Day care facilities;
 - (3) Schools or other educational facilities for children under eighteen years of age; and
 - (4) Community centers, playgrounds or other recreational or religious facilities for children under eighteen years of age.
- b. Limitation on movement of soil. No soil from the Property shall be placed on any property outside the boundaries of the Site, described in Exhibit A, without prior written approval from US DOE, Ohio Department of Health (ODH), Ohio EPA and US EPA, or successor agencies.
- c. Prohibition against use of ground water. Ground water under the Property shall not be extracted, consumed, exposed, or used in any way without prior written approval of the US DOE, Ohio EPA and US EPA, or successor agencies. There are a number of monitoring wells located at the Property associated with the groundwater remedy. The Owner shall not tamper with or damage in any manner any monitoring well. The Owner shall notify and receive written approval from US DOE, Ohio EPA and US EPA, or successor agencies if a well needs to be moved or replaced due to redevelopment. The Owner will notify US DOE, Ohio EPA and US EPA, or successor agencies within two (2) business days of any damage to these wells of which it has knowledge, and the US

DOE, Ohio EPA and US EPA, or successor agencies will work with the Owner on a resolution.

- d. Mitigation of vapor intrusion (VI) through engineering controls at the Property. The Owner acknowledges that environmental contamination present at the Property may impact indoor air quality. Property owners subject to this Environmental Covenant shall choose from one of the alternatives below prior to performing any new construction of buildings at the Parcel:

- (1) Incorporate engineering controls (i.e., vapor mitigation system) at the Property or portion thereof at the time of construction and ensure continued operation, maintenance, and monitoring to ensure that the controls are effective in the long term to protect human health and the environment. Such plans, including operations and maintenance plans shall be provided to US DOE, US EPA, and Ohio EPA for review and approval prior to construction. Information and evidence regarding the final and as-built engineering controls shall be provided in writing to the parties identified in Paragraph 20 of this Environmental Covenant; or
- (2) Provide information and evidence that demonstrates the conditions at the Property or portion thereof are such that the VI exposure pathway is incomplete and engineering controls (i.e., vapor mitigation system) are not necessary to protect human health and the environment. Such information shall be provided to US DOE, US EPA, and Ohio EPA for review and approval prior to construction. Information and evidence that demonstrate there is no risk from VI should be obtained through samples collected from the property. A final determination of the risk that concentrations of subsurface vapors could pose to building occupants shall be provided in writing to the parties identified in Paragraph 20 of this Environmental Covenant.

Owner or transferee, if applicable, shall notify US DOE, Ohio EPA and US EPA within ten (10) days after each conveyance of an interest of the Property or any portion of the Property thereof. The notice shall include the name, address, email and telephone number of the Transferee, a copy of the deed or other documentation evidencing the conveyance, and a survey map that shows the boundaries of the property being transferred."

13. Representations and Warranties. US DOE hereby represents and warrants to the other signatories hereto:

- A. that the US DOE is the sole owner of the Property;
- B. that the US DOE holds fee simple title to the Property that is free, clear, and unencumbered, excepting restrictions of record;
- C. that the US DOE has the power and authority to enter into this Environmental Covenant, to grant the rights and interests herein provided and to carry out all obligations hereunder;
- D. that the US DOE has identified all other persons that own an interest in or hold an encumbrance on the Property and notified such persons of the Owner's intention to enter into this Environmental Covenant; and
- E. that this Environmental Covenant will not materially violate or contravene or constitute a material default under any other agreement, document or instrument to which US DOE is a party or by which US DOE may be bound or affected.

14. Amendment or Termination. This Environmental Covenant may be amended or terminated by consent of all of the following: US DOE, any Transferee, US EPA, and Ohio EPA, pursuant to ORC §5301.90 and other applicable law. The term, "Amendment," as used in this Environmental Covenant, shall mean any changes to the Environmental Covenant, including the activity and use limitations set forth herein, or the elimination of one or more activity and use limitations when there is at least one limitation remaining. The term, "Termination," as used in this Environmental Covenant, shall mean the elimination of all activity and use limitations set forth herein and all other obligations under this Environmental Covenant.

This Environmental Covenant may be amended or terminated only by a written instrument duly executed by the US DOE, US EPA, the Director of Ohio EPA, and the Transferee, if any, of the Property or portion thereof, as applicable. Within thirty (30) days of signature by all requisite parties on any amendment or termination of this Environmental Covenant, the Owner or Transferee shall file such instrument for recording with the Montgomery County Recorder's Office and shall provide a file- and date-stamped copy of the recorded instrument to Ohio EPA.

15. Severability. If any provision of this Environmental Covenant is found to be unenforceable in any respect, the validity, legality, and enforceability of the remaining provisions shall not in any way be affected or impaired.

16. Governing Law. This Environmental Covenant shall be governed by and interpreted in accordance with the laws of the State of Ohio.

17. Recordation. Within thirty (30) days after the date of the final required signature upon this Environmental Covenant, US DOE shall file this Environmental Covenant for recording, in the same manner as a deed to the Property, with the Montgomery County Recorder's Office.

18. Effective Date. The effective date of this Environmental Covenant shall be the date upon which the fully executed Environmental Covenant has been recorded as a deed record for the Property with the Montgomery County Recorder.

19. Distribution of Environmental Covenant. US DOE shall distribute a file- and date-stamped copy of the recorded Environmental Covenant to: US EPA, Ohio EPA, ODH and the City of Miamisburg.

20. Notice. Unless otherwise notified in writing by or on behalf of the current owner or US DOE, any document or communication required by this Environmental Covenant shall be submitted to:

Remedial Project Manager, Mound
Site US EPA, Region V – SR-6J
77 West Jackson Boulevard
Chicago, IL 60604

Site Coordinator, Mound Site
Division of Environmental Response and
Revitalization Ohio EPA-Southwest District Office
401 East 5th Street
Dayton, OH 45402

LM Site Manager
99 Research Park Road
Morgantown, WV 26505
Attention: Mound, Ohio, Site Manager

U.S. Department of Energy Office of Legacy Management
2597 Legacy Way
Grand Junction, CO 81503
Attention: LM Realty Officer

Prepared by:
Tom Angel
Attorney, Office of the Chief Counsel
U.S. Department of Energy, EMCBC

The undersigned representative of Owner represents and certifies that she is authorized to execute this Environmental Covenant.

IT IS SO AGREED:

United States Department of Energy



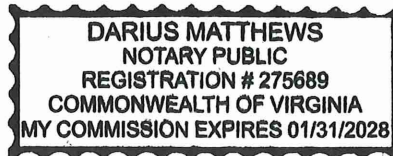
Andrea Dolch, Realty Specialist

6/12/2025
Date

State of Virginia)

County of Arlington)

ss:



Before me, a notary public, in and for said county and state, personally appeared Andrea Dolch, a duly authorized representative of the US Department of Energy who acknowledged to me that she did execute the foregoing instrument on behalf of US DOE.

IN TESTIMONY WHEREOF, I have subscribed my name and affixed my official seal this 12 day of June 2025.



Notary Public

OHIO ENVIRONMENTAL PROTECTION AGENCY

[Redacted Signature]

John Logue, Director

7-29-25

Date

State of Ohio)
) ss:
County of Franklin)

Before me, a notary public, in and for said county and state, personally appeared John Logue, the Director of Ohio EPA, who acknowledged to me that he did execute the foregoing instrument on behalf of Ohio EPA.

IN TESTIMONY WHEREOF, I have subscribed my name and affixed my official seal this 29 day of July, 2025.

[Redacted Signature]

Notary Public



ROBIN BURMEISTER
Notary Public
State of Ohio
My Comm. Expires
June 10, 2029

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

[REDACTED]

Thomas R. Short, Jr.

Acting Director, Superfund and Emergency Management Division, Region 5

6/26/2025

Date

State of Illinois)

)

ss:

County of Cook)

Before me, a notary public, in and for said county and state, personally appeared Thomas R. Short, Jr., the Acting Director, Superfund Division, of Region 5, US EPA, who acknowledged to me that he did execute the foregoing instrument on behalf of USEPA.

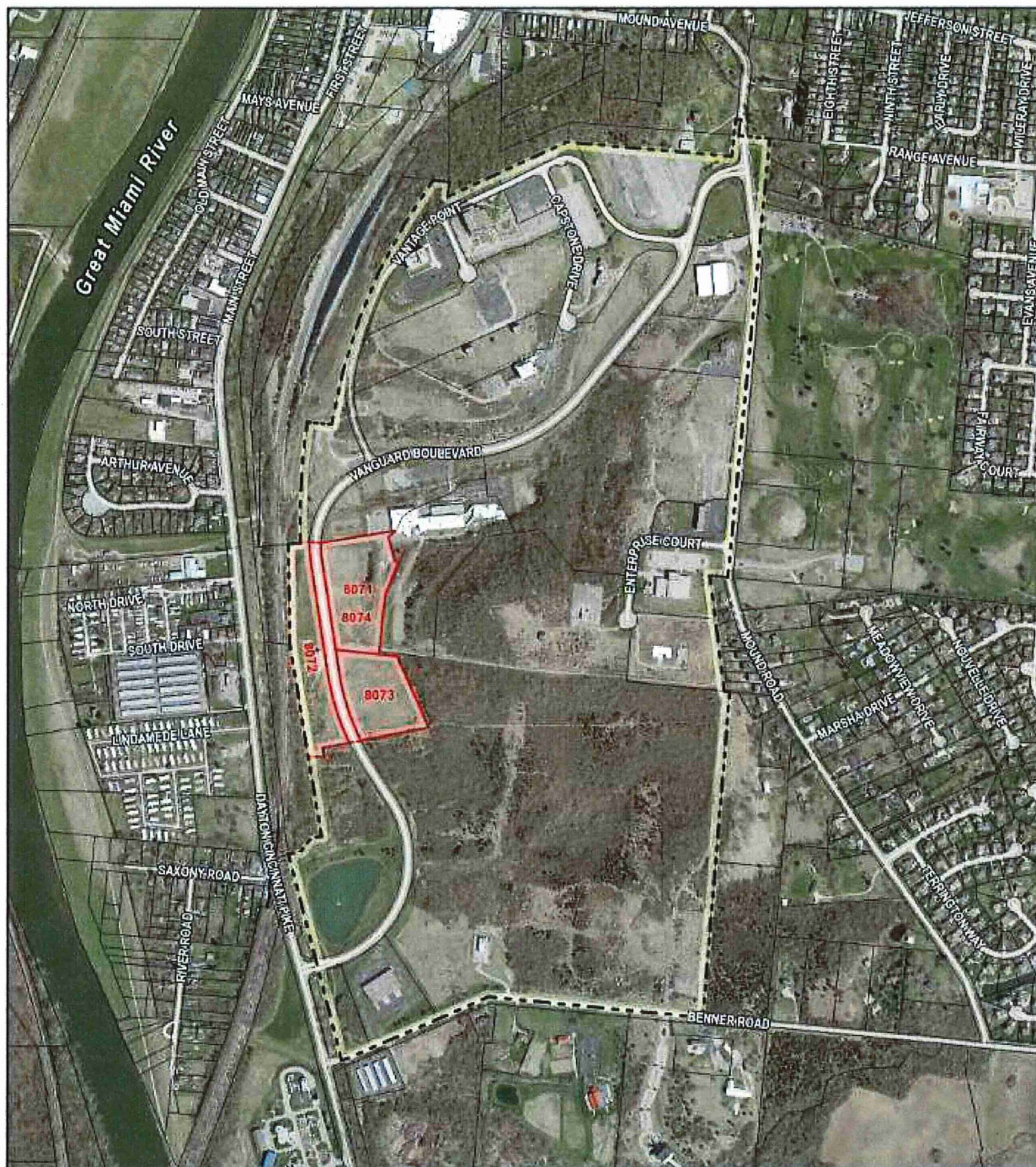
IN TESTIMONY WHEREOF, I have subscribed my name and affixed my official seal this 26th day of JUNE, 2025.



Notary Public

[REDACTED]

Exhibit A
Parcel 9 and Site Boundaries



-  Mound Site Boundary
-  18.55 acre Portion of US DOE Parcel 9
-  Parcel Boundary
Source: Montgomery County, OH

Aerial Photo,
2022 Montgomery County, OH



Scale in Feet
250 0 250 500

U.S. DEPARTMENT OF ENERGY
OFFICE OF LEGACY MANAGEMENT

Work Performed by
RSI EnTech, LLC
Under DOE Contract 8830302CDLM000601

Aerial Photo
Mound Site and 18.55 acre
Portion of US DOE Parcel 9

DATE PROVIDED

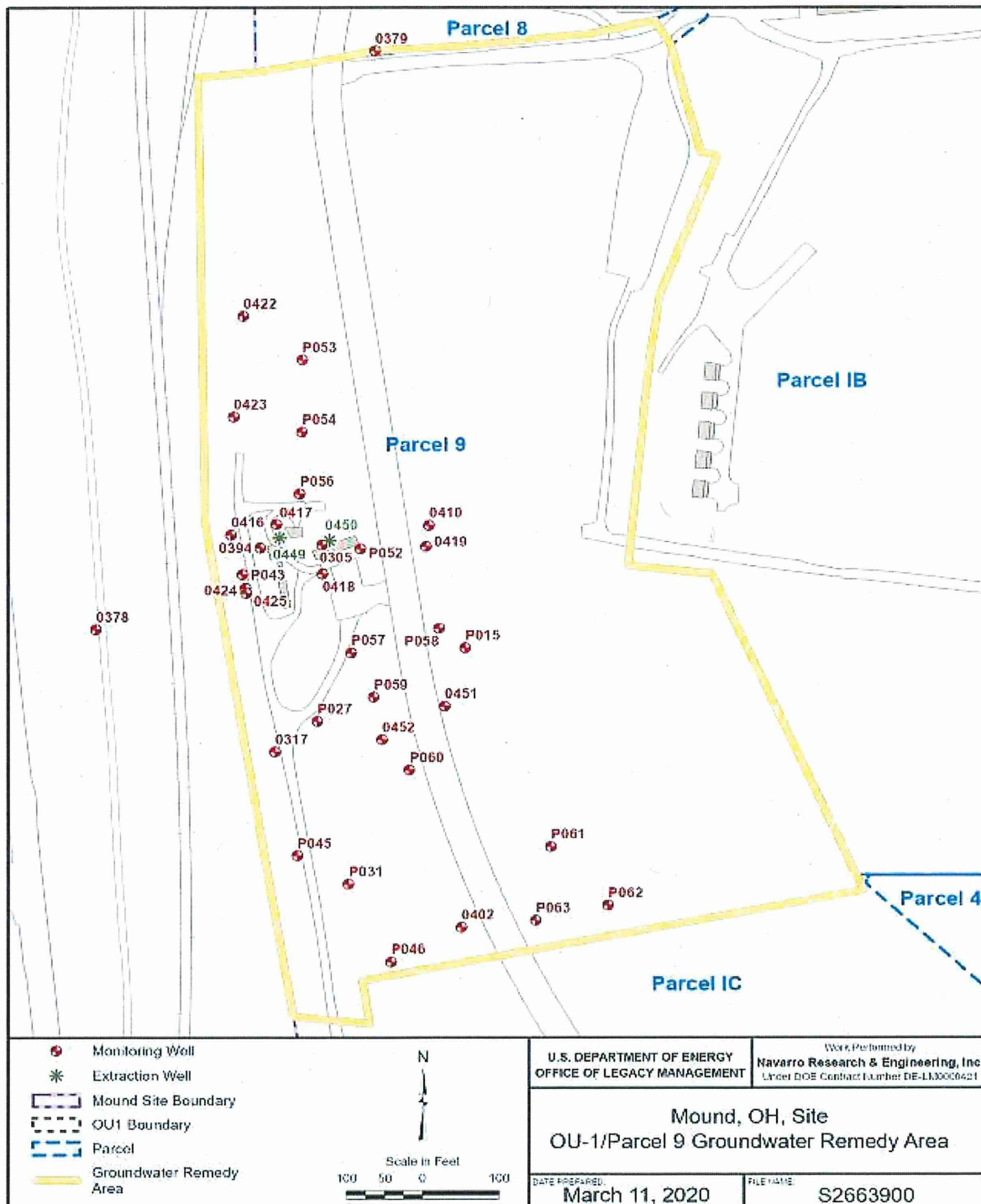
May 30, 2024

FILE NAME

046802

Exhibit B

Mound Site Parcel 9 With Monitoring Well Locations



\\npss\Enr\Projects\EB\MLTS\111\0001\360\000\S2663900\S2663900.aprx walls:c 03/11/2020 12:57 PM

Exhibit C

CERCLA 120(H) Environmental Summary



REGION 5
CHICAGO, IL 60604

July 31, 2025

VIA ELECTRONIC MAIL

Mr. Jay D. Glascock
Director, Office of Site Operations
Office of Legacy Management
11035 Dover Street, Suite 600
Westminster, CO 80021

Subject: Concurrence for Transfer of OU-1 and Parcel 9 Area at Department of Energy's Mound Plant in Miamisburg, Ohio.

Dear Mr. Glascock:

Thank you for your letter dated June 23, 2025, requesting concurrence on the transfer of Parcel 9 at the United States Department of Energy (US DOE) Mound Plant in Miamisburg, Ohio from the US DOE to the Mound Development Corporation.

The U.S Environmental Protection Agency (EPA) has reviewed the document, *Finding of Suitability to Transfer (FOST)*, included in the Environmental Summary for the transfer of Operable Unit 1 (OU-1) and the remainder of the Parcel 9 Area, located at the Mound, Ohio, Site. We have also reviewed the Environmental Covenants, which apply to OU-1 and the remainder of the Parcel 9 Area, and include specific activity restrictions and land use limitations designed to protect human health and the environment.

A Record of Decision (ROD) was issued for this property in June 1995, followed by two ROD amendments in August 2011 and September 2023. The ROD and subsequent ROD amendments outlined Remedial Action Objectives and Remediation Goals. Based on the selected remedy, the EPA concurs that all remedial actions necessary to protect human health and the environment have been completed for Parcel 9, and therefore the transfer of the remainder of the Parcel 9 Area may proceed.

The EPA acknowledges that any additional remedial action that may become necessary in the future will be conducted by US DOE to the extent necessary to protect human health and the environment. The EPA supports the reuse and redevelopment of the Parcel 9 property in accordance with the stipulated restrictions and limitations outlined in the FOST and the Environmental Summary. The State of Ohio Environmental Covenant to be recorded for the property must meet the requirements outlined in the ROD to ensure long-term protectiveness of public health and the environment.

If you have any questions or concerns about this or future economic development issues at the site, please contact Nicole Goers, of my staff at goers.nicole@epa.gov.

Sincerely,

7/31/2025



Thomas R. Short Jr., Acting Director
Superfund & Emergency Management Div.
Signed by: THOMAS SHORT

cc:

Nora Wells, EPA (electronic only)
Scott Glum, Ohio EPA (electronic only)
Cliff Carpenter, DOE-LM (electronic only)
Tiffany Drake, DOE-LM (electronic only)

OU-1 and Parcel 9 Area Environmental Summary Mound, Ohio, Site

April 2025



U.S. DEPARTMENT OF
ENERGY

Legacy
Management

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Table 1. Summary of Buildings and Dates of Disposition in the OU-1 and Parcel 9 Area..... 9

Abbreviations

ATD	Authorization to Discharge
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	<i>Code of Federal Regulations</i>
COC	contaminant of concern
DOE	U.S. Department of Energy
EA	Environmental Assessment
ELCR	excess lifetime cancer risk
EPA	U.S. Environmental Protection Agency
EPP	Environmental Protection Provision
FFA	Federal Facility Agreement
FOST	Finding of Suitability to Transfer
IC	institutional control
LLRW	low-level radioactive waste
LM	Office of Legacy Management
MDC	Mound Development Corporation
NPL	National Priorities List
ODH	Ohio Department of Health
Ohio EPA	Ohio Environmental Protection Agency
ORC	<i>Ohio Revised Code</i>
OSC	on-scene coordinator
OU	operable unit
OU-1	Operable Unit 1
PCB	polychlorinated biphenyl
PCE	tetrachloroethene
PFOA	perfluorooctanoic acid
PFOS	perfluorooctane sulfonate
PRS	potential release site
P&T	pump-and-treatment
Pu	plutonium
ROD	Record of Decision
SVE	soil vapor extraction
TCE	trichloroethene
USC	<i>United States Code</i>

VC	vinyl chloride
VI	vapor intrusion
VOC	volatile organic compound

1.0 Purpose

To meet the requirements under Section 120(h) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), Title 42 *United States Code* Section 9620(h) (42 USC 9620[h]) for a Finding of Suitability to Transfer (FOST) and U.S. Department of Energy (DOE) guidance for property transfer, this Environmental Summary is to document the environmental suitability for transfer from the DOE Office of Legacy Management (LM) to the Mound Development Corporation (MDC) the remaining property located at the Mound, Ohio, Site, which includes Operable Unit 1 (OU-1) and the remainder of Parcel 9 Area, hereinafter referred to as the “FOST Parcel” or the “OU-1 and Parcel 9 Area.” In addition, the Environmental Summary includes the CERCLA Notice, Covenant, and Access Provisions and other Deed Provisions and the Environmental Protection Provisions (EPPs) necessary to protect human health and the environment.

The Mound site was listed on the CERCLA National Priorities List (NPL) on November 21, 1989 (Volume 54 *Federal Register* page 48184 [54 FR 48184]). Under the Federal Facility Agreement (FFA) (DOE 1993) and subsequent decision documents among DOE, U.S. Environmental Protection Agency (EPA), and the Ohio Environmental Protection Agency (Ohio EPA), the site has been remediated to an industrial/commercial use end state.

DOE has completed the CERCLA-required soil and building remediation of the site, demolished or transferred buildings and infrastructure, and implemented the remedies in compliance with the Records of Decision (RODs) discussed below. With the recent approval of the *Amendment to the Record of Decision for Operable Unit 1 of the Mound Site, Miamisburg, Ohio* (DOE 2023), hereafter referred to as the 2023 OU-1 ROD Amendment, DOE plans to transfer ownership of the FOST Parcel to MDC.

On May 5, 2022, MDC submitted a proposal to DOE for a transfer under Title 10 *Code of Federal Regulations* Part 770 (10 CFR 770), “Transfer of Real Property at Defense Nuclear Facilities for Economic Development,” of a parcel of land known as the remainder of Parcel 9 property, located in Miamisburg, Ohio, consisting of 18.55 acres more or less. On August 29, 2022, DOE notified MDC of its acceptance of its proposal, and that it would commence actions to compile and complete the transfer package for review. The key terms to this transfer include (1) no cost to MDC for the transfer of the FOST Parcel; and (2) a provision for indemnification provided to MDC from DOE, consistent with the previous transfers at the site.

A copy of this Environmental Summary shall be attached by DOE to the quitclaim deed to be provided to MDC, and be available to all successors and assigns of MDC, including but not limited to future owners and occupants. DOE remains jurisdictionally responsible for the entire Mound site, and DOE will continue to ensure that the selected remedies remain protective of human health and the environment. This jurisdictional responsibility includes all areas within the original Mound site boundary.

1.1 Scope

This Environmental Summary applies to the FOST Parcel, an 18.55-acre portion of Parcel 9, which includes all of OU-1, as described in Section 2.1. This Environmental Summary provides an updated summary of the environmental conditions based on information and data obtained

after issuance of the *Parcel 9 Environmental Summary* (DOE 2011d), hereafter referred to as the 2011 Parcel 9 Environmental Summary, that was prepared to support property transfer after the *Amendment of the Operable Unit 1 Record of Decision, U.S. Department of Energy, Mound Closure Project* (DOE 2011a), hereafter referred to as the 2011 OU-1 ROD Amendment.

1.2 Objectives

The objectives of this Environmental Summary for the FOST Parcel are:

1. To provide a summary update to the environmental baseline conditions of the FOST Parcel and to identify any recent potential environmental contamination liabilities associated with transfer from federal ownership.
2. To reassess existing environmental information related to the storage, release, treatment, or disposal of hazardous substances or petroleum product at the FOST Parcel to determine or discover the presence, or likely presence, of a release, or threatened release, of any hazardous substance or petroleum product.
3. To identify past and current remedial actions, including remedy operations and maintenance and monitoring at the FOST Parcel.
4. To briefly identify all, if any, other factors considered related to property transfer at the FOST Parcel.
5. To determine the condition of the FOST Parcel in accordance with Requirements for Notification, Covenants, and Access, as specified by CERCLA Section 120(h) and current DOE guidance (DOE 2005a).

To achieve these objectives, DOE relied on existing documents, data, and inspections of the property. In general, additional studies or analyses were not prepared as part of this the Environmental Summary.

2.0 Property Identification

The Mound site¹ (CERCLIS ID-04935) lies within the city limits of Miamisburg, Ohio, in southern Montgomery County, Ohio, approximately 10 miles southwest of Dayton and 45 miles north of Cincinnati (Enclosure 1, Figure 1). The Mound site occupied approximately 306 acres. The boundaries of the Mound site are formed by Benner Road to the south, the Norfolk Southern Railroad to the west, and Mound Road to the east (Enclosure 1, Figure 2).

2.1 Description of Property

This Environmental Summary addresses an 18.55-acre portion of Parcel 9 in the southwestern part of the Mound site, referred to as the FOST Parcel or OU-1 and Parcel 9 Area. Enclosure 1, Figure 3, depicts the FOST Parcel where the modified groundwater remedy and the additional vapor intrusion (VI) institutional control (IC) apply as required by the 2023 OU-1 ROD

¹ The Mound site (EPA ID: OH6890008984) (Comprehensive Environmental Response, Compensation, and Liability Information System [CERCLIS] ID 04935) has also been known as the Mound Laboratory, the Mound Laboratories, the Mound Plant, the US DOE Mound Plant, the US DOE Mound Facility, the Miamisburg Environmental Management Project (MEMP), and the Miamisburg Closure Project (MCP).

Amendment. This portion of Parcel 9 includes OU-1 and the area of groundwater impact downgradient of the former OU-1 landfill. The legal description of the 18.55-acre portion of Parcel 9 is as follows:

Situated in Section 36, Town 2, Range 5, M.R.S., City of Miamisburg, Montgomery County, Ohio, and being Lot Numbered 8071, Lot Numbered 8072, Lot Numbered 8073, and Lot Numbered 8074 of the Record Plan of Mound Advanced Technology Center, Section 5, as recorded in Plat Book 234, Pages 37 and 37A of the Plat Records of Montgomery County, Ohio.

Parcel Numbers:

- K46 00503 0039 (City Lot No. 8071) 5.9521 acres.
- K46 00503 0040 (City Lot No. 8072) 5.7021 acres.
- K46 00503 0041 (City Lot No. 8073) 4.8771 acres.
- K46 00503 0042 (City Lot No. 8074; Vanguard roadway easement) 2.0185 acres.

Prior Deed References: Deed Book 1214, Page 12 and Deed Book 1246, Page 45 of the deed records of the Montgomery County, Ohio Recorder's office.

In 2019, MDC replatted the FOST Parcel into the lot numbers in accordance with new real estate lots and Montgomery County parcel identification numbers (parcel IDs). The Montgomery County parcel boundaries are different than the CERCLA ROD parcel boundaries. The FOST Parcel includes four real estate lots (Enclosure 1, Figure 4) as stated above and has been recorded with Montgomery County in Ohio.

There are no permanent or continuously occupied buildings within the FOST Parcel at this time. There are two DOE-owned temporary structures consisting of an office trailer and a Sea-Land container used for storage.

There are 32 groundwater monitoring wells within the FOST Parcel that are owned by DOE (Enclosure 1, Figure 5). Most of these wells are routinely sampled as part of OU-1 groundwater remedy monitoring. The number of wells retained long term is expected to be reduced from the current number based on a determination of the final monitoring network to be completed in calendar year 2025. It is anticipated that wells not kept will be decommissioned in calendar year 2026.

2.2 Intended Reuse

MDC's *Comprehensive Reuse Plan Update* (MMCIC 2003) guides land utilization for the site, and MDC has established restrictions and covenants in 2012 for the site in the course of developing business park. The long-term intended uses of the FOST Parcel will be the same because these uses are consistent with historical and current zoning with the City of Miamisburg, and DOE's stated goal to support the economic development of sites that have lost their defense

program missions. MDC believes ownership of the FOST Parcel is important to facilitate and complete the long-term redevelopment of the site into a thriving business park.

MDC's initial intent for the FOST Parcel is to keep its natural state (landscaping and mowing activities may occur) so long as the groundwater contamination issues exist. However, MDC plans to market the FOST Parcel for redevelopment similar to the other acreage under MDC control. Ultimately, the FOST Parcel will be developed by MDC for future business use or sold to an entity who will own and develop the FOST Parcel for business purposes under the requirements of all relevant and associated deed restrictions and covenants. The transfer of the FOST Parcel enhances opportunities for economic development and private sector investment, which is consistent with previous and long-standing economic development goals worked in collaboration with stakeholders and the community.

2.3 Adjacent Property Conditions

MDC currently owns or has transferred ownership of approximately 92% of the Mound site for economic redevelopment. The Mound site is now known as the Mound Business Park and is managed by MDC. Businesses or features near the FOST Parcel include an MDC-owned building complex currently leased by Excelitas Technologies Corp, which includes two buildings and five magazines, and is used for the development and manufacture of energetic systems. A portion of Vanguard Boulevard that dissects the FOST Parcel was completed in 2012.

The area surrounding the Mound site is a mix of residential areas, parks, recreational areas, business, and light industry. Enclosure 1, Figure 6, shows the current zoning for areas that surround and are part of the Mound site. There are residential properties adjacent to the site along the northeast boundary and the southeastern boundary. Other areas include the Mound Golf Course and Miamisburg Mound Park, both east of the Mound site on Mound Road, and the Miamisburg Community Park along the western boundary of the site. The Norfolk and Southern Railroad track runs north-south along the western site boundary. Agricultural and light industrial parcels are along Benner Road to the south and southeast of the Mound site.

2.4 Current Institutional Controls

ICs have been applied to restrict the land use of the entire Mound site to commercial or industrial use only; residential and agricultural use of the land is prohibited. These ICs are implemented through restrictions and covenants in the quitclaim deeds upon transfer of the properties from DOE to MDC or as activity and use limitations in environmental covenants pursuant to Ohio law. ICs run with the land. Quitclaim deeds with environmental summaries, CERCLA 120(h) summary notices of hazardous substances, and environmental covenants for the rest of the Mound site are recorded with the Montgomery County, Ohio, Recorder's Office to ensure that future property owners are aware of the requirements.

MDC also applied covenants and restrictions (MDC 2012) to the Mound Advanced Technology Center as The Mound Business Park. The City of Miamisburg codified the requirement of industrial- and commercial-use-only and other restrictions in the Mound Business Park special zoning district, MB-1, that limit types of businesses allowed. MB-1 section 1271.10 lists the ICs, and it states that IC compliance enforcement remains the responsibility of DOE.

3.0 Environmental Documentation

A determination of the environmental condition of the FOST Parcel was made based upon the documentation identified in Enclosure 2 to this Environmental Summary. The scope of the review included, but was not limited to, the following:

- Hazardous substances information and management
- Environmental permits
- Cultural and historic resources
- Natural resources
- Floodplains and wetlands
- Storage tanks
- Polychlorinated biphenyls (PCBs), perfluorooctane sulfonate (PFOS) and perfluorooctanoic acid (PFOA) compounds, asbestos, and radioactive substances and contamination

Attached as Enclosure 4 to this Environmental Summary is the Notification of Hazardous Substance Release, Storage, or Disposal at the FOST Parcel to satisfy this CERCLA 120(h) requirement. In addition, Enclosure 5 provides a Notification of Petroleum Product Storage, Release, or Disposal.

4.0 Environmental Condition of the FOST Parcel

This section summarizes the findings of the environmental review performed for the FOST Parcel. These findings are a consolidation of information regarding the historical and current environmental conditions at the FOST Parcel obtained primarily from the documents listed in Enclosure 2. No sampling was deemed necessary as part of this review.

4.1 Past and Present Uses at the FOST Parcel

4.1.1 Uses of the Mound Site in General

The U.S. Atomic Energy Commission, predecessor to DOE, began operations at the Mound site in 1948 as an integrated research, development, and production facility that supported the nation's weapons and energy programs. Early Mound site programs investigated the chemical and metallurgical properties of polonium-210 and its applications—particularly, the fabrication of neutron and alpha sources for weapon and non-weapon use. Investigations involving uranium, protactinium-231, and plutonium-239 (²³⁹Pu) were performed from 1950 to 1963 as part of the national civilian power reactor program. In 1954, the Mound site began the separation of stable isotopes.

In the mid-1950s, Mound site workers started to develop a large-scale process for the recovery of thorium from a variety of thorium-bearing ores; however, this project was canceled before full-scale operation. Plutonium-238 research and development activity began at the Mound site in the mid-1950s. From the early 1960s to the late 1970s, Mound site workers processed ²³⁸Pu for use in heat sources within radio isotopic thermoelectric generators. The fabrication of heat sources

from plutonium metal was terminated in the mid-1960s. Plutonium oxide processes continued into the late 1970s. After early 1979, Mound site workers did not handle unencapsulated ^{238}Pu . The Mound site had an extensive history of manufacturing and working with non-nuclear energetic materials, such as explosives, pyrotechnics, and thermites. Other processes included precision machining and the manufacture of plastics and ceramics, weapons components, flexible circuits, and rare gases.

4.1.2 Prior Uses of the FOST Parcel

Before 1947, the FOST Parcel was residential with two or three small houses and storage buildings. During construction of the Mound site, these structures were demolished, and the area was utilized for its gravel deposits. The gravel excavations were generally shallow (estimated at 4–6 feet deep), and removal of gravel was routine until 1977 (DOE 1994a) (according to the OU-1 Remedial Investigation).

As part of the 2011 OU-1 ROD Amendment, the original OU-1 landfill area was included within the larger Parcel 9 area (DOE 2011a) (Enclosure 1 Figure 7). The area designated as OU-1 occupies approximately 4 acres in the southwestern portion of the Mound site. The OU-1 area was a historical landfill site that received plant waste materials (general trash and liquid waste) from 1948 to 1974; it later included the former sanitary landfill where much of the waste from the historical landfill was relocated and encapsulated in 1977 to facilitate construction of site surface water controls (overflow pond). Early operation of the landfill included the burning of trash and refuse from plant operations; open burning was discontinued in 1969. During the mid-1950s, the landfill received potentially contaminated salvage material from the Dayton Unit (a Manhattan Project site in Dayton, Ohio). The material consisted of wood ash and debris from a fire that had consumed the polonium-contaminated flooring and polonium-210-contaminated sand from research and production activities. Approximately 2500 crushed, empty 55-gallon drums that were used to store thorium wastes were buried in the southwest corner of OU-1 in the 1960s.

Enclosure 1, Figure 8, depicts the current site and historical features of the OU-1 area.

No production or manufacturing activities were performed at the FOST Parcel. Activities that once took place in this area included the following:

- Disposal of plant waste materials (i.e., general trash and liquid waste) and open burning of trash and refuse from plant operations
- Disposal of low-level radioactive waste (LLRW) and chemically contaminated waste within the former landfill
- Production of potable water using three water wells that supplied the Mound Plant
- Intermittent soil staging south of the OU-1 landfill area
- Operation of a groundwater pump-and-treatment (P&T) system using an air stripper for removal of volatile organic compounds (VOCs)
- Operation of soil vapor extraction (SVE) and air-sparging processes to expedite the removal of VOCs in soil and groundwater to support the OU-1 P&T system
- Construction of Building 85, Powder and Blending Process (Building 85 was constructed but never used nor operational)

4.2 Previous Remedial and Removal Actions

DOE, EPA, and Ohio EPA originally planned to address the environmental restoration issues at the Mound site under a set of operable units (OUs). DOE and its regulators later determined that the OU approach was inefficient. DOE and its regulators agreed on the Mound 2000 Process, which evaluated each potential release site (PRS) or building separately, used removal action authority to remediate the PRSs as needed, and established a goal for no additional remediation other than ICs for the final remedy. The Mound 2000 Process is explained in the *Work Plan for Environmental Restoration of the DOE Mound Site, The Mound 2000 Approach* (DOE 1999). EPA and Ohio EPA reserve all rights to enforce all provisions of the FFA, and participation in the Mound 2000 Process did not constitute a waiver of EPA's and Ohio EPA's rights to enforce the FFA.

As stated above, the Mound site was remediated to an industrial/commercial-use standard that allowed some residual contamination to remain onsite after active remedy with enforceable and durable ICs. The CERCLA remedies ensure protection of human health and the environment. These remedies ensure that exposure to the residual contamination does not exceed the exposure criteria of the industrial/commercial worker scenario.

RODs were approved for each area that summarized the contamination, potential future uses, site risks, Remedial Action Objectives, remedial alternatives, and the selected remedy evaluated against the nine NPL weighting criteria. Each ROD also specified key elements for monitoring remedies and the requirement for CERCLA Five-Year Reviews. An Environmental Summary, in accordance with CERCLA Section 120(h), described the final conditions of each specific area, and were approved by EPA and Ohio EPA prior to property transfer.

4.2.1 OU-1 P&T Groundwater Remedy (1995–2023)

The *Operable Unit 1 Record of Decision, Mound Plant, Miamisburg, Ohio* (DOE 1995), hereafter called the 1995 OU-1 ROD, was signed in June 1995. The 1995 OU-1 ROD selected a groundwater P&T remedy to collect, treat, and dispose of groundwater contaminated with VOCs, which represented the principal risk concern. Groundwater in OU-1 was addressed in 1995, prior to the adoption of the Mound 2000 Process. The 1995 OU-1 ROD requires CERCLA Five-Year Reviews of the remedy as long as contaminants above health-based levels remained within the OU-1 area.

The P&T system was designed to gain control of groundwater flow and contaminant transport beneath the former OU-1 landfill footprint. The system consisting of three extraction wells and an air stripper began operation in 1997. These wells created a capture zone that hydraulically contained and collected the contaminated groundwater originating from beneath the former OU-1 landfill, thus preventing it from impacting the groundwater that was used as a drinking water source for the Mound Plant. Extracted groundwater was treated onsite using an air stripper before being discharged to the Great Miami River. All extracted groundwater was treated to levels that complied with the requirements of the CERCLA Authorization to Discharge (ATD). The pathways of concern for exposure were leaching of contaminants from site soils or disposed wastes to groundwater, transport in the groundwater flow, and withdrawal by the Mound Plant production wells or by other future wells.

At the time the 1995 OU-1 ROD was signed, excavation and treatment of the residual subsurface contaminants within the OU-1 area was not considered practicable given the diffuse nature of contamination and lack of any identifiable contamination hot spots. DOE, EPA, and Ohio EPA determined the soils within the OU-1 area would not pose an unacceptable risk to future outdoor industrial workers if appropriate ICs (e.g., fencing and signage) were left in place. The selected remedy in the 1995 OU-1 ROD included surface water controls to reduce infiltration into the landfill and ICs to limit site access and restrict access to minimize contact with soils.

The OU-1 P&T system was installed in 1996 and began operation in February 1997. Approximately 12 kilograms of trichloroethene (TCE) was removed between startup and April 2003. After April 2003, the mass removed by the P&T system was no longer calculated, because the mass was negligible (DOE 2006d).

A SVE system was installed and operated from 1997 to 2003 to accelerate the removal of chlorinated VOCs, primarily TCE from the vadose zone. This system was voluntarily installed and operated and resulted in the removal of approximately 1862 kilograms of TCE, with 90% of the removal occurring within the first 3 years (DOE 2006d). Operation of the SVE system was discontinued in 2003 because the mass of TCE removed became negligible, and the system was removed in 2007.

Monitoring under this remedial action focused on VOCs—tetrachloroethene (PCE), TCE, *cis*-1,2-dichloroethene (cDCE), and vinyl chloride (VC)—because these were the primary contributors to groundwater risk. Monitoring of the P&T influent and effluent was used to demonstrate the efficiency of removal and compliance with the CERCLA ATD. Sampling of monitoring wells was performed to evaluate progress of VOC containment, primarily through downward trends in wells outside the footprint of the former landfill. The primary objectives of sampling during operation of the P&T were to:

- Provide evidence during the remedial action that the P&T system is capturing the contaminant plume as intended.
- Obtain information that will allow the P&T system to be fine-tuned throughout the remedial action so that groundwater extraction rates are high enough to capture the plume but not so high that they extract unnecessary amounts of groundwater.
- Provide evidence that the air stripper protectively removes all contaminants of concern (COCs) to acceptable levels prior to discharge.

With the approval of the Mound Core Team, the P&T system was placed on standby during the Enhanced Attenuation Field Demonstration period that commenced in August 2014. Given the favorable results from the field demonstration, the P&T system remained in standby to avoid disturbing the structured geochemical treatment zones until it was determined whether an amendment to the ROD to change the remedy would be approved. An amendment to the 1995 OU-1 ROD was approved in September 2023.

4.2.2 Mound 2000 Process

Removal actions within the FOST Parcel were performed in accordance with the Mound 2000 Process, and the results of those actions are documented in project closeout reports for each remediation area. The Mound 2000 Process was developed to address cleanup and release of smaller blocks or parcels of the site for industrial or commercial reuse. The potential or existing

contamination within each PRS was evaluated and identified as either no further action, further assessment, or response action cleanup. Ultimately, those PRSs that required response actions were sampled to verify that cleanup levels were met and risks from residual contamination were within the acceptable risk ranges for industrial and commercial land use. The Mound 2000 Process is explained in the *Work Plan for Environmental Restoration of the DOE Mound Site, The Mound 2000 Approach* (DOE 1999).

4.2.2.1 PRS Summary

There were 17 PRSs at the FOST Parcel as shown on Enclosure 1, Figure 9. All PRSs were dispositioned to meet CERCLA requirements in accordance with the Mound 2000 Process. EPA, Ohio EPA, and DOE jointly decided that no additional remedial action for the PRSs at the FOST Parcel are necessary with the placement of ICs restricting future land use to industrial or commercial. A summary of the PRSs and remedial actions on the FOST Parcel is presented in Enclosure 3, Table 1b.

4.2.2.2 Building Summary

There were seven buildings (Enclosure 1, Figure 10) within the FOST parcel boundary. All buildings were dispositioned to meet CERCLA requirements using the Mound 2000 Process. Table 1 provides a listing of buildings and their dates of disposition.

Table 1. Summary of Buildings and Dates of Disposition in the OU-1 and Parcel 9 Area

Building	Description	Date of Disposition
85	Building 85 was constructed in 1989. The building was built as a Class I powder processing facility, with a high bay area, 3-foot-thick reinforced concrete wall and ceiling, and an explosion-proof electrical system. The building had never been used. The building pad and foundation were not removed as agreed by DOE and EPA.	March 2002 (DOE 2002)
300	Building 300 housed the OU-1 P&T system using an air stripper for VOCs. It had been used for the same purpose since construction. The building was a prefabricated metal structure built with slab-on-grade. The facility was not supplied with utilities other than 480 volt, three-phase power to run the system and provide electric space heat.	August 2024 (DOE 2024)
301	Building 301 housed the OU-1 air sparging and SVE process. It had been used for the same purpose since construction. The facility was a prefabricated metal structure on skids. The facility was not supplied with utilities other than 480 volt, three-phase power to run the system and provide electric heat.	November 2009 (DOE 2009)
301A	Building 301A housed a gas chromatograph to analyze gases removed in the air sparging and SVE process in Building 300. Building 301A was a converted prefabricated guard post building with electrical service.	November 2009 (DOE 2009)
WH-1	Well House 1, since its initial construction, had covered the well and housed a pump to help supply water to the Mound facility. WH-1 was a slab-on-grade floor with concrete block walls and a metal roof. The facility was not supplied with utilities other than 480 volt, three-phase power to run the water well pump and an electric space heater.	January 2006 (DOE 2006d)
WH-2	Well House 2 covered a well and pump that helped furnish water to the Mound facility. It had been used for the same purpose since construction. WH-2 was a concrete slab-on-grade with masonry exterior walls and a built-up membrane roof. The facility had no utilities other than 480 volt, three-phase power to run the water well pump and an electric space heater. A propane-fueled standby, direct-drive engine was hooked to the pump to provide power during electrical power outages.	January 2006 (DOE 2006d)

Building	Description	Date of Disposition
WH-3	WH-3 covered a well and pump that provides plant water supply to the Mound facility. It had been used for the same purpose since construction. WH-3 was a concrete slab-on-grade floor with masonry exterior walls and a built-up membrane roof. The facility had no utilities other than 480 volt, three-phase power to run the water well pump and an electric space heater. There was a propane-fueled, direct-drive engine to provide standby power during electrical power outages.	January 2006 (DOE 2006d)

Currently, there are no permanent buildings remaining within the OU-1 and FOST Parcel. Each building underwent an evaluation to determine the presence of building-related contamination that may warrant any environmental concern. The building disposition process included a review of the history of a building and a records review of past sampling data, chemical listings, and history of past spills or releases. Buildings were also inspected for the presence of the following:

- Lead-based paint
- Asbestos
- PCBs or PCB-containing equipment
- Radiological materials or waste in accordance with DOE Order 458.1 Chg. 4 (LtdChg)
- Mercury or mercury-containing equipment or components
- Petroleum products or hazardous chemicals

Based on the results of the evaluation of each building, no environmental concerns were identified. No further action was warranted, and the buildings were demolished.

4.2.3 Additional Removal Actions

In addition to the operation of the P&T system to control contaminated groundwater, several removal actions were completed in the former OU-1 landfill area to support project activities, expedite groundwater remediation times by addressing VOC contamination in the vadose zone, and facilitate future economic development of the landfill area. These actions included the following:

- Removing suspected VOC-contaminated soil (PRS 409 and 410) encountered during the installation of a stormwater pipe in 1996
- Reducing the mass of VOCs in the vadose zone by operating a SVE system from 1996 until 2003
- Removing radiologically contaminated soil (PRS 11) from the southwestern corner of the former landfill in 2005
- Excavating the OU-1 landfill from 2007 through 2011

MDC lobbied Congress for funds to remove the remaining onsite landfill to better facilitate marketing of the property. In 2007, DOE received funding from Congress to perform non-CERCLA removal actions at OU-1 to excavate the site sanitary landfill. In 2009, DOE received funding through the American Recovery and Reinvestment Act which allowed

completion of final excavation and site restoration activities. Excavation of the landfill occurred intermittently from 2007 through 2010, resulting in removal of most of the VOC source.

Parcel 9 was remediated in accordance with the Mound 2000 Process (DOE 1999), and the results of that action are documented in the *Miamisburg Closure Project Parcel 9 Residual Risk Evaluation, Mound Plant, Miamisburg, OH* (DOE 2011c), also known as the 2011 Parcel 9 RRE. The remaining soil in the OU-1 area meets the site risk-based cleanup objective for future industrial and commercial land use. Soil cleanup levels were risk-based in consideration of the industrial and commercial user. The results of the two excavation actions, including cleanup levels, are reported in the *Operable Unit 1 Closeout Report* (DOE 2009) and *Operable Unit 1 Landfill Area Closeout Report* (DOE 2010).

4.2.4 Other Factors Considered

As part of the environmental review, a generic checklist of issues to be considered in evaluating the FOST Parcel to be transferred was completed. The FOST Parcel was previously reviewed as part of the *Parcel 9 Environmental Summary, CERCLA 120(h) Summary Notice of Hazardous Substances* (DOE 2011d), hereafter referred to as the 2011 Environmental Summary for Parcel 9 (DOE 2011d). A summary or update of those items is provided here.

4.2.4.1 Storage, Release, or Disposal of Hazardous Substances

Enclosure 4 provides the Notification of Hazardous Substances stored for 1 year or more, known to have been released or disposed at the FOST Parcel in accordance with CERCLA 120(h). This notification identifies the type and quantity of such hazardous substance(s) and notice of the time at which such storage, release, or disposal took place, and a description of remedial action, if any. A copy of Enclosure 4 will be attached to the quitclaim deed between DOE and MDC.

4.2.4.2 Petroleum and Petroleum Products

Enclosure 5 provides the Notification of Petroleum Product Storage, Release, or Disposal stored for 1 year or more, known to have been released or disposed at the FOST Parcel. A copy of Enclosure 5 will be attached to the Quit Claim Deed between DOE and MDC.

4.2.4.3 Polychlorinated Biphenyls

The 2011 Parcel 9 Environmental Summary states that there are no areas within Parcel 9 requiring PCB cleanup. This remains unchanged.

4.2.4.4 PFOS and PFOA

PFOS and PFOA were not used at the Mound site. Materials that may have been used with or contaminated by chemicals or products that potentially contain PFAS (polyfluorinated alkyl substances) were likely disposed of in the former OU-1 landfill. It has been noted from review of chemical inventories and process documents that chemicals were purchased and used in limited amounts and consumed upon use. The potential of PFAS would likely be the result of residual amounts on materials that were within the former landfill (DOE 2016).

4.2.4.5 Asbestos

No buildings remain at the FOST Parcel.

4.2.4.6 Lead-Based Paint

No buildings remain at the FOST Parcel.

4.2.4.7 Radiological Materials

DOE Order 458.1, Chg. 4 (LtdChg), *Radiation Protection of the Public and Environment* requires that DOE perform a release and clearance of property that may be contaminated with residual radioactive material and ensure that long-term stewardship and ICs for protection meet the requirements of this order.

Section 4.2.2.1 provides the details of each of the PRSs that were identified and released under the Mound 2000 Process. These PRSs were identified in the 2011 Parcel 9 Environmental Summary, and ICs were placed on the FOST Parcel.

Section 4.2.3 provides the details of the two OU-1 landfill excavation projects that were released under the Mound 2000 Process. The OU-1 landfill area were reported in *Operable Unit 1 Closeout Report* (DOE 2009) and *Operable Unit 1 Landfill Area Closeout Report* (DOE 2010). Institutional controls were placed on the FOST Parcel.

As part of the OU-1 landfill excavation projects, the surrounding soils were sampled via surface gamma-radiation scan in 2009, and no hot spot locations were identified. The results are documented in the Discussion of Walkover Scans for OU-1 Balance Area in Appendix E, "Walkover Surveys OU-1 Sanitary Cap and Balance," of the *Operable Unit 1 Closeout Report* (DOE 2009).

4.2.4.8 Radon

No buildings remain at the FOST Parcel.

4.2.4.9 Floodplains

The southern portion of County Lot 8072 is identified within a Flood Zone AE, which is defined as area that could be inundated by 100-year flooding as noted on the Federal Flood Rate Map Community Panel No. 39113C0243E, with an effective date of January 6, 2005.

4.2.4.10 Monitoring Equipment

There are 32 groundwater monitoring wells within the FOST Parcel that are owned by DOE. Most of these wells are routinely sampled as part of OU-1 groundwater remedy monitoring. The number of wells retained by DOE long-term is expected to be reduced from the current number and wells not kept are anticipated to be decommissioned in calendar year 2026. Because continued groundwater monitoring is part of the selected remedy for groundwater in OU-1, DOE will continue to have access to these locations through ICs in the environmental covenant and quitclaim deed.

4.2.4.11 Fragment Arcs and Clearance Zones

An adjacent parcel that has already been transferred to MDC ownership contains five magazines that at one time held explosive materials. A 1997 clearance zone review indicated that if the magazines were used for particular types of explosives, the ring of the zone would extend onto part of Parcel 9. The current status and usage of the magazines on the adjacent parcel is unknown.

4.2.4.12 Utility Easements

DOE granted an easement (2002-00077423) to MDC (formerly Miamisburg Mound Community Improvement Corporation [MMCIC]) across government-owned properties, together with ingress and egress, for the purpose of construction, installation, repair, or replacement of gas, electric, water, sewer, telephone, and communication lines.

4.3 Current Activities

The 2023 OU-1 ROD Amendment was signed by DOE on September 14, 2023, and EPA signed the ROD Amendment on September 26, 2023 (DOE 2023). Ohio EPA provided a letter to DOE on September 13, 2023, stating concurrence with the amended ROD. The 2023 OU-1 ROD Amendment specifies and explains the modification of the selected remedial action of P&T for groundwater in OU-1 set forth in the 1995 OU-1 ROD (DOE 1995), to the Environmental Assessment and specifies and explains the activity and use restrictions to address VI at the FOST Parcel. The 2023 OU-1 ROD Amendment does not modify any other remedies (i.e., ICs) for Parcel 9 that were documented in the 2011 OU-1 ROD Amendment (DOE 2011a). A new IC has been added as part of this property transfer to address the requirements of the 2023 OU-1 ROD Amendment, and this IC is identified in Enclosure 7. The selected remedies were developed to address residual VOCs remaining in groundwater and soil vapors at the FOST Parcel. The selected remedies are:

- **Groundwater:** Enhanced attenuation with monitoring and ICs
- **Vapor Intrusion:** Preemptive measures or actions to mitigate VI exposure with ICs.

Enclosure 7 provides the EPPs associated with this transfer, which will be included in the quitclaim deed.

5.0 Environmental Remediation Agreements

DOE and EPA entered into a FFA under Section 120(e) of CERCLA, 42 USC 9620(e), in June 1990 for the completion by DOE of all necessary remedial action at the former DOE Mound (Ohio) Plant Site, Miamisburg, Ohio. The site was listed on the NPL on November 21, 1989. Ohio EPA became a party with DOE and EPA to a revised FFA on July 15, 1993. The FOST Parcel will continue to remain part of the NPL site listing after transfer to MDC. The deed will include a provision reserving DOE's right to conduct remediation activities, if necessary, in the future (see Enclosure 7).

6.0 Regulatory and Public Coordination

The community has been an active participant throughout the CERCLA process. LM held a public meeting on December 7, 2022, and provided the opportunity for members of the public to attend virtually due to coronavirus disease 2019 concerns. A 30-day public comment period was held from November 23 through December 23, 2022, to give members of the public time to review the Proposed Plan and other documents contained in the Administrative Record.

During the public comment period for the 2023 OU-1 ROD Amendment, no public comments were received however DOE received comments from the regulators which were addressed in the ROD Responsiveness Summary and accordingly incorporated into the 2023 OU-1 ROD Amendment. DOE received concurrence from Ohio EPA on September 13, 2024. EPA approved and signed the 2023 ROD Amendment on September 26, 2024.

7.0 National Environmental Policy Act

The FOST Parcel lies within the boundaries of the Mound site described in the Environmental Assessment (EA) for commercialization of the Mound Plant, and the resulting Finding of No Significant Impact (FONSI) was issued on October 27, 1994.

The land use described in the EA is consistent with the ICs in the 2023 ROD OU-1 Amendment.

8.0 Findings of Suitability to Transfer

In accordance with the provisions of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Section 120(h), contaminated property can only be transferred if one of the following applies:

- (1) A decision has been made that no remedial action is necessary.
- (2) All remedial action necessary to protect human health and the environment with respect to any such substance remaining on the property has been taken before the date of transfer and any such remedy has been demonstrated to the administrator to be operating properly and successfully.
- (3) Early transfer authority, which allows for transfer before all necessary action is complete, has been granted by EPA with concurrence from the Governor of the State of Ohio pursuant to CERCLA Section 120(h)(3)(C).

Based on the above information, I conclude that all removal or remedial actions necessary to protect human health and the environment have been taken on the FOST Parcel, and, as such, the FOST Parcel is suitable for transfer pursuant to CERCLA Section 120(h)(3). In addition, all DOE requirements to reach a Finding of Suitability To Transfer have been met, subject to the terms and conditions set forth in the attached Environmental Protection Provisions (Enclosure 7) that shall be included in the deed for the FOST Parcel. The deed will also include the CERCLA Section 120(h)(3) Notice, Covenant, and Access Provisions and Other Deed Provisions (Enclosure 6). Finally, the hazardous substance notification (Enclosure 4) shall be included in the deed as required under CERCLA Section 120(h).

**CLIFFORD
CARPENTER**

Digitally signed by CLIFFORD
CARPENTER
Date: 2025.04.17 13:22:27 -04'00'

Cliff Carpenter
RCRA/CERCLA/FUSRAP Team Leader
U.S. Department of Energy Office of Legacy Management

Date

9.0 Enclosures

Enclosure 1	Figures
Enclosure 2	Environmental Documentation
Enclosure 3	Table 1a. Waste Streams and Disposition Table 1b. Summary of Potential Release Sites (PRSs) and Remedial Actions at the FOST Parcel
Enclosure 4	CERCLA 120(h) Notification of Hazardous Substance Release, Storage, or Disposal
Enclosure 5	Notification of Petroleum Product Storage, Release, or Disposal
Enclosure 6	CERCLA Notice, Covenant, and Access Provisions and Other Deed Provisions
Enclosure 7	Environmental Protection Provisions

Enclosure 1

Figures



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Figure 1. Location of the Mound, Ohio, Site



Figure 2. Mound Site Boundary with Remainder of Parcel 9 Lots

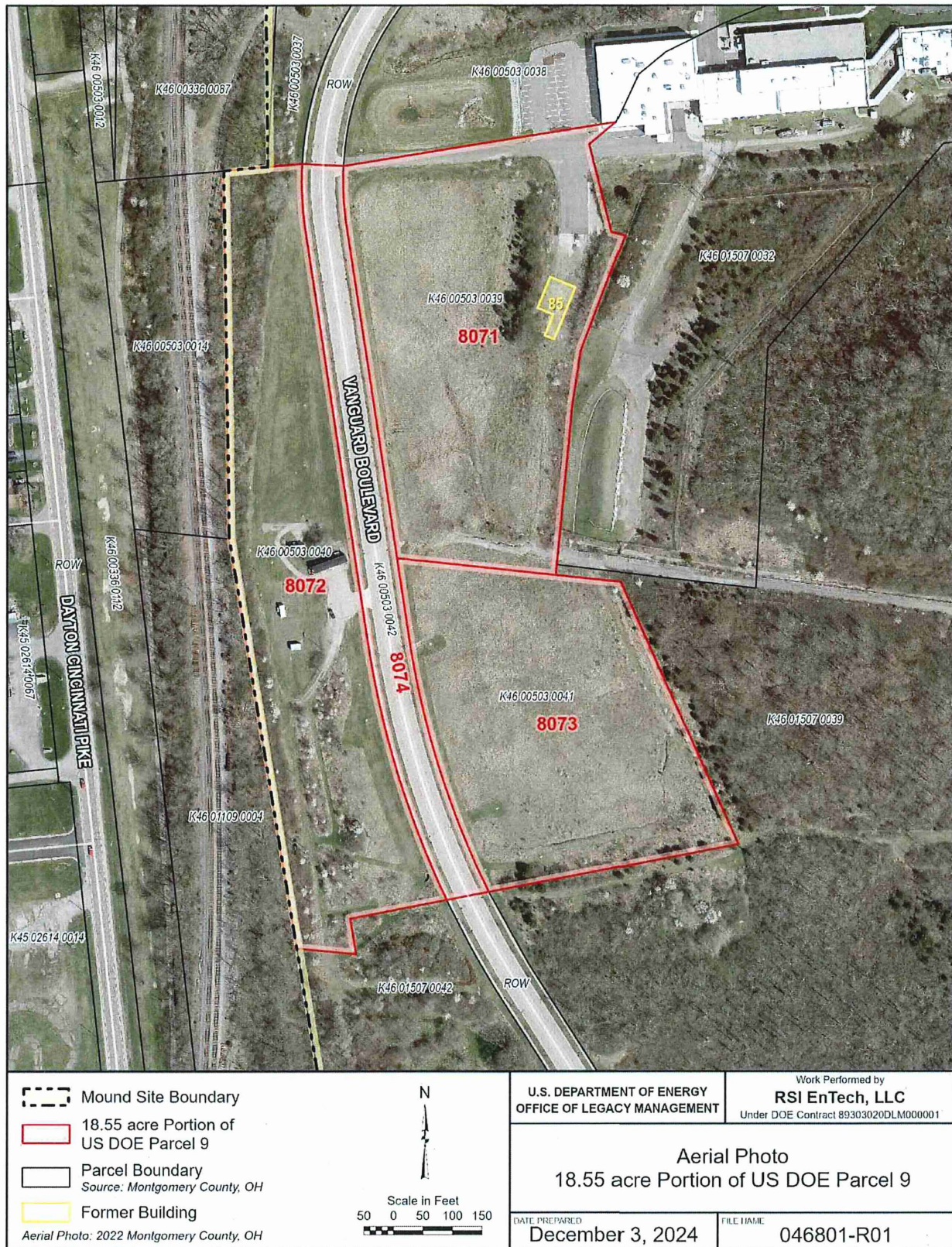


Figure 3. OU-1 and Parcel 9 Area with County Lot Designations

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RECORD PLAN

MOUND ADVANCED TECHNOLOGY CENTER SECTION 5

BEING A REPLAT OF PART LOTS 2259, 2260, 4777, OF THE CONSECUTIVE LOT NUMBERS OF THE CITY OF MIAMISBURG SECTIONS 30 & 35, TOWN 2, RANGE 5 M.R.S. MONTGOMERY COUNTY, OHIO

5.5112 ACRES IN LOTS
2.0185 ACRES IN ROADWAY EASEMENT
93.0230 ACRES TOTAL
AUGUST 2019

APPROVED FOR RECORDATION

PLAT BOOK 234 PAGE: 37

234 P 37 A

APPROVED FOR RECORDATION

PLAT BOOK 234 PAGE: 37A

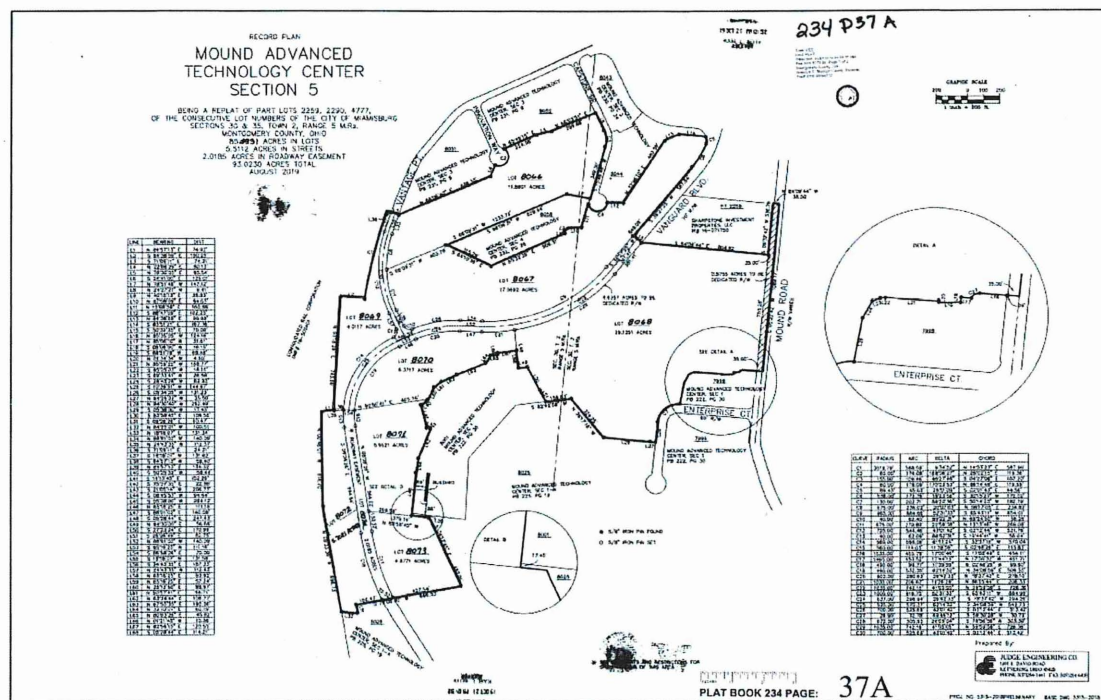
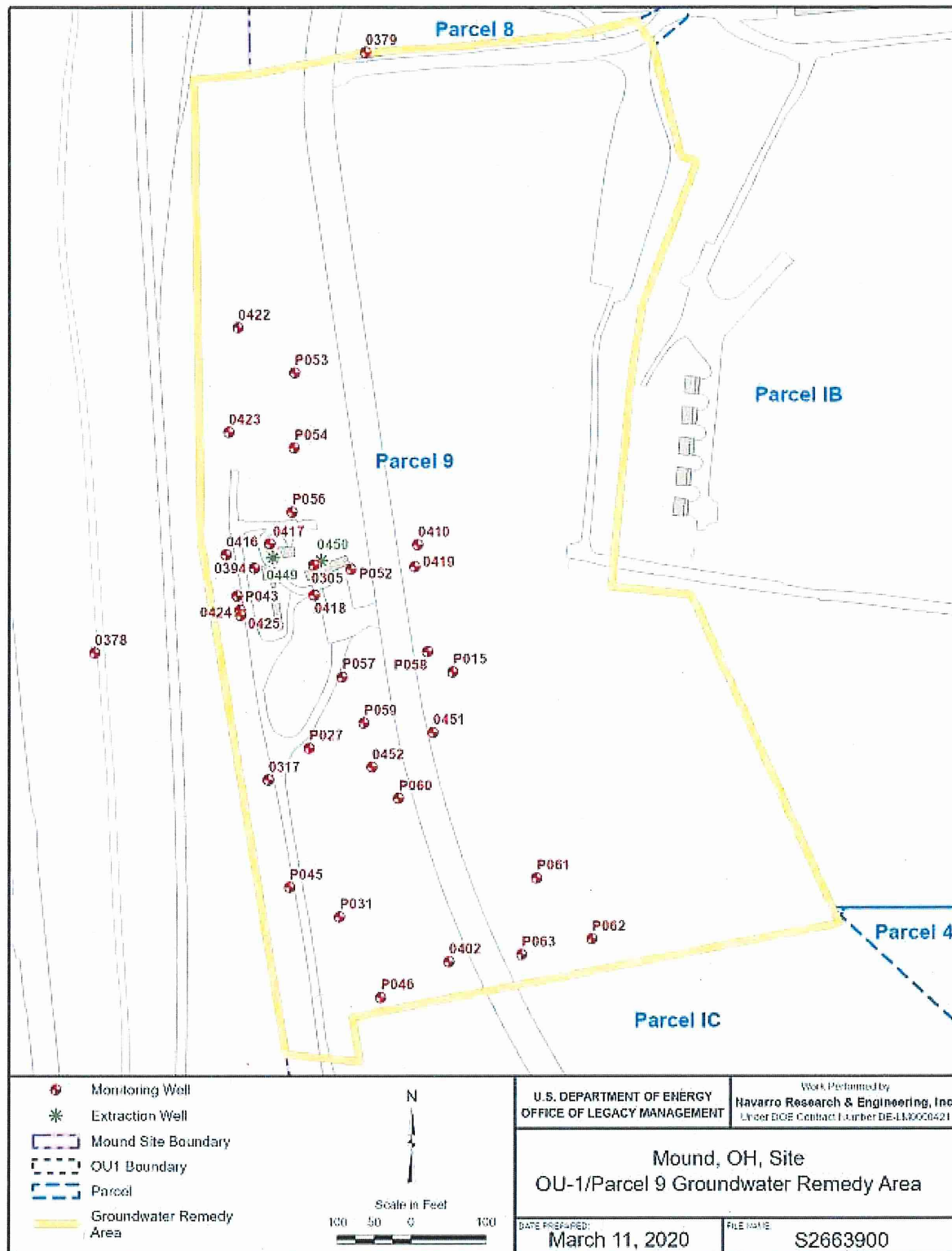


Figure 4. Mound Advance Technology Center Section 5 Replat Dated September 16, 2019



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Figure 5. DOE-Owned Features in OU-1 and Parcel 9 Area

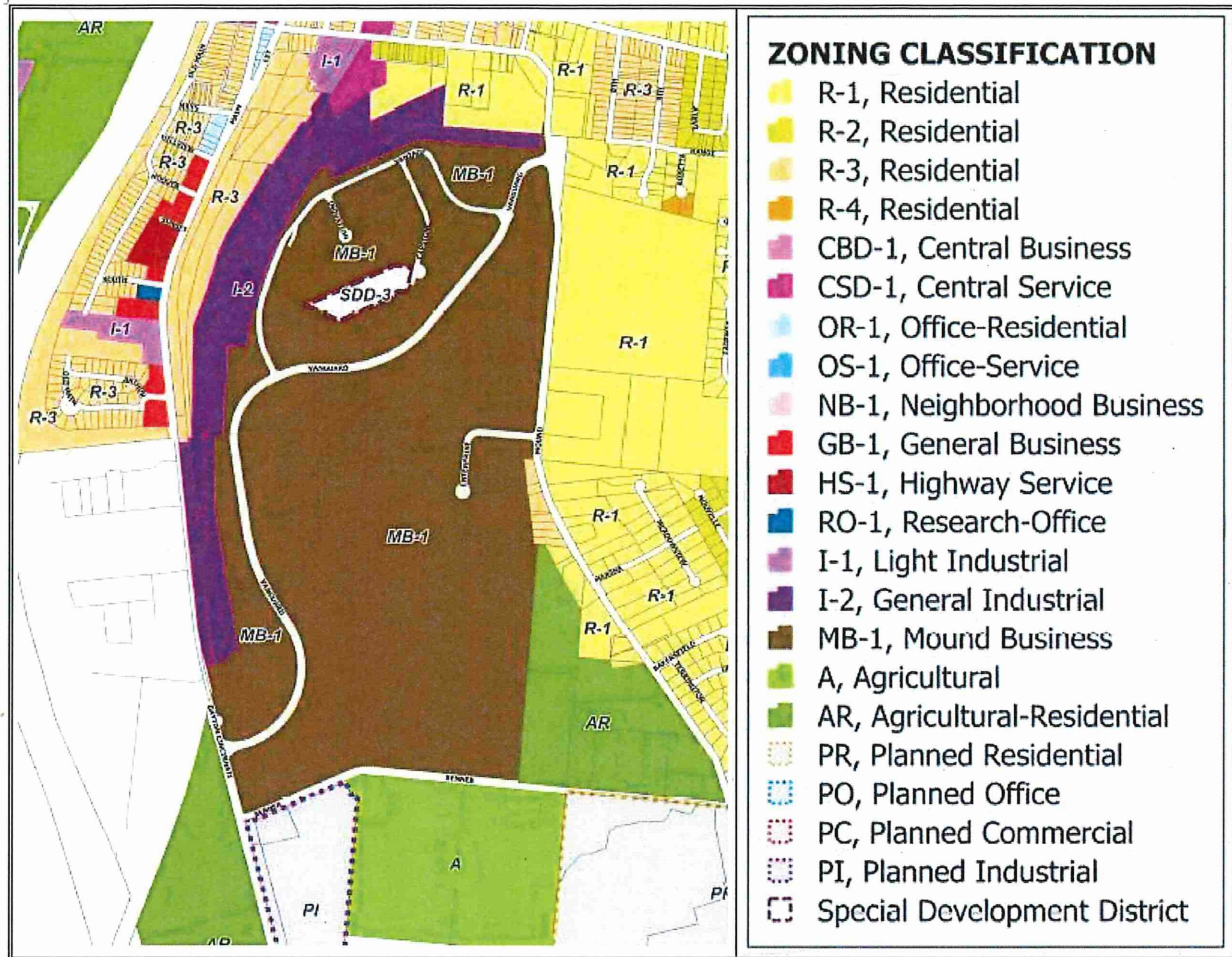


Figure 6. Zoning at and Around the Mound Site

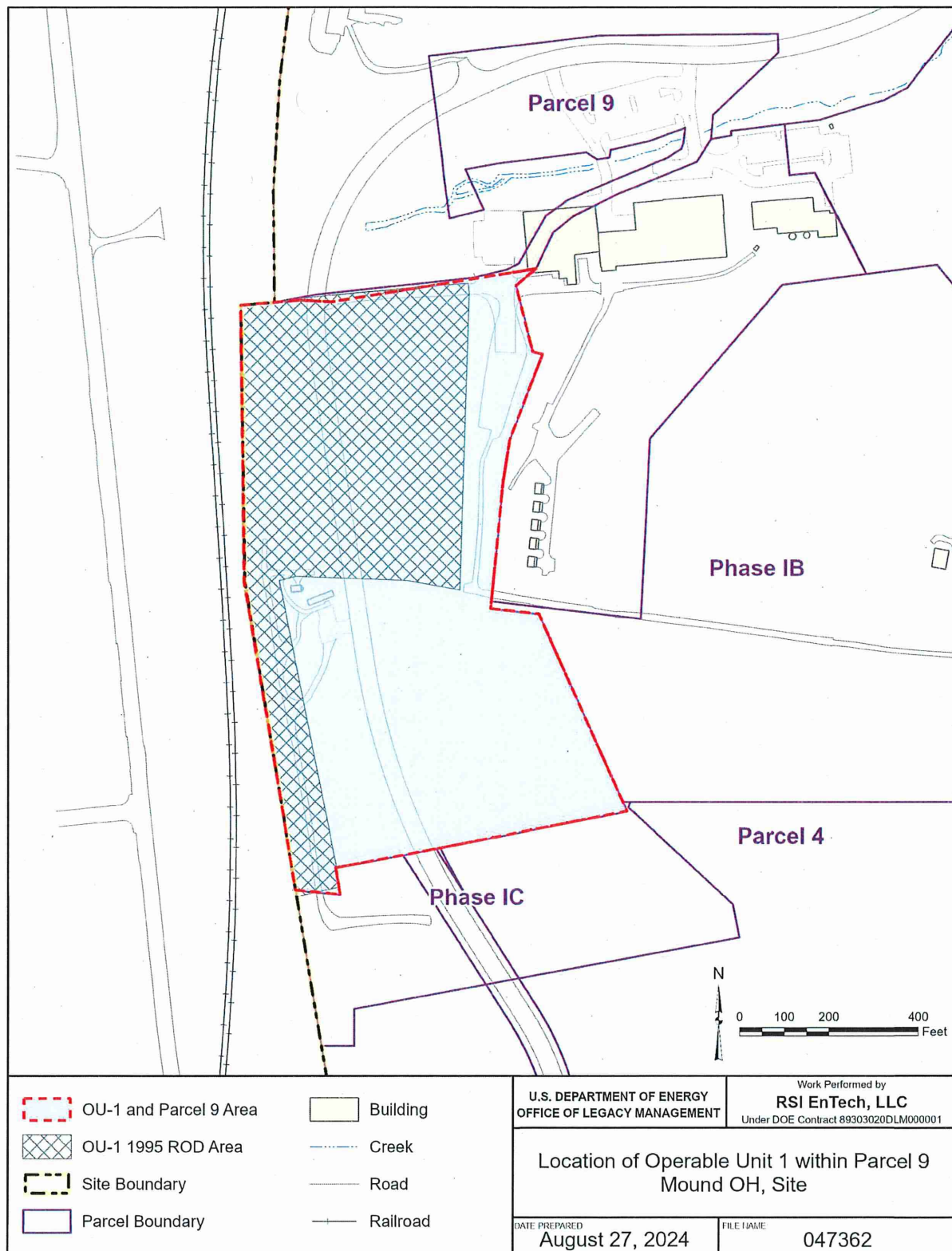
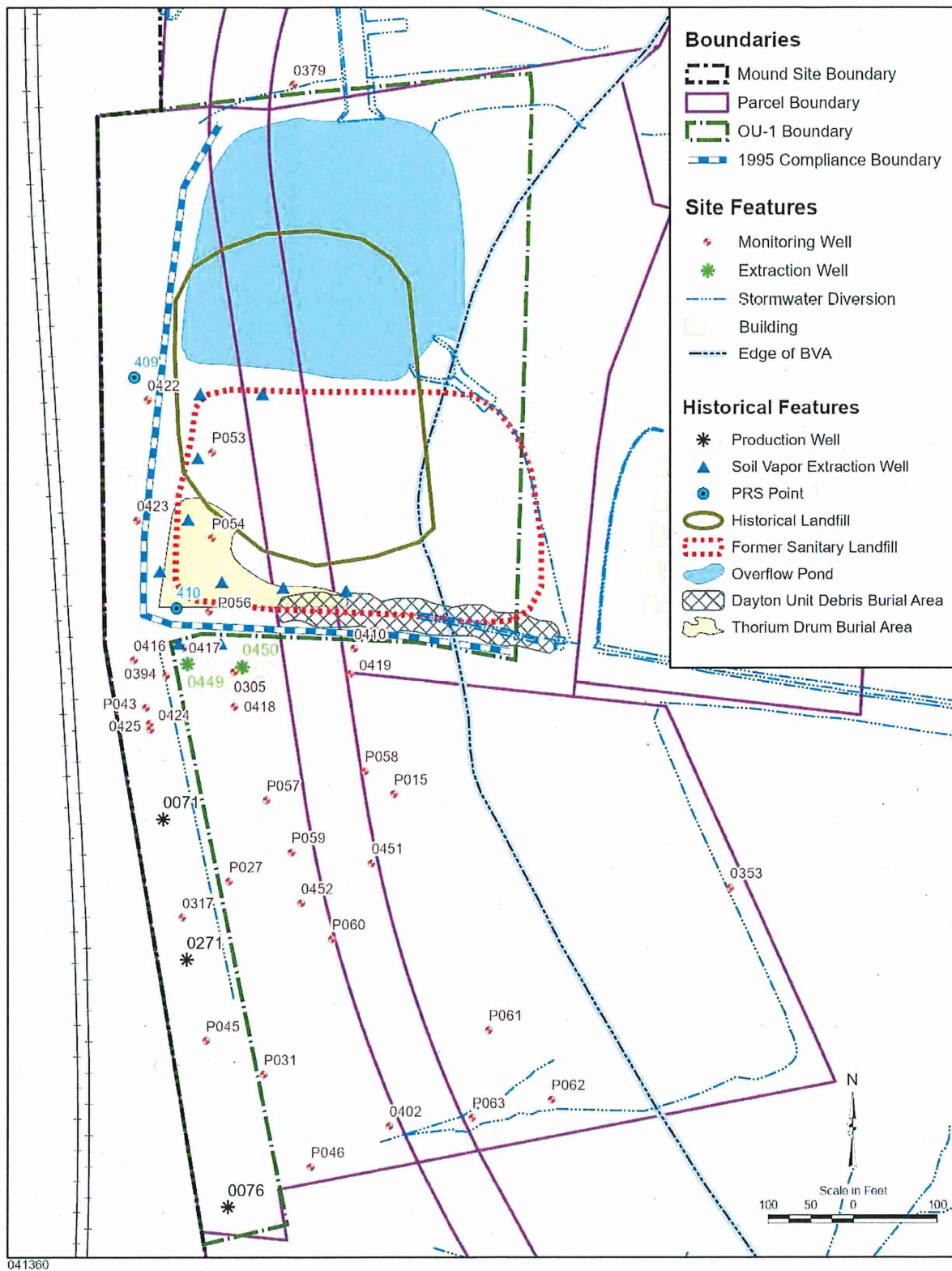


Figure 7. OU-1 and Parcel 9 Area Within Parcel 9 with Landfill Boundary



Abbreviation: BVA = Buried Valley Aquifer

Figure 8. OU-1 Site Map

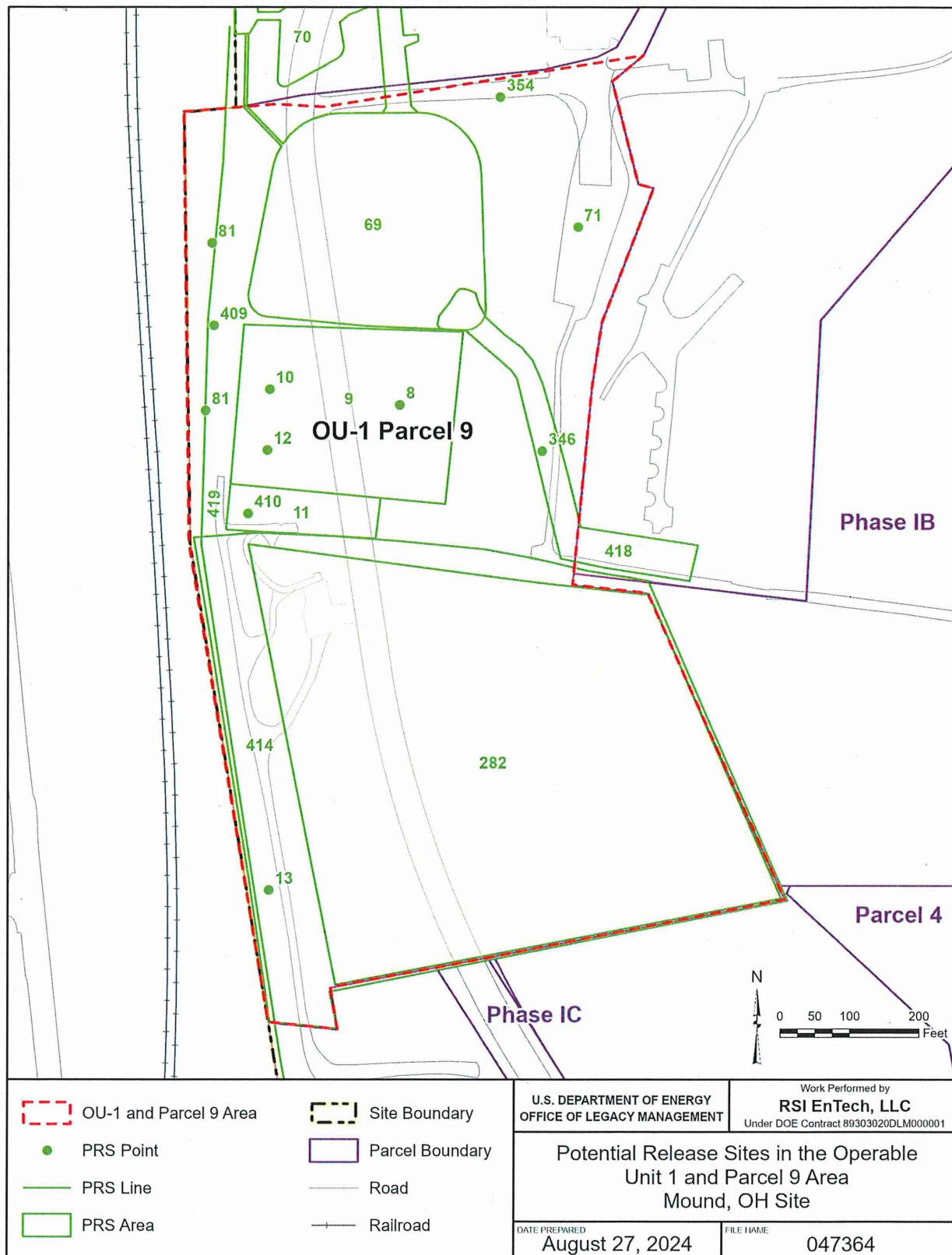


Figure 9. Potential Release Sites in OU-1 and Parcel 9 Area

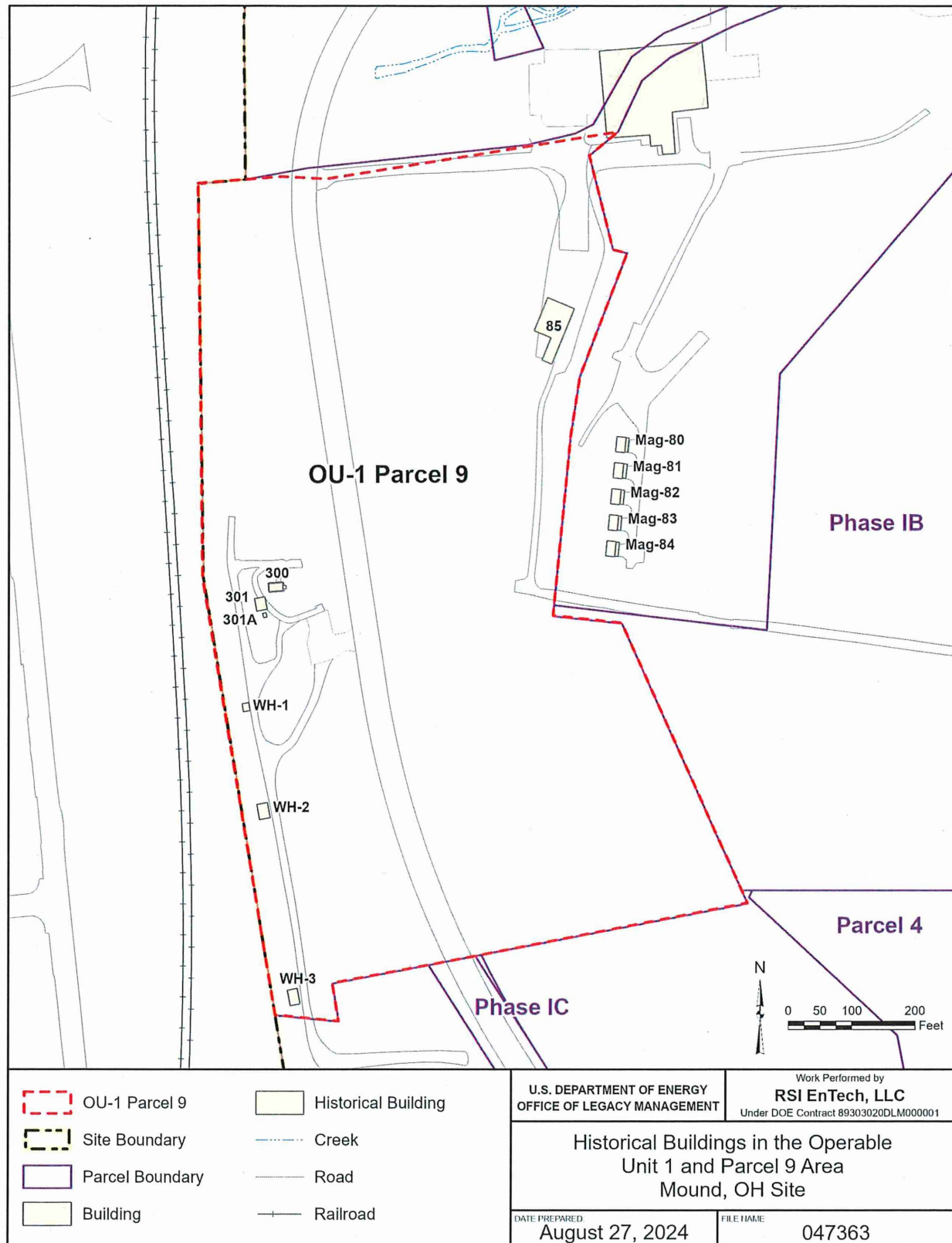


Figure 10. Historical Buildings in the OU-1 and Parcel 9 Area

Enclosure 2

Environmental Documentation

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Federal Flood Rate Map Community Panel No. 39113C0243E ([FEMA Flood Map Service Center | Search By Address](#))

Enclosure 3

Table 1a. Waste Streams and Disposition

Table 1b. Summary of Potential Release Sites (PRSs) and Remedial Actions at the FOST Parcel

Table 1a. Waste Streams and Disposition

Waste Type	Volume	Weight	Transport	Disposal
LLRW	14,978 yd ³	—	Rail	Envirocare Clive Disposal Site Interstate 80, Exit 49 Clive, UT
	55,956 yd ³	—	Rail	Energy Solutions Clive Disposal Site Interstate 80, Exit 49 Clive, UT
	33,450 yd ³	41,860 tons	Rail	Energy Solutions Clive Disposal Site Interstate 80, Exit 49 Clive, UT
Mixed waste (LLRW + VOCs)	2149 yd ³	—	Rail	Energy Solutions Clive Disposal Site Interstate 80, Exit 49 Clive, UT
	1 drum	—	Truck	Envirocare Clive Disposal Site Interstate 80, Exit 49 Clive, UT
Mixed waste (LLRW + VOCs) requiring treatment	121 yd ³	—	Rail	Energy Solutions Clive Disposal Site Interstate 80, Exit 49 Clive, UT
Mixed waste (LLRW + PCBs)	2268 yd ³	—	Rail	Energy Solutions Clive Disposal Site Interstate 80, Exit 49 Clive, UT
	37 yd ³	46 tons	Rail	Energy Solutions Clive Disposal Site Interstate 80, Exit 49 Clive, UT
Hazardous waste (VOCs)	—	2149 tons	Bulk truck	Heritage Environmental Services Roachdale, IN
Hazardous waste (VOCs) requiring incineration	—	416 tons	Bulk truck	Heritage Thermal Services 1250 St. George St East Liverpool, OH
Hazardous waste (VOCs) requiring chemical oxidation	—	1844 tons	Bulk truck	EQ Environmental Waste 49350 N Interstate 94 Service Dr Belleville Dr, MI
Cesium-137 source	NA	NA	—	Energy Solutions Clive Disposal Site Interstate 80, Exit 49 Clive, UT
Intact cylinders (2)	NA	NA	Picked up by Heritage Environmental Services	Heritage Environmental Services 4370 W County Rd Roachdale, IN
VOC-contaminated soil	Unknown	—	NA	Onsite treatment
Petroleum-contaminated soil	3 yd ³	—	NA	Onsite treatment
VOCs from groundwater	---	12 kg (TCE)	N/A	On-site air stripper system
VOCs from soil vapors	---	1862 kg	N/A	On-site SVE system

Notes:

- Mixed waste: Waste including both low-level radiologically and chemically contaminated soil and debris.
- Mixed waste requiring treatment: Waste with chemical contamination above disposal limits.
- Hazardous waste: Waste with chemical concentrations above Resource Conservation and Recovery Act (RCRA) limits.

- Hazardous waste requiring incineration: Waste with chemical contamination exceeding land disposal restriction concentrations.
- Hazardous waste requiring oxidation: Waste with chemical concentrations exceeding land disposal restriction concentrations....
- Onsite treatment: Mound site biotreatment cell.
- —Dash indicates no entry.

Sources:

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Miamisburg Closure Project Potential Release Site Package PRS 410 Addendum 1 (DOE 2005b)

PRS 11 Removal Action OSC Report This Report Closes PRS 11 (DOE 2006b)

Miamisburg Closure Project Potential Release Site Package PRS 409 Addendum 1 (DOE 2006a)

Abbreviations: NA = not applicable, yd³ = cubic yards

Table 1b. Summary of Potential Release Sites and Remedial Actions at the FOST Parcel

PRS Description	Contaminants	Decision and Closeout Document	Remedial Action and Performance Results
PRS-8: Site sanitary landfill (Waste Storage and Disposal Sites Release Block I) PRS-9: Area 18, site sanitary landfill cover (Waste Storage and Disposal Sites Release Block I). PRS-10: Historical landfill (Waste Storage and Disposal Sites Release Block I) PRS-12: Drum staging area (Waste Storage and Disposal Sites Release Block I)	• Beryllium, mercury, TCE, carbon tetrachloride, nickel carbonyl, lithium hydride, alcohol, benzene, acetone, photo processing solutions, plating solutions, small quantities of PCB oils, waste antifreeze, waste oils, paints, solvents • Sediment from plant drainage ditch • Bioassay samples • Scintillation "cocktails" • Suspected VOC releases to soil and groundwater from historical landfill	NFA recommendation signed on 3/4/96 (DOE 1996a)	PRSs 8, 9, 10, 11, and 12 included the historical landfill site and historical disposal site of plant waste materials, including general trash and liquid waste in an area of the site commonly referred to as Area B. PRSs 8, 9, 10, 11, and 12 were later removed as part of the OU-1 landfill excavation (2009–2010) See OU-1 Landfill Excavation Phases 1 and 2 listed below.
PRS-11: Site sanitary landfill (Waste Storage and Disposal Sites Release Block I)	Thorium releases to soil from crushed drums	Removal action (RA) complete. OSC report signed on 11/26/03 (DOE 2006bb)	PRSs 8, 9, 10, 11, & 12 included the historical landfill site and historical disposal site of plant waste materials, including general trash and liquid waste in an area of the site commonly referred to as Area B. Based on the discovery of thorium Disposal at Envirocare (Utah) • 14978 cy of rad soil • 1 drum of mixed waste Later removed as part of the OU-1 landfill excavation (2009–2010) See OU-1 Landfill Excavation Phases 1 and 2 listed below.
PRS-13: Trash incinerator (former treatment site)	Solid Waste ^a	NFA recommendation signed on 12/18/96 (DOE 19977)	PRS 13 was identified as a trash incinerator was part of an overall open burning process employed from 1948–1970 in the old burn area, which was part of OU-1.

PRS Description	Contaminants	Decision and Closeout Document	Remedial Action and Performance Results
PRS-69: Overflow pond and outflow pipe	- Site sanitary landfill leachate; ^{238}Pu - Effluent from plant drainage ditch - Stormwater runoff	OSC Report signed on 1/12/06 (DOE 2006cc)	PRS due to the presence of ^{238}Pu contamination, site sanitary landfill leachate, effluent from the plant drainage system, and stormwater runoff. The overflow pond was located near the southwest corner of the original plant property. Operating continuously since 1979, the pond had a capacity of 5 million gallons. Removal of soil was not required. Thorium-232 results were below cleanup objectives. The pond was removed and filled as a construction project under the Mound 2000 process.
PRS-71: Building 85 waste solvent tank (Tank 136)	None	NFA recommendation signed on 3/4/96 (DOE 1996a1996a)	Historical process knowledge indicated that this PRS, which was a below grade tank located adjacent to Building 85, was never used.
PRS 81: Drilling mud drum storage areas (two locations within Parcel 9)	Barium	NFA recommendation signed on 5/8/96 (DOE 1996b1996b)	These areas were designated a PRS due to suspected barium contamination from borehole cuttings that were stored in drums. The areas were used from 1987–1989.
PRS 282: Spoils Disposal Area and Construction Spoils Area	^{238}Pu , thorium, and gasoline contaminated soil from G Building	Additional characterization was performed; NFA recommendation signed on 1/7/03 (DOE 2003)	PRS was binned for further assessment (FA). Additional characterization of the area was performed and the NFA recommendation was approved based on the results.
PRS 346: Elevated soil gas location	Aromatic and petroleum hydrocarbons, ^{238}Pu , and thorium	NFA recommendation signed on 11/20/96 (DOE 1997c1997c)	PRS was identified due to a single elevated radiological detection of plutonium found during the Mound Soil Screening Analysis performed as part of the 1994 OU-5, Operational Area Phase I Investigation. Qualitative hydrocarbon detections were also identified during the PETREX soil gas portion of OU-5, Non-Area of Concern investigation.
PRS 354: Elevated soil gas location	Aromatic and petroleum hydrocarbons, ^{238}Pu , and thorium	NFA recommendation signed on 2/19/97 (DOE 1997d)	PRS was identified due to a single elevated radiological detection of plutonium found during the Mound Soil Screening Analysis performed as part of

PRS Description	Contaminants	Decision and Closeout Document	Remedial Action and Performance Results
			the 1994 OU-5, Operational Area Phase I Investigation. Qualitative hydrocarbon detections were also identified during the PETREX soil gas portion of OU-5, Non-Area of Concern investigation.
PRS 409: Soil contamination (Stoddard solvent): The site of a former chemical (Stoddard solvent) concrete pad staging area	Stoddard solvent (petroleum-based solvent)	Recommendation for response action (RA) was signed on 8/6/97 (DOE 1997a) Recommendation for NFA signed on 1/11/05 (DOE 2006a2006a)	This area was encountered and remediated during the installation of a storm water drainage pipe in 1996. Contamination soils area located in Release Block I, OU-1, just west of the site sanitary landfill. This area was identified by the contractor installing the OU-4 canal reroute drainage pipe. Unknown amount of contaminated soil was excavated and staged for treatment in the Mound Plant bioremediation facility. It was noted that contamination and a portion of the concrete pad remained. Sampling was performed to determine the extent of contamination in 2004. Samples were analyzed for BTEX and DRO and results indicated that concentrations were below cleanup objectives and confirmed that the concrete pad and full extent of contamination was removed in 1996.
PRS 410: Soil contamination: Fuel oil		Recommendation for response action (RA) was signed on 8/13/97 (DOE 1997b) Recommendation for NFA signed on 12/1/04. (DOE 2005b)	Based on a surface (8 inches below grade) soil stain and odor (thought to be diesel fuel) encountered during the removal and replacement of a storm water drainage pipe in 1996, all suspect material (3 yd³) was removed and staged for treatment in the Mound Plant bioremediation facility. No verification sampling was performed. Characterization sampling was performed in 2004. Samples were analyzed for BTEX, DRO, and PAHs and results indicated that

PRS Description	Contaminants	Decision and Closeout Document	Remedial Action and Performance Results
			concentrations were below cleanup objectives and confirmed that the concrete pad and full extent of contamination had been removed in 1996.
PRS 414: South area groundwater and soil evaluation	TCE, PCE, <i>cis</i> -1,2-DCE, and VC in groundwater	Recommendation to retire the PRS was signed on 12/2/04 (DOE 2005c)	PRS was identified because of localized low-level concentrations of VOCs in groundwater. PRS was binned for FA. It was concluded that this PRS represented the southern extent of the VOC groundwater plume extending from OU-1. It was recommended that PRS 414 be incorporated into the OU-1 groundwater remedy area.
PRS 418: Overflow pond south inlet (SM/PP Buildings drainage flume)	²³⁸ Pu, Th-228, Th-232, Ra-226, and benzo(a)pyrene	NFA recommendation signed on 6/21/00 (DOE 2001)	Potential contamination attributed to surface water drainage from the SM/PP Hill processing area.
PRS 419: Drainage outflow reroute	Potential radiological and chemical contamination associated with non-process water discharge and stormwater runoff from the Mound site	NFA recommendation signed on 11/17/99 (DOE 2000)	PRS 419 is fed by the Mound Plant drainage, retention, and overflow system, which drains a majority of the site.
OU-1 Landfill Excavation: (Phase 1: 2007–2008)	Inorganics: Antimony, gadolinium, lanthanum, praseodymium, samarium, and tantalum Dioxins: PCBs: Aroclor-1248 and Aroclor-1262	Parcel 9 was remediated in accordance with the Mound 2000 Process. The remaining soil in the OU-1 area meets the site risk-based cleanup objective for future industrial and commercial land use (DOE 2011a). Soil cleanup levels were risk-based in consideration of the industrial and commercial user.	During Phase 1, 60,494 yd ³ of LLRW and 4409 bulk tons of VOC hazardous waste were removed (DOE 2009). Disposed at Envirocare (Utah).
OU-1 Landfill Excavation: (Phase 2: 2010)	Pesticides: Endrin aldehyde Semi-VOCs VOCs: Ammonia, chloroform, PCE, and TCE Radionuclides: Cs-137+D, ²³⁸ Pu, Ra-228+D, Th-230+D, U-233/234, and U-238+D		During Phase 2, 33,450 yd ³ of LLRW and 37 yd ³ of mixed waste (PCBs and LLRW) were removed (DOE 2010). Disposed at Envirocare (Utah).

Sources: ^a Operable Unit 9 Site Scoping Report: Volume 12-Site Summary Report (DOE 1994b), Table A.1. ^b RI/FS, OU-9, Site-Wide Work Plan (DOE 1992b2b).

Abbreviations: BTEX = benzene, toluene, ethylbenzene, and xylene; CS = Cesium; +D = daughters DRO = diesel range organics; FA = Further Action; NFA = no further action; NA = not applicable; OSC = on-scene coordinator; PAH = polycyclic aromatic hydrocarbon; PU = Plutonium; Ra = Radium; RA = remedial action; SM/PP = Special Metallurgical/Plutonium Processing; yd³ = cubic yards; Th = Thorium; U = Uranium; VC = vinyl chloride

Enclosure 4

**CERCLA 120(h) Notification of Hazardous Substance Release,
Storage, or Disposal**

CERCLA 120(h) Notification of Hazardous Substance Release, Storage, or Disposal			
Area	Hazardous Substance(s)	Date of Storage, Release, or Disposal	Remedial Actions
OU-1 Landfill	VOCs	The original area designated as OU-1 (formerly known as Area B) occupies approximately 4 acres in the southwestern portion of the Mound site. OU-1 includes the historical landfill site, former sanitary landfill site, and former OU-1 overflow pond. During later investigations, the former production well area was incorporated into OU-1. The OU-1 landfill area was used to dispose of general trash and liquid wastes from 1948 to 1974. Open burning of hazardous liquid wastes in the OU-1 landfill area was stopped in 1969. A chronology of activities associated with the OU-1 landfill are included as Exhibit A to this attachment.	OU-1 excavation performed from 2007–2010 and PRS 8, 9, 10, 12, 409, and 410 removals addressed VOC contamination. Cleanup objectives were based on industrial use scenarios.
	PCBs	The historical landfill was reported to contain a variety of wastes, including ordinary laboratory, office, and kitchen wastes, along with sediments containing metals (beryllium and mercury), plating wastes, oils, and chlorinated and non-chlorinated solvents. The estimated volume of the historical landfill area was estimated between 32,000 and 42,000 cubic yards (yd³). Low-level radioactive sediments dredged from the site drainage ditch, which contained ²³⁸Pu, thorium-232, and uranium-238 were routinely placed within the OU-1 landfill area.	OU-1 excavation performed from 2007–2010 and PRS 8, 9, 10, and 12 removals addressed PCB contamination. Cleanup objectives were based on industrial use scenarios.
	Radiological	Radiologically contaminated materials were buried in the historical landfill in the 1950s and 1960. During the mid-1950s, potentially contaminated salvage materials (from Dayton Unit IV) consisting of metal debris, polonium-210 (Po-210) contaminated sand from research and production activities, and approximately 2000 empty, crushed 55-gallon drums that were used to store thorium wastes were buried in the southwest corner of the historical landfill. In 1965, Po-210 contaminated sand from the Mound site waste disposal building was buried in the southwestern corner of the historical landfill. The sanitary landfill and overflow pond were constructed during 1977 and 1978. The location of the overflow pond partially covered the historical landfill site. A portion of the historical landfill waste was excavated during construction of the overflow pond and was relocated and encapsulated in the adjacent sanitary landfill constructed at the same time.	OU-1 excavation performed from 2007–2010 and PRS 11 removals addressed radiological contamination. Cleanup objectives were based on industrial use scenarios.

CERCLA 120(h) Notification of Hazardous Substance Release, Storage, or Disposal			
Area	Hazardous Substance(s)	Date of Storage, Release, or Disposal	Remedial Actions
		The sanitary landfill was reported to contain mostly office and cafeteria wastes, soils, and some bioassay wastes, which were related from solid waste disposal trenches at of the historic landfill area. Sediments from the site drainage ditch, which contained ^{238}Pu, thorium-232, and uranium-238 may have been relocated into the sanitary landfill as well. The estimated volume of the sanitary landfill contents was approximately 16,000 yd³. The estimated volume of the landfill cover and berm was around 48,500 yd³.	
OU-1 Groundwater Plume	VOCs	There were known releases of VOCs from the OU-1 landfill area into the Great Miami River Buried Valley Aquifer. In addition, tritium was detected in groundwater samples taken from OU-1 area wells, however, the concentrations were consistently below the Safe Drinking Water Act maximum contaminant level. The pathways of concern consist of leaching of contaminants from OU-1 soils or disposed waste into groundwater, migration in the groundwater flow, and withdrawal by the Mound Plant production wells or by other, future wells.	The 1995 OU-1 ROD (DOE 1995) remedy addressed the principal threats posed by contaminants within OU-1 by controlling groundwater contamination (dilute VOCs), preventing the migration of contamination toward the Mound Plant production wells, and minimizing exposure to potential receptors. During operation of the P&T system, a SVE system was installed and operated from 1997 to 2003 to accelerate the removal of VOCs from the vadose zone. This system was voluntarily installed and operated and resulted in the removal of approximately 1862 kilograms of TCE. The SVE system removed a large amount of TCE from the vadose zone that could have leached into the underlying groundwater. In 2011 OU-1 ROD Amendment documented the inclusion of the OU-1 landfill area into Parcel 9. Also, the ROD Amendment included ICs that prohibit the extraction or consumption, exposure, or use in any way of the groundwater in Parcel 9 (including OU-1) and limits land use to industrial or commercial only (prohibits residential use). In 2023, another amendment to the 1995 OU-1 ROD documented modifying the ongoing groundwater remedy to enhanced attenuation with monitoring and ICs to continue to contain VOC-contaminated groundwater within Parcel 9. The COCs in groundwater are: PCE, TCE, <i>cis</i>-1,2-DCE, and VC. Remediation goals are set to levels to return the aquifer to beneficial use.

CERCLA 120(h) Notification of Hazardous Substance Release, Storage, or Disposal			
Area	Hazardous Substance(s)	Date of Storage, Release, or Disposal	Remedial Actions
OU-1 Soil Vapor	VOCs	Between the two non-CERCLA removal activities, most of the source material was removed from the former landfill. The remaining soil in the OU-1 area meets the site cleanup objective for future industrial/commercial land use. The soil cleanup levels were risk-based in consideration of the industrial/commercial user. However, the VI pathway was not taken into account when the cleanup levels were calculated. Data indicate that concentrations of benzene, chloroform, 1,2-dichloroethane (DCA), PCE, TCE and VC are present in subsurface vapors at concentrations that could result in an acceptable risk to occupants under an industrial-use scenario if allowed to enter a building.	The 2023 OU-1 ROD Amendment, a remedy was set forth to address vapor-forming chemicals in the vadose zone in the OU-1 landfill area. The remedy acknowledges that existing conditions may result in unacceptable exposure to a potential occupant if a building were to be constructed in the OU-1 area. Activity and land use restriction have been established in an environmental covenant that will require future property owners to employ preemptive measures (engineering controls) or actions to mitigate the VI pathway at the time of construction of a building. The environmental covenant also stipulates that future property owners will also be required to adhere to the ICs existing under the 2011 OU-1 ROD Amendment.,

Enclosure 4 Exhibit A

Operable Unit-1 (OU-1) Chronology	
1947	During the construction of the Mound Plant, mining of gravel deposits in the OU-1 area left several depressions. (Enclosure 1, Figure 8)
1948	Open burning and dumping of solid and liquid wastes in the historical landfill area began. (Enclosure 1, Figure 8)
1954-1956	The first burial of waste in the OU-1 historical landfill area occurred when salvage material from an old Dayton Unit was disposed of along the southern boundary of the old gravel quarry. (Enclosure 1, Figure 8) The second burial of waste in the OU-1 historical landfill area occurred along the southern boundary of the old gravel quarry (Enclosure 1, Figure 8) when 2,500 empty crushed drums, contaminated with Thorium (Th)-232, were buried with 1 to 2 feet of soil cover and the area regraded.
1965	The third burial of waste in the OU-1 historical landfill area occurred when Polonium (Po)-210-contaminated sand from WD building was buried in the southwest corner of OU-1, along with previously buried thorium drums, and the area regraded. (Enclosure 1, Figure 8)
1969	Open burning was banned by the State of Ohio. Hazardous liquid wastes were then collected and disposed of off-site. Solid waste was placed in east-west trending disposal trenches cut by a bulldozer. Solid waste was dumped in the middle of OU-1 and moved by bulldozer to the trenches, where it was compressed and covered by a few inches of soil cover. Approximately 4 feet of soil cover was placed over the filled trenches to complete the landfill cells. Solid waste typically consisted of plastic bags containing paper, plastic, glass, cloth, food scraps from the cafeteria, plastic vials containing urine, bioassay samples and liquid scintillation "cocktails", and other general office and lab trash.
1971-1976	Low-level radioactive sediments dredged from the former flow monitoring station on the lower reach of the plant drainage ditch were routinely placed within the OU-1 area.
1972-1973	Soil materials (most likely natural fill and some burned and solid waste) were excavated from the west-central portion of OU-1 and relocated to a ravine (potential release site [PRS]-66) along the upper reach of the plant drainage ditch to serve as fill material and facilitate the construction of a parking lot behind the firehouse.
1974	Open dumping ends in the OU-1 landfill area.
1977-1978	The sanitary landfill and overflow pond were constructed within the OU-1 historical landfill area. The sanitary landfill was constructed to provide containment of solid waste removed from the historical landfill. The volume excavated was limited by the volume required for the overflow pond construction.
1981	DOE purchased what is referred to as the southern property, 124 acres south of the original plant property. The southern portion of Parcel 9 is in the northwest corner of the South Property.
1984	DOE established the Environmental Restoration Program at the Mound site. The Mound Plant began a periodic groundwater reconnaissance sampling program for volatile organic compounds (VOC)s.
1986	VOCs were detected and monitored in the groundwater beneath OU-1.
1987	DOE initiates the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) Remedial Investigation/Feasibility Study (RI/FS) process. Throughout the RI/FS process, a total of 280 soil samples, both surface and subsurface, were analyzed for VOCs, semi-VOCs, pesticides, polychlorinated biphenyls (PCB), metals, dioxin/furan, and radionuclides.
1989	The Mound Plant is placed on the EPA National Priorities List on November 21, 1989, as a result of VOCs in groundwater.
1990	DOE and EPA sign a Federal Facilities Agreement (FFA) in October that established the legal agreements for conducting and approving CERCLA activities at the site.

Enclosure 4 Exhibit A

Operable Unit-1 (OU-1) Chronology	
1992-1996	DOE developed and published a Site Scoping Report. The resulting <i>Operable Unit 9 Site Scoping Report</i> was published as a series of 12 volumes as follows: Volume 1 - Groundwater Data: February 1987–July 1990 and Addendum) Volume 2 - Geologic Log and Well Information Report. Volume 2 - Addendum—Stratigraphic and Lithologic Logs Volume 3 - Radiological Site Survey Volume 4 - Engineering Map Series Volume 5 - Topographic Map Series Volume 6 - Photo History Report Volume 7 - Waste Management Volume 8 - Environmental Monitoring Data: 1976–1989 Volume 8 - Addendum—Vegetation and Foodstuff Volume 9 - Annotated Bibliography Volume 10 - Permits and Enforcement Actions Volume 11 - Spills and Response Actions Volume 12 - Site Summary Report
1993	Ohio EPA was added to the FFA making it a tripartite agreement. City of Miamisburg concurred with the industrial use end state for the Mound site in a letter dated December 13, 1993.
1994	City of Miamisburg created the Miamisburg Mound Community Improvement Corporation (MMCIC), which later became known as the Mound Development Corporation (MDC) Five PRSs, PRS 8: Site Sanitary Landfill, PRS 9: Site Sanitary Landfill Cover, PRS 10: Historical Landfill, PRS 11: Thorium and Polonium-contaminated waste area, and PRS 12: Drum Storage Area were identified. These PRSs are also recognized in CERCLA documents as Area 2, Area B, and OU-1 (Enclosure 1, Figure 9). The Feasibility Study and Proposed Plan for OU-1 were released to the public on November 15, 1994. An extended public comment period was held from November 15, 1994, through January 31, 1995, with a public meeting being held on December 8, 1994.
1995	The OU-1 Record of Decision (ROD) was signed on June 12, 1995. The selected remedy for OU-1 was "Collection, Treatment, and Disposal of Groundwater". The goal of this remedy was to control or reduce to remediation goals the contaminant concentrations in the aquifer beneath OU-1, thus preventing contaminant movement into the Great Miami Buried Valley Aquifer (BVA) to ensure that the BV A remains a safe drinking water source. The ROD states that "treatment of soil at the site was not found to be practicable. The fact that the source of contamination is diffuse and that no substantive onsite soil hot spots exist precludes a remedy consisting of excavation and treatment of contaminants in soil." The OU-1 remedial design and remedial action work plan for planning and implementing the ROD remedy is finalized. Initiated the Innovative Technology Remediation Demonstration (ITRD) pilot study to evaluate alternate technologies for the purpose of augmenting the groundwater pump and treat system to remove VOCs.
1996	PRSs 8 through 12 are categorized or "binned" as No Further Assessment (NFA) under the newly adopted Mound 2000 process. Mound 2000 is a "decision based" team approach to implement CERCLA. Two areas along the western boundary of the historical landfill were excavated because of the suspected presence of VOC contamination in the soil. PRS 409 was the site of a buried concrete pad that was used as a staging area for drums containing Stoddard Solvent, and PRS 410 was a suspected diesel fuel-contaminated soil area identified based on surface soil staining and odor. Both areas were encountered during excavation activities associated with the installation of a 96-inch stormwater pipe along the western boundary of the historical landfill area.
1997	The OU-1 Pump & Treatment (P&T) system begins operation pursuant to the ROD in February. PRSs 409 (Stoddard solvent) and 410 (diesel fuel), located adjacent to OU-1 (Enclosure 1, Figure 9), are "binned" Response Action (RA). Thorium concentrations higher than previously expected are identified at PRS-11. DOE voluntarily installs the /Soil Vapor Extraction (SVE) system recommended by the ITRD pilot study and begins operation to augment the P&T system in December.
1998	A Memorandum of Agreement was signed by DOE and MMCIC to establish a working relationship between the parties to transition the Mound site.

Enclosure 4 Exhibit A

Operable Unit-1 (OU-1) Chronology	
	DOE and MMCIC signed a sales contract establishing how DOE would convey the entire Mound site to MMCIC by discrete parcels. Property transfer was subject to CERCLA Section 120(h), "Property Transferred by Federal Agencies"
1999	The Mound 2000 Approach was adopted by DOE, EPA, and Ohio EPA.
2001	The first CERCLA Five-Year Review is conducted. The Core Team agrees to re-evaluate the NFA binning decision for PRSs 8-12. According to the October 17, 2001, Core Team minutes, "PRSs 8-12 were binned NFA on October 19, 1995. Because of information obtained since that time, the Core Team wants to reconsider that decision. The additional information mentioned during the meeting included the discovery of crushed thorium drums during the installation of the OU-1 remedy, amounts of contaminants collected by the OU-1 remedy, site reuse plans."
2003	The OU-1 P&T system is shut off and a 12-month Rebound Test was started. The decision to initiate this test was based on continued groundwater monitoring at OU-1 shows that VOC concentrations have fallen below MCLs in most monitoring wells for three consecutive months and are remaining at near constant levels. Two wells within the compliance boundary and three monitoring points down gradient (south) of the OU-1 compliance boundary and on the eastern edge of the BVA continue to show sporadic levels above MCLs. Operation of the SVE system was discontinued in 2003 because the mass of TCE removed became negligible. Approximately 1862 kilograms of TCE was removed through the SVE system, with 90% of the removal occurring within the first 3 years. US EPA raised concerns regarding the adequacy of existing access controls as required by the ROD. The OU-1 Technical Team met monthly to identify post ROD uncertainties and produce recommendations for Core Team review. The Mound 2000 process was used in the tech team reevaluation of the OU-1 area. Technical uncertainties fell into three categories: 1) source term nature and extent (e.g., contaminated soils and landfill debris), 2) groundwater contamination nature and extent, and 3) remedy performance. PRS 11 is reevaluated and formally "binned" RA by the Core Team. This decision was based on residual thorium concentrations identified during the installation of the SVE system in 1997.
2004	The Savannah River National Lab Technical Support Team conducts an OU-1 groundwater strategy study to assist the MCP in developing a comprehensive, technically sound strategy for remediation of groundwater contaminated with VOCs in the vicinity of the OU-1 landfill. The Rebound Test started in May 2003 is terminated in February, three months earlier than scheduled due to an exceedance of the Rebound Test Plan criteria at well 0418. Results of the OU-1 Rebound Test, which lasted for nine months identified several wells with an increasing trend and one well (0418) outside the compliance boundary exceeding its pre-established threshold value per the Rebound Test Plan. A surface and borehole geophysical investigation in PRS-11 is conducted to better characterize the area. PRS 409 (Stoddard Solvent) and PRS 410 (diesel fuel) are "binned" as NFA by the Core Team based on additional sampling results. PRS 414 is retired by the Core Team as an independent PRS, to be treated as a manifestation of the OU-1 groundwater plume. Drinking water onsite is no longer supplied by the Mound Plant production wells, which were adjacent to OU-1. All occupied buildings on site were tied into the City of Miamisburg Municipal water distribution system.
2005	Approximately 14,978 cubic yards (yd³) of radiologically (thorium and polonium) contaminated soil and debris (PRS 11) was removed from the southwestern corner of historical landfill. Approximately 2500 empty drums had been crushed in place and covered with soil. These drums had previously contained thorium process materials used for thorium projects in the 1960s. This location also contained buried wood ash and debris from a fire that had consumed the polonium-contaminated flooring from the Manhattan Project "Dayton units" (Area 13). The three Mound Plant Production wells were removed, and the associated well houses were demolished. A portion of the SVE system was removed during the excavation of PRS 11.
2006	Second CERCLA Five-Year Review is conducted.

Enclosure 4 Exhibit A

Operable Unit-1 (OU-1) Chronology	
2007	DOE received funding from Congress to perform non-CERCLA removal actions at OU-1 to excavate the site sanitary landfill. During the first phase (2007 and 2008), 60,494 yd ³ of low-level radioactive waste (LLRW) and 4409 bulk tons of VOC hazardous waste were removed.
	The three original extraction wells, which were installed within the footprint of the landfill, were removed to accommodate the excavation of contaminated soil and debris from the landfill area.
	Two new extraction wells were installed along the southern boundary of the landfill immediately outside the compliance boundary, and the P&T system was restarted to reestablish hydraulic containment of the impacted groundwater.
	The remainder of the SVE system was removed.
	Dredged sediment from the OU-1 Overflow Pond to increase capacity.
2008	Stormwater diversion project is completed. Installed new underground storm pipes both north and south of the OU-1 landfill area.
2009	DOE received funding through the American Recovery and Reinvestment Act that allowed completion of final excavation and site restoration activities. During the second phase (2009 and 2010), 33,450 yd ³ of LLRW and 37 yd ³ of mixed waste (polychlorinated biphenyls and LLRW) were removed (DOE 2010).
	DOE performed an equilibration study to determine the configuration of the water table without external stresses as part of an evaluation of the performance of the OU-1 P&T system. The extraction wells were shut off for 1 day to perform this study.
2010	The SVE treatment system (B301) was released for reuse or recycling and removed from the site.
	A dye test was performed in OU-1 to determine whether TCE impacted groundwater in the vicinity of downgradient well 0418 was captured by the new extraction wells installed in 2007. Also performed a dye test to ensure that TCE impacted groundwater at upgradient well P056 was completely captured by the extraction wells.
2011	The first of two ROD amendments, the 2011 OU-1 ROD Amendment was approved. The contents of this amendment included: • Documenting the geographic expansion of the land area to be included in the amendment (i.e., OU-1 area is part of Parcel 9). • Identifying Institutional Controls (ICs) to be implemented for the OU-1 area in the Parcel 9 Environmental Covenant. The ICs are consistent with sitewide ICs previously identified for other parts of the Mound site and include the following: – Prohibit the removal of soil from the original 306 acres of DOE Mound site property boundaries – Prohibit the extraction or consumption, exposure to, or any use of the groundwater underlying the premises – Limit land use to industrial/commercial only – Allow site access for federal and state agencies for sampling and monitoring
	There were no changes to the ongoing groundwater remedy as a result of this amendment.
	A second rebound study was performed from June to December to determine the feasibility of implementing monitored natural attenuation (MNA) to address the residual VOCs in groundwater and the adequacy of the existing monitoring network to support an MNA remedy. The rebound test was stopped in December when VOC concentrations in two downgradient boundary locations exceeded the MCL of 5 □g/L for TCE (i.e., the predetermined threshold).
	Third CERCLA Five-Year Review is conducted.
	Investigations on the occurrence of VOCs in OU-1 groundwater was started. The purpose was to establish a baseline of existing conditions after the excavation of the OU-1 landfill and obtained to be used in an evaluation of methods to accelerate attenuation of VOCs. Report published in 2014.
2012	The decision was made to assess the feasibility of switching from the active P&T remedy to a passive-attenuation-based remedy. An enhanced attenuation (EA) strategy based on the creation of structured geochemical zones was developed that would address the residual areas of elevated VOCs in soil and groundwater while minimizing the rebound of groundwater concentrations above MCLs and avoiding plume expansion while the P&T system is turned off.

Enclosure 4 Exhibit A

Operable Unit-1 (OU-1) Chronology	
	The Parcel 9 Environmental Covenant was filed with Montgomery County, Ohio documenting activity and use restrictions for Parcel 9.
2014	The multi-year Enhanced Attenuation (EA) Field Demonstration was started in June. A combination of neat oil (pure food-grade soybean) and emulsified oil (food-grade soybean oil with surfactants and amendments) were deployed to create a series of anaerobic and aerobic zones to stimulate relatively rapid degradation of PCE and TCE. The surrounding aerobic areas encouraged relatively rapid degradation of the daughter products 2-dichloroethene and VC as well as enhanced co-metabolism of TCE.
	DOE ceased operation of the OU-1 P&T system and placed it into standby mode during the EA Field Demonstration period. Ceasing operation was approved by the regulators.
	Monitoring wells were sampled quarterly throughout the field demonstration period.
2016	The fourth CERCLA Five-Year Review was conducted.
	As an outcome from the CERCLA Five-Year Review, DOE was tasked with performing an assessment of current site data to evaluate existing or potential vapor intrusion (VI) exposure to occupants in existing or future buildings at the Mound site.
2017	DOE prepared a work plan to outline the approach to assess the potential for possible VI exposure at the Mound site.
	DOE completed the Phase I of the VI assessment. This initial (preliminary) screening of site data identified areas where vapor-forming chemicals were present in soil or groundwater and would require sampling to determine the occurrence and concentration of these chemicals in soil gas.
	The results of the Phase I VI Assessment identified that vapor-forming chemicals were present in soil and groundwater in Parcel 9, predominantly within the OU-1 landfill area. The assessment also documented results from the data evaluation and several more recent investigations indicated the presence of several vapor-forming chemicals, primarily TCE and VC at levels that could result in an unacceptable risk to future building occupants if a complete exposure pathway were present.
2018	The EA Field Demonstration was completed in August.
	The OU-1 P&T system remained in standby mode until a decision could be made regarding the feasibility of modify the P&T remedy to a passive, attenuation-based remedy. Not restarting the P&T system was approved by the regulators.
	DOE started preparing the Draft Focused FS to present and evaluate remedial alternatives to address VOCs in OU-1 groundwater.
2019	DOE and the regulators agreed that the OU-1 P&T system could remain in standby mode and approved a plan to monitor groundwater until the final OU-1 remedy was selected. The February 20019 plan, <i>Mound Site Core Team Agreement for Operable Unit 1 (OU-1) Monitoring for Interim Period After Enhanced Attenuation Demonstration</i> , remains in effect until a final monitoring program is developed and approved by the regulators.
2020	DOE issued the results of the EA Field Demonstration. It was concluded from the study that a passive attenuation-based remedy was a viable alternative to address VOCs in OU-1 groundwater.
	DOE decided to write an addendum to the Focused Feasibility to present and evaluate remedial alternatives to address possible VI exposure to future building occupants in the OU-1 landfill area.
2021	The fifth CERCLA Five-Year review was conducted.
2022	Focused Feasibility Study to address VOC impacted groundwater in OU-1 and the addendum to address vapor intrusion in OU-1 was issued in November.
	Proposed Plan was issued in November.
2023	The second ROD amendment, the 2023 OU-1 ROD Amendment was approved in September.
2024	The OU-1 P&T system was removed and Building 300 which housed the system was demolished.

Abbreviations: CERCLA = Comprehensive Environmental Response, Compensation and Liability Act; EA = enhanced attenuation; FFA = Federal Facilities Agreement; IC = institutional control; ITRD = Innovative Technology Remediation Demonstration; LLRW = low-level radioactive waste; MCL = maximum concentration limit; MMCIC = Miamisburg Mound Community Improvement Corporation; P&T = pump-and-treatment; PRS = potential release site; RA = Removal Action; ROD = Record of Decision; SVE = soil vapor extraction; TCE = trichloroethene; VC = vinyl chloride; VOC = Volatile Organic Compound

Enclosure 5

Notification of Petroleum Product Storage, Release, or Disposal

Area	Petroleum Product(s)	Date of Storage, Release, or Disposal	Remedial Actions
PRS 410	Fuel Oil	Recommendation for response action (RA) was signed on 8/13/97 (DOE 1997b). Recommendation for NFA signed on 12/1/04. (DOE 2005b).	Based on a surface (8 inches below grade) soil stain and odor (thought to be diesel fuel) encountered during the removal and replacement of a storm water drainage pipe in 1996. All suspect material (3 cubic yards) was removed and staged for treatment in the Mound Plant bioremediation facility. No verification sampling was performed. Characterization sampling was performed in 2004. Samples were analyzed for BTEX, DRO, and PAHs and results indicated that concentrations were below cleanup objectives and confirmed that the concrete pad and full extent of contamination had been removed in 1996.
OU-1 Landfill	Oils and Waste Oils	The original area designated as OU-1 (formerly known as Area B) occupies approximately 4 acres in the southwestern portion of the Mound site. OU-1 includes the historical landfill site, former sanitary landfill site, and former OU-1 overflow pond. During later investigations, the former production well area was incorporated into OU-1. The OU-1 landfill area was used to dispose of general trash and liquid wastes from 1948 to 1974. Open burning of hazardous liquid wastes in the OU-1 landfill area was stopped in 1969. The historical landfill was reported to contain a variety of wastes, including ordinary laboratory, office, and kitchen wastes, along with oils and waste oils.	OU-1 excavation performed from 2007–2010 addressed petroleum product contamination. Cleanup objectives were based on industrial use scenarios.

Enclosure 6

**CERCLA Notice, Covenant, and Access Provisions and
Other Deed Provisions**

The following CERCLA Covenant and Access Provisions, along with the Other Deed Provisions, will be placed in the Quit Claim Deed in a substantially similar form to ensure protection of human health and the environment and to preclude any interference with ongoing or completed remediation activities.

Property Covered by Notice, Description, Access Rights, and Covenants Made Pursuant to Section 120(h)(3)(A) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended (42 U.S.C. Section 9620(h)(3)(A)) for the Property (which is defined as the FOST Parcel), the United States of America provides the following notice, description and covenants and retains the following access rights:

Notices:

Pursuant to section 120(h)(3)(A)(i)(I) and (II) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended (42 U.S.C. § 9620(h)(3)(A)(i)(I) and (II)), available information regarding the type, quantity, and location of hazardous substances and the time at which such substances were stored, released, or disposed of, as defined in section 120(h) is provided in Enclosure 4 to this FOST attached hereto and made a part hereof.

Description of Remedial Action Taken, if Any, Pursuant to Section 120(h)(3)(A)(i)(III) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended (42 U.S.C. § 9620(h)(3)(A)(i)(III)):

Pursuant to section 120(h)(3)(A)(i)(III) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended (42 U.S.C. § 9620(h)(3)(A)(i)(III)), a description of the remedial actions taken or planned, if any, on the Property is provided in Enclosure 3, Tables 1a and 1b, to this FOST attached hereto and made a part hereof.

Covenant Pursuant to Section 120(h)(3)(A)(ii) and (B) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended (42 U.S.C. § 9620(h)(3)(A)(ii) and (B)):

Pursuant to section 120(h)(3)(A)(ii) and (B) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (42 U.S.C. § 9620(h)(3)(A)(ii) and (B)), the United States warrants that –

All remedial action necessary to protect human health and the environment with respect to any hazardous substances identified pursuant to section 120(h)(3)(A)(i)(I) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 remaining on the Property has been taken before the date of this deed, and any additional remedial action found to be necessary after the date of this deed shall be conducted by the United States.

Access Rights Pursuant to Section 120(h)(3)(A)(iii) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended (42 U.S.C. § 9620(h)(3)(A)(iii)):

Pursuant to section 120(h)(3)(A)(iii) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended (42 U.S.C. § 9620(h)(3)(A)(iii)), the United

States retains and reserves a perpetual and assignable easement and right of access on, over, under and through the Property, to enter upon the Property in any case in which an environmental response action or corrective action is found to be necessary on the part of the United States, without regard to whether such environmental response action or corrective action is on the Property or on adjoining or nearby lands. Such easement and right of access includes, without limitation, the right to perform any environmental investigation, survey, monitoring, sampling, testing, drilling, boring, coring, test-pitting, installing monitoring or pumping wells or other treatment facilities, response action, corrective action, or any other action necessary for the United States to meet its responsibilities under applicable laws and as provided for in this instrument. Such easement and right of access shall be binding on the GRANTEE and its successors and assigns and shall run with the land. The GRANTEE shall also grant rights of access to US DOE, US EPA, the State of Ohio Environmental Protection Agency (OHEPA), their agents, contractors, and employees for the purposes of implementing, monitoring, or demonstrating compliance with the groundwater remedy.

In exercising such easement and right of access, the United States shall provide the GRANTEE or its successors or assigns, as the case may be, with reasonable notice of its intent to enter upon the Property and exercise its rights under this clause, which notice may be severely curtailed or even eliminated in emergency situations. The United States shall use reasonable means, but without significant additional costs to the United States, to avoid and to minimize interference with the GRANTEE'S and the GRANTEE'S successors and assigns' quiet enjoyment of the Property. At the completion of any work, the work site shall be reasonably restored. Such easement and right of access includes the right to obtain and use utility services, including water, gas, electricity, sewer, and communications services available on the Property at a reasonable charge to the United States. Excluding the reasonable charges for such utility services, no fee, charge, or compensation will be due the GRANTEE, nor its successors and assigns, for the exercise of the easement and right of access hereby retained and reserved by the United States.

In exercising such easement and right of access, neither the GRANTEE nor its successors and assigns, as the case may be, shall have any claim at law or equity against the United States or any officer, employee, agent, or contractor of any tier of the United States based on actions taken by the United States or its officers, employees, agents, or contractors of any tie pursuant to and in accordance with this clause. Provided, however, that nothing in this paragraph shall be considered a waiver by the GRANTEE, its successors and assigns, of any remedy available to them under the Federal Tort Claims Act. In addition, the GRANTEE, its successors and assigns, shall not interfere with any response action or corrective action conducted by the GRANTOR on the Property.

NOTIFICATION OF HAZARDOUS SUBSTANCE STORAGE, RELEASE, OR DISPOSAL

The GRANTEE is hereby provided with the summary of the storage, release, or disposal of hazardous substances on the Property set forth in Enclosure 4 and made a part hereof. Said summary is based on the best information available to the United State of America and believed to be correct but no warranty as to completeness or accuracy is provided with respect thereto.

“AS IS” CONDITION OF PROPERTY

The GRANTEE acknowledges that it has inspected or has had the opportunity to inspect the Property and accepts the condition and state of repair of the Property. The GRANTEE understands and agrees that the Property is conveyed “AS IS” without any representation, warranty, or guaranty by the GRANTOR as to the quantity, quality, title, character, condition, size, or kind, or that the same is in a suitable condition or fit to be used for the purpose(s) intended by the GRANTEE, and no claim for allowance or deduction upon such grounds will be considered.

Nothing in this “As Is” provision shall be construed to modify or negate the GRANTOR’S obligation under the “Covenant Pursuant to Section 120(h)(3)(A)(ii) and (B) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended (42 U.S.C. §§ 9620(h)(3)(A)(ii) and (B))” or any other statutory obligations.

INDEMNIFY AND HOLD HARMLESS

The Secretary of Energy agrees that GRANTOR hereby indemnifies the GRANTEE, its successors and assigns, transferees, lenders and lessees, that results from the release or threatened release of a hazardous substance or pollutant or contaminant as a result of Department of Energy activities at the defense nuclear facility on which the FOST Parcel is located according to the provisions of 50 USC §2811 (b), and as limited by the scope, purposes and conditions contained in 50 USC § 2811.

To the extent authorized by Ohio law, the GRANTEE, for itself, its successors and assigns, covenants and agrees to indemnify and defend the GRANTOR, its officers, agents, and employees, and hold the GRANTOR harmless from damages, costs, expenses, liabilities, fines, or penalties incurred by GRANTOR and/or third parties and resulting from GRANTEE's activities, on the Property, or any part thereof, including releases or threatened releases of, or any other acts or omissions related to, any hazardous wastes, substances, or materials by GRANTEE and any subsequent lessee of the Property or any subdivision thereof, their officers, agents, employees, contractors, sublessees, licensees, or the invites of any of them.

Nothing in this “Indemnify and Hold Harmless” provision shall be construed to modify or negate the GRANTOR’S obligations under the “Covenant Pursuant to Section 120(h)(3)(A)(ii) and (B) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (42 U.S.C. §§ 9620(h)(3)(A)(ii) and (B))” or any other statutory obligations.

POST-TRANSFER DISCOVERY OF CONTAMINATION AND RELEASE If a release or threatened release of a hazardous substance is discovered on the Property after the date of conveyance herein, any response action or corrective action found to be necessary shall be conducted by the GRANTOR except to the extent that the GRANTEE, its successors or assigns are a potentially responsible party with respect to the Property (42 U.S.C. 9620(h)(3)). At the time of the discovery, the GRANTEE or its successors or assigns shall immediately secure the site and notify the GRANTOR of the existence of the release or threatened release of the hazardous substance, and the GRANTEE or its successors or assigns shall not further disturb or allow the disturbance of such hazardous substances without the prior written permission of the GRANTOR.

The GRANTEE, for itself, its successors and assigns, as part of the consideration for the conveyance of the FOST, hereby releases the GRANTOR from any liability or responsibility for any claims arising solely out of the release or threatened release of any hazardous substance on the Property occurring after the date of the conveyance herein where such hazardous substance was placed on the Property by the GRANTEE, or its successors, assigns, employees, invitees, agents, contractors after the date of the conveyance herein. This "Post-Transfer Discovery of Contamination and Release" provision shall not affect the GRANTOR'S responsibilities to conduct response actions or corrective actions that are required by applicable laws, rules and regulations, or the GRANTOR'S obligations under the "Covenant Pursuant to Section 120(h)(3)(A)(ii) and (B) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (42 U.S.C. § 9620(h)(3)(A)(ii) and (B))."

Enclosure 7

Environmental Protection Provisions

These conditions, restrictions and notifications will be included in a substantially similar form in the Quit Claim Deed as provided for under the State of Ohio Environmental Covenant (Environmental Covenant) for the FOST Parcel (aka the "Property") to ensure protection of human health and the environment.

LAND USE RESTRICTIONS

As part of the remedial action described in the Record of Decision dated June 1995, the Record of Decision Amendment dated August 2011, and the Record of Decision Amendment dated September 2023, the Owner hereby imposes upon itself and for all assigns and successors in interest, including any Transferee, the following activity and use limitations on the Property:

- (1) Prohibition against residential use or farming activities. The Property shall not be used for any residential or farming activities, or any other activities which result in the chronic exposure of children under eighteen years of age to soil or ground water from the Property. Prohibited uses shall include, but not be limited to:
 - a. Single or multi-family dwellings or rental units;
 - b. Day care facilities;
 - c. Schools or other educational facilities for children under eighteen years of age; and
 - d. Community centers, playgrounds or other recreational or religious facilities for children under eighteen years of age.
- (2) Limitation on movement of soil. No soil from the Property shall be placed on any property outside the boundaries of the Site, described in Exhibit A, without prior written approval from Ohio Department of Health (ODH), Ohio EPA and US EPA, or successor agencies.
- (3) Prohibition against use of ground water. Groundwater under the Property shall not be extracted, consumed, exposed, or used in any way without prior written approval of the Agency. There are a number of monitoring wells located at the Property associated with the groundwater remedy. The Owner shall not tamper with or damage in any manner any monitoring well. The Owner shall notify and receive written approval from the Agency if a well needs to be moved and/or replaced due to redevelopment. The Owner will notify the Agency within two (2) business days of any damage to these wells of which it has knowledge, and the Agency will work with the Owner on a resolution.
- (4) Mitigation of vapor intrusion (VI) through engineering controls at the Property. The Owner acknowledges that environmental contamination present at the Property may impact indoor air quality. Property owners subject to this Environmental Covenant shall choose from one of the alternatives below prior to performing any new construction of buildings at the Property:

- a. Incorporate engineering controls (i.e., vapor mitigation system) at the Property or portion thereof at the time of construction and ensure continued operation, maintenance, and monitoring to ensure that the controls are effective in the long term to protect human health and the environment. Such plans, including operations and maintenance plans shall be provided to US DOE, US EPA, and Ohio EPA for review and approval prior to construction. Information and evidence regarding the final and as-built engineering controls shall be provided in writing to the parties identified in the Environmental Covenant; or
- b. Provide information and evidence that demonstrates the conditions at the Property or portion thereof are such that the VI exposure pathway is incomplete and engineering controls (i.e., vapor mitigation system) are not necessary to protect human health and the environment. Such information shall be provided to US DOE, US EPA, and Ohio EPA for review and approval prior to construction. Information and evidence that demonstrate there is no risk from VI should be obtained through samples collected from the property. A final determination of the risk that concentrations of subsurface vapors could pose to building occupants shall be provided in writing to the parties identified in the Environmental Covenant.

Rights of Access. Owner hereby grants to US DOE, US EPA, Ohio EPA and Ohio Department of Health (ODH), their agents, contractors, and employees the right of access to the Property, including but not limited to Vanguard Boulevard, for implementation or enforcement of this Environmental Covenant. Any Transferee shall grant to US EPA, Ohio EPA, ODH, US DOE, its agents, contractors, and employees this right of access to the Property for implementation or enforcement of this Environmental Covenant.

The right of access granted under this Environmental Covenant shall provide the Parties with access at all reasonable times to OU-1 for purpose of conducting any and all activities related to the Record of Decision for OU-1 dated June 1995, the Record of Decision Amendment dated August 2011, and the Record of Decision Amendment dated September 2023 are an Environmental Response Project as defined in ORC § 5301.80(E), including but not limited to the following activities: a) performing or implementing any activity relating to response actions described in the ROD and amendments thereto; b) verifying any data or information submitted to US EPA and/or OH EPA; c) verifying that no action is being taken on the Property in violation of the terms of this Environmental Covenant or any federal or state environmental laws or regulations; d) monitoring response actions on the Property and conducting investigations relating to the response actions, including but not limited to sampling of air, water, sediment or soils, installation and/or removal of monitoring wells; and, e) conducting periodic reviews of responses actions.

Compliance Reporting. US DOE, or its successors or assigns, shall submit to US EPA, Ohio EPA, and ODH on an annual basis written documentation, in accordance with the Record of Decision for OU-1 dated June 1995 and the Record of Decision Amendment dated August 2011, and Record of Decision Amendment dated September 2023, verifying that the activity and use limitations are being complied with and remain in place. In addition, CERCLA Five-Year Review will be conducted by US DOE to ensure that the protectiveness of the Environmental Covenant and other institutional controls will be maintained.

Notice upon Conveyance. Each instrument hereafter conveying any interest in the Property, or any portion of the Property shall contain a notice of the activity and use limitations set forth in this Environmental Covenant and provide the recorded location of this Environmental Covenant. The notice shall be substantially in the following form:

“THE INTEREST CONVEYED HEREBY IS SUBJECT TO AN ENVIRONMENTAL COVENANT, DATED _____, 20____, RECORDED IN THE DEED OR OFFICIAL RECORDS OF THE MONTGOMERY COUNTY RECORDER ON____, 20____, IN [DOCUMENT____, *or* BOOK____, PAGE____,]. THE ENVIRONMENTAL COVENANT CONTAINS THE FOLLOWING ACTIVITY AND USE LIMITATIONS:

Amendment or Termination. This Environmental Covenant may be amended or terminated by consent of all of the following: US DOE, any Transferee, US EPA, and Ohio EPA, pursuant to ORC §5301.90 and other applicable law. The term, “Amendment,” as used in this Environmental Covenant, shall mean any changes to the Environmental Covenant, including the activity and use limitations set forth herein, or the elimination of one or more activity and use limitations when there is at least one limitation remaining. The term, “Termination,” as used in this Environmental Covenant, shall mean the elimination of all activity and use limitations set forth herein and all other obligations under this Environmental Covenant.

This Environmental Covenant may be amended or terminated only by a written instrument duly executed by the US DOE, US EPA, the Director of Ohio EPA, and the Transferee, if any, of the Property or portion thereof, as applicable. Within thirty (30) days of signature by all requisite parties on any amendment or termination of this Environmental Covenant, the Owner or Transferee shall file such instrument for recording with the Montgomery County Recorder’s Office and shall provide a file- and date-stamped copy of the recorded instrument to Ohio EPA.

Notice. Unless otherwise notified in writing by or on behalf of the current owner or US DOE, any document or communication required by this Environmental Covenant shall be submitted to:

Remedial Project Manager, Mound Site
US EPA, Region V – SR-6J
77 West Jackson Boulevard
Chicago, IL 60604

Site Coordinator, Mound Site
Division of Environmental Response and Revitalization
Ohio EPA-Southwest District Office
401 East 5th Street
Dayton, OH 45402

LM Site Manager
7295 Highway 94 South
St. Charles, MO 63304
Attention: Mound, Ohio, Site Manager

U.S. Department of Energy Office of Legacy Management
2597 Legacy Way
Grand Junction, CO 81503
Attention: LM Realty Officer