Partial Deletion Justification for 52.54-Acre Commercial/Industrial Property Located within Operable Unit 1 (OU1), U.S. Smelter and Lead Refinery (USS Lead) Superfund Site, East Chicago, Indiana, from the National Priorities List

June 2026

Portion of USS Lead Site OU1 Commercial/Industrial Property Proposed for Partial NPL Deletion (Shown in Yellow Dashed Line)

Table of Contents

List of Acronyms

ACBFS	- Air-Cooled Blast Furnace Slag
ALM	- Adult Lead Methodology
bgs	- Below Ground Surface
CERCLA	- Comprehensive Environmental Response, Compensation and Liability Act
CLP	- Contract Laboratory Program
COCs	- Contaminants of Concern
CQAP	- Construction Quality Assurance Project Plan
DCR	- Design Criteria Report
DU	- Decision Unit
ERC	- Restatement of Environmental Restrictive Covenant
ECHA	- East Chicago Housing Authority
EPA	- U.S. Environmental Protection Agency
ESD	- Explanation of Significant Differences
FASP	- Field Sampling and Analysis Plan
FR	- Federal Register
FYRs	- Five Year Reviews
ICs	- Institutional Controls
ICS	- Incremental Composite Sampling
IDA	- Industrial Development Advantage of East Chicago, LLC
IDEM	- Indiana Department of Environmental Management
IEUBK	- Integrated Exposure Uptake Biokinetic
LOI	- Letter of Intent
mg/kg	- Milligrams per Kilogram or Parts per Million (ppm)
mg/l	- Milligrams per Liter
mg/m^3	- Milligrams per Cubic Meter
NCP	- National Oil and Hazardous Substances Pollution Contingency Plan
NIOSH	- National Institute for Occupational Safety and Health
NOIPD	- Notice of Intent for Partial Deletion
NPL	- National Priorities List
O&M	- Operation and Maintenance
OLEM	- EPA Office of Land and Emergency Management
OU1	- Operable Unit 1
OU2	- Operable Unit 2
PAHs	- Polynuclear Aromatic Hydrocarbons
QAPP	- Quality Assurance Project Plan
QA/QC	- Quality Assurance/Quality Control
PRP	- Potentially Responsible Party
RA	- Remedial Action
RACR	- Remedial Action Completion Report
RALs	- Remedial Action Levels

RAOs	- Remedial Action Objectives
RCRA	- Resource Conservation and Recovery Act
RD	- Remedial Design
RD/RA	- Remedial Design/Remedial Action
RI	- Remedial Investigation
RI/FS	- Remedial Investigation/Focused Feasibility Study
ROD	- Record of Decision
ROW	- Right of Way
SMP	- Soil Management Plan
TCLP	- Toxicity Characteristic Leaching Procedure
USS Lead	- U.S. Smelter and Lead Refinery, Inc. Site
UU/UE	- Unlimited Use/Unrestricted Exposure
WCHC	- West Calumet Housing Development
XRF	- X-Ray Fluorescence

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1.0 Purpose

The U.S. Environmental Protection Agency (EPA), Region 5 is proposing to delete the surface and subsurface soils (soils) portion of a 52.54-acre commercial/industrial property (property or commercial/industrial property) located within Modified Zone 1 and within a small portion of Zone 1 and Zone 2 of Operable Unit 1 (OU1) of the U.S. Smelter and Lead Refinery, Inc. Superfund Site (USS Lead Site or Site) in East Chicago, Indiana from the National Priorities List (NPL) (see Figures 1 and 2). The soils proposed for deletion are located on Lake County parcel 45-03-33-101-001.000-024 (see Figure 3) (Robinson Engineering, LTD., 2022, IDA, 2026)[1]. The groundwater below the property is being addressed as Site-wide groundwater with the former USS Lead facility as part of Operable Unit 2 (OU2) and is not included as part of this proposed action.

The EPA is proposing to delete the soils portion of the property from the NPL because all cleanup actions have been implemented and no further response action is necessary for these soils. To maintain the remedy and protectiveness over time, periodic inspection and maintenance of the one-foot soil cover or other backfill material placed over the excavated areas, continued monitoring and maintenance of the land and groundwater use restrictions on the property, and five-year reviews (FYRs) will continue to be conducted.

This proposed deletion is the second deletion action for this Site. On September 30, 2020, the EPA deleted 671 properties located in Zones 2 and 3 of OU1 from the NPL (85 FR 61610) after either remediating these properties (435 properties) or sampling them and clearing them for residential use (236 properties). All other remaining portions of the Site, including the remainder of Zones 1, 2, and 3 in OU1 and soil and groundwater in OU2, will remain on the NPL as the investigation and remediation of these areas continue.

The USS Lead Site was placed on the NPL on April 9, 2009, as published in the *Federal Register*, Volume 74, Number 67. The deletion or a partial deletion of a site from the NPL does not create, alter, or revoke any individual's rights or obligations. The deletion or a partial deletion

[1] A survey of the legal description of the commercial/industrial property proposed for partial deletion conducted on July 11, 2022 indicates that the property is approximately 52.54 acres (Robinson Engineering, LTD., 2022). This value is slightly greater than the 51.88 acres estimated for parcel 45-03-33-101-001.000-024 by Lake County. The Environmental Restrictive Covenant (ERC) depicts the acreage of the property and of the restricted area consistent with the survey (IDA, 2026).

of a site from the NPL does not in any way alter the EPA's authority to take enforcement actions, as appropriate. The NPL is designed primarily for informational purposes and to assist the EPA with site management.

Section 300.425(e)(3) of the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), 40 C.F.R. § 300.425(e)(3), states that a deletion or partial deletion of a site from the NPL does not preclude eligibility for future response actions, should future conditions warrant such actions. As the property is considered to be part of the USS Lead Site, Section 300.425(e)(3) is applicable to this proposed action.

The Indiana Department of Environmental Management (IDEM) issued a letter concurring with this proposed partial deletion on June 4, 2026 (IDEM, 2026). A copy of IDEM's concurrence letter is provided in Appendix A.

2.0 Partial Deletion Criteria Determination

The commercial/industrial soils proposed for deletion meet all the site completion requirements specified in OLEM Directive 9320.2-23, Close Out Procedures for National Priorities List Sites (EPA, 2022). All cleanup actions and remedial action objectives (RAOs) for soils set forth in the November 20, 2012 Record of Decision (ROD), as revised by the March 24, 2020 ROD Amendment, the September 2, 2022, Second Explanation of Significant Differences (ESD), and the April 15, 2026 Minor Modification to OU1, Modified Zone 1 Remedy, have been implemented for all pathways of exposure for this media at the property. The RAOs, selected remedial action, and cleanup levels for the soils proposed for partial deletion are consistent with EPA policy and guidance.

All other remaining portions of the Site, including the remainder of Zone 1, the remainder of Zones 2 and 3 in OU1 that have not been deleted from the NPL, and soil and groundwater in OU2, will remain on the NPL as the investigation and remediation of these areas continue.

Section 300.425(e) of the NCP, 40 C.F.R. § 300.425(e), states that a Superfund site or a portion of a site may be deleted from the NPL when no further response action is appropriate. The EPA, in consultation with the State of Indiana, has determined that all required response actions have been implemented for the soils at the commercial/industrial property, and that no further response action is appropriate for this media. To maintain the remedy protectiveness over time, periodic inspection and maintenance of the one-foot soil cover or other backfill material placed over the excavated areas, monitoring and maintenance of the land and groundwater use restrictions in the Restatement of Environmental Restrictive Covenant (ERC) (IDA, 2026), and FYRs will continue to be conducted.

3.0 Community Involvement

The EPA and IDEM have conducted public participation activities throughout the response actions for this Site, in accordance with the provisions of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), Sections 113(k) and 117, 42 U.S.C. §§ 9613(k) and 9617, and the NCP, 40 C.F.R. §§ 300.415(n), 300.430(f), 300.815, and 300.820. The EPA will publish a notice advertising the availability of the Notice of Intent for Partial Deletion (NOIPD) and the 30-day public comment period in a local newspaper, the *Northwest Indiana Times*, concurrent with the publication of the NOIPD in the *Federal Register*, in order to satisfy public participation procedures required by Section 300.425(e)(4) of the NCP. The EPA will also issue a press release announcing the proposed partial deletion and the public comment period. The EPA expects to complete these activities in August 2026.

The documents that the EPA relied on for this report and to support the deletion of this OU1 commercial/industrial property from the NPL are available for public review in the partial deletion docket (see the NPL Partial Deletion Docket Reports in Appendix B). This Partial Deletion Justification report and copies of the reports in the docket are also available to the public online at https://www.regulations.gov, Docket ID EPA-HQ-OLEM-2025-2499 and at the EPA's webpage for the Site at https://www.epa.gov/uss-lead-superfund-site under "Documents".

4.0 Site Background and History

4.1 Site Location and Current Conditions

The USS Lead Site (CERCLIS ID No. IND047030226) is located in East Chicago, Indiana, about 18 miles southeast of Chicago, Illinois. The 322-acre Site is bounded by East Chicago Avenue on the north, East 151st Street on the south, the Indiana Harbor Canal on the west and Parrish Avenue on the east. The Site is located in the southern portion of East Chicago and consists of two OUs (see Figure 1) (EPA, 2021a).

OU1 has been further subdivided into Zones 1, 2, and 3. Zone 1 includes the former Carrie Gosch Elementary School building and the site of the now demolished Goodman Park and West Calumet Housing Complex (WCHC). After the demolition, the City of East Chicago rezoned Zone 1 as commercial/industrial. Zones 2 and 3 include 1,078 properties which are predominantly residential, but include some parks, churches, and industrial/commercial properties (EPA, 2021a).

The soils portion of the commercial/industrial property proposed for deletion (parcel 45-03-33-101-001.000-024) is largely located within Modified Zone 1 of OU1, as described in the September 2, 2022 Explanation of Significant Differences (ESD) (EPA, 2022). The commercial/industrial property encompasses the former WCHC and Goodman Park, which have

been razed, and a utility corridor located in the western portion of OU1, between Zone 1 and Zone 2, but does not include the former Carrie Gosch School property which is the portion of Zone 1 that was previously remediated, or the approximately 1.43-acre parcel 45-03-33-101-006.000-024, which is owned by the East Chicago Housing Authority (ECHA) and contains a municipal maintenance building (EPA, 2022). A small portion of a utility corridor (included in this proposed deletion) extends slightly into Zone 1 and Zone 2 (see Figure 3).

OU2 includes the surface and subsurface soils of the 79-acre former USS Lead facility and groundwater beneath the surfaces of both OU1 and the former USS Lead facility. The EPA is currently overseeing a Remedial Investigation/Feasibility Study (RI/FS) for OU2 (EPA, 2022).

4.1.1 Zone 1 and Modified Zone 1

Prior to 2020, Zone 1 was zoned for residential use. In accordance with residential property remediation standards, the remedy selected in the November 20, 2012 ROD involved excavating soil to a depth of 24 inches with institutional controls (ICs) such as land use restrictions to address any soil contaminants remaining above criteria deeper than 24 inches. On March 24, 2020, which was after the cleanup at the former Carrie Gosch School was completed to the selected residential criteria, the EPA learned that the likely future use of Zone 1 would become commercial. The EPA issued a ROD Amendment that allowed for a commercial/industrial cleanup in the remaining areas of Zone 1 containing the former WCHC and Goodman Park (called Modified Zone 1, see Figure 4) if two conditions were met (EPA, 2020a):

(1) The City of East Chicago (City) must change the zoning designation of Modified Zone 1 from residential to a category authorizing commercial/industrial development, and
(2) The City and ECHA must convey title to an entity that intends to redevelop Modified Zone 1 for commercial/industrial use.

These two conditions were met in 2020 and 2022. On May 26, 2020, the City of East Chicago Common Council approved a change to the zoning designation for Modified Zone 1 from residential to light industrial. Additionally, on August 25, 2022, Industrial Development Advantage of East Chicago, LLC (IDA) acquired title to the majority of Modified Zone 1 from the ECHA (EPA, 2022). IDA's 52.54-acre property was consolidated into one parcel number, 45-03-33-101-001.000-024, which includes the former WCHC property, former Goodman Park, and a utility easement that extends along the east side of Zone 1 and into a small part of Zone 2. The northern portion of this utility easement was investigated and remediated (if required, based on investigation results) from 2016 to 2020 as part of the Zone 1 and 3 remedial action (RA) and the Zone 2 RA conducted by the potentially responsible parties (PRPs) for the USS Lead Site (see Figure 3) (Parsons 2020a, Parsons, 2020b, IDA, 2026).

On September 2, 2022, the EPA issued an ESD that documented the selection of the contingent commercial/industrial use remedy for Modified Zone 1. The commercial/industrial use remedy

changes the remedy for this area from 24 inches of soil excavation with ICs to 12 inches of soil excavation with ICs (EPA, 2022).

4.2 Sources of Contamination

Between 1912 and 1946, much of Modified Zone 1 was owned by the Anaconda Copper Mining Company (Anaconda). Anaconda operated several lead processing facilities within Modified Zone 1. In 1946, Anaconda sold the facility to the Eagle-Picher Company. The Eagle-Picher Company appears to have continued operations at the Anaconda facility until at least 1952, although the exact extent of its operations is largely unknown. In the late 1960s, the Anaconda facility was demolished. In the early 1970s, the ECHA oversaw the construction of the WCHC within the footprint of the former Anaconda facility (EPA, 2022).

From 1906 until 1985, the USS Lead Refinery, Inc. operated a facility at 5300 Kennedy Avenue, East Chicago, Indiana, south of Modified Zone 1 and Zone 2. Slag from the USS Lead operations was routinely placed in piles on the ground and left exposed to the elements. Lead and arsenic-contaminated particulate matter were released into the environment as fumes through stacks, dust from the baghouses, and dust from the lead waste piles (e.g., slag and baghouse dust).

During roughly this same period, E.I. du Pont de Nemours and Company (DuPont) operated a facility south and east of OU1 Zone 3. The processes used by DuPont generated wastes that contained lead and arsenic. Other facilities in the area also generated wastes that contained lead and arsenic, which may have come to be located within the USS Lead Superfund Site. A more complete discussion of the Site history and contamination is available in Section II of the ROD Amendment (see internet links in Deletion Docket in Appendix B of this report) (EPA, 2020a).

4.3 Site History

The EPA initially proposed to address the USS Lead Site under its Superfund program in 1992 (57 FR 4827). However, in 1993, USS Lead petitioned the EPA to allow it to investigate and remediate its property under the Resource Conservation and Recovery Act (RCRA). By 1993, USS Lead began a cleanup at its facility (OU2) pursuant to a November 18, 1993 Administrative Order on Consent Agreement with the EPA under RCRA. USS Lead addressed most of the soil contamination in OU2 by excavating contaminated soils and consolidating those soils within a corrective action management unit located within OU2. As part of the OU2 RCRA activity, the EPA directed that soil sampling be conducted in the residential areas (OU1) to investigate if the residential soil was contaminated with lead. Air deposition modeling was also performed (EPA, 2020b).

In 2007, the EPA transitioned responsibility for the OU1 and OU2 investigations from RCRA to Superfund after the OU1 sample results showed that the residential soil was contaminated with lead and because USS Lead indicated that it could not pay for any more cleanup work under

RCRA. The EPA's Superfund program conducted limited sampling in OU1 and identified residences with concentrations of lead in soils greater than 1,200 milligrams per kilogram (mg/kg). The EPA proposed the Site to the NPL in the *Federal Register* on September 3, 2008 (73 FR 51393), and added the Site to the NPL on April 9, 2009 (74 FR 16126).

In 2008 and 2011, the EPA removed contaminated soils from 29 residential properties in Zones 1, 2, and 3 with concentrations of lead in soils greater than 1,200 mg/kg. From June 2009 to June 2012, the EPA conducted a remedial investigation (RI) at OU1 and selected an OU1 remedy in a November 30, 2012 ROD (EPA, 2012, 2022). Consistent with the 2012 ROD, the EPA began the remedial design (RD) work for Zones 1 and 3. As part of this work, the EPA collected soil samples from November 2014 to April 2016 to determine the extent of soil contamination in the individual yards of each Zone 1 and 3 property.

In July 2016, after reviewing the sampling results from Zone 1, the City of East Chicago sent a letter to the WCHC residents recommending that they relocate from the WCHC. Shortly thereafter, the ECHA applied to the U.S. Department of Housing and Urban Development for approval and funding to demolish the WCHC and relocate the residents. The ECHA completed the demolition of the WCHC in the fall of 2018. The demolition activities included the removal of the above-grade structures, building slabs, and hardscapes such as streets, sidewalks, and parking areas, with the aggregate base material underlying the former roads left in place to facilitate remediation.

Following the decision by the ECHA to demolish the WCHC, the EPA reevaluated the future intended use of Modified Zone 1. On August 18, 2016, the EPA wrote to the City and asked how the City and the ECHA intended to use Zone 1. In a letter dated September 10, 2018, the City advised the EPA that it anticipated "providing industrial and commercial opportunities in Zone 1 and quality housing in Zone 2-3" (EPA, 2022).

To account for the possible change in the future use of Modified Zone 1, the EPA issued a Proposed Plan for Modified Zone 1 on November 11, 2018, to provide the EPA with the flexibility to choose a remedy for Modified Zone 1 that reflected the likely future land use and opened a public comment period. On November 29, 2018, the EPA held a public meeting in East Chicago to discuss the Proposed Plan. At the public meeting, the EPA told the public that while the remedy in the Proposed Plan, Alternative 4B, requires the cleanup of soils to residential standards, if the future use of Modified Zone 1 changed, the EPA would select a different remedy, Alternative 4A, that required the cleanup of soils to commercial/industrial standards.

On November 15, 2019, the City entered into a Letter of Intent (LOI) with IDA. The LOI outlined a proposal to acquire most of Zone 1 from the City and the ECHA. The Lake County Economic Alliance provided a copy of the LOI to the EPA shortly after November 15, 2019. On December 16, 2019, the City wrote to the EPA and acknowledged that it had signed the LOI and that the LOI envisioned the development of Zone 1 for a logistics and distribution campus and warehousing complex. The letter noted, "None of the property will be used for residential purposes."

5.0 Remedy Selection

The EPA issued a ROD Amendment for Modified Zone 1 on March 24, 2020 (EPA, 2020a). The ROD Amendment included a contingency remedy indicating that if the future use of Modified Zone 1 remained residential, the remedy would be Alternative 4B (soil excavation to 24 inches with ICs), but if the future use changed to commercial/industrial, the EPA would issue an ESD to select Alternative 4A (12 inches of soil excavation with ICs) as the remedy.

On May 26, 2020, the zoning for Modified Zone 1 was changed from residential to light industrial and on August 25, 2022, the ownership of most of the Modified Zone 1 property was transferred from the ECHA to IDA. Following these changes, the EPA issued an ESD on September 2, 2022, that documented that the conditions for the selection of the contingent commercial/industrial remedy per the ROD Amendment for Modified Zone 1 had been met and that the selected remedy for Modified Zone 1 was now Alternative 4A (EPA, 2022).

Alternative 4A includes the following components:

- Excavation of contaminated soils that exceed the industrial/commercial Remedial Action Levels (RALs) for lead (800 mg/kg) and arsenic (26 mg/kg) down to a maximum depth of 12 inches below ground surface (bgs).
- Disposal of the contaminated soils at an off-site Subtitle D or Subtitle C landfill, as appropriate. Treatment may be required to chemically stabilize some of the soils to meet disposal requirements.
- Installation of a visual barrier (e.g., orange plastic mesh fencing, woven geotextile fabric, etc.) at the bottom of the excavated areas to alert people that they may encounter contaminated soils below the barrier.
- Backfilling the excavated areas with clean material to surface grade.
- Restoring the backfilled areas with sod or seed unless the construction of an impermeable surface will commence over the area within 90 days of restoration to grade.
- ICs requiring the owner(s) of the parcels within Modified Zone 1 intended for commercial/industrial development to record an Environmental Restrictive Covenant (ERC) consistent with Indiana law with the property deed limiting the future land use to commercial/industrial purposes.

A municipal maintenance building sits on a 1.43-acre parcel within Modified Zone 1 that is still owned by ECHC (see Figure 3). IDA did not purchase this parcel, and it is not included as part of this proposed partial deletion. However, the parcel was included in the City's May 2020 rezoning and is now zoned as light industrial (EPA, 2022).

5.1 Remedial Action Objective (RAO)

The 2022 ESD did not amend the RAO for the Site. The RAO has remained consistent throughout the OU1 remedy selection process and was documented in the ROD, the ROD Amendment, and the ESD. The RAO is as follows (EPA, 2022):

> Reduce to acceptable levels human health risk from exposure to contaminants of concern (COCs) in impacted surface and subsurface soils through ingestion, direct contact, or inhalation exposure pathways, assuming reasonable anticipated future land-use scenarios.

5.2 Contaminants of Concern (COCs) and Cleanup Criteria

The COCs in Modified Zone 1 are lead and arsenic (EPA, 2020a). The EPA identified lead and arsenic as the COCs among potential contaminants at the Site during the OU1 RI. Neither the surficial changes within the WCHC nor any information obtained since completion of the RI required the EPA to modify the COCs. The principal COCs within Modified Zone 1 were and remain lead and arsenic.

The RI, which was conducted by the EPA and completed in June 2012, assessed whether, along with lead and arsenic, the EPA should include polynuclear aromatic hydrocarbons (PAHs) as COCs. The EPA ultimately determined that PAHs should not be considered COCs because exposure pathways to PAHs and other organic chemicals will be addressed by the removal of lead and arsenic under either a commercial or residential use scenario. Consequently, the ROD and subsequent decision documents identified lead and arsenic as the only COCs (EPA, 2020a, 2022).

The EPA calculated the remedial action levels (RALs) for lead in non-residential soil using the Adult Lead Methodology (ALM) and default exposure assumptions to estimate soil concentrations that correspond to acceptable blood-lead concentrations for the most sensitive commercial/industrial workers (EPA, 2012, 2020a). The lead RAL calculated for industrial/commercial properties using the ALM is 800 mg/kg. This lead RAL for commercial/industrial use is less stringent than the RAL for residential use because the assumption is that workers and visitors at a commercial/industrial facility within Modified Zone 1 will be on-site and potentially exposed to lead or arsenic for fewer hours each week than people who might reside within Modified Zone 1.

Arsenic, both naturally occurring and industrially generated, is present at the Site and within Modified Zone 1. The EPA does not require the cleanup of naturally occurring chemicals at or below background concentrations. As a result, the EPA considered site-specific background concentration data and Illinois metropolitan background concentration data when determining the RAL for arsenic (EPA, 2020a). The EPA determined that the upper bound concentration for

naturally occurring arsenic at the Site is 26 mg/kg. Therefore, the EPA set the RAL for arsenic at 26 mg/kg for both residential and commercial/industrial properties.

In the ROD Amendment, the EPA considered whether a revision to the assessment of risk to human health and the environment was warranted because of the demolition of structures and hardscapes within Modified Zone 1. The EPA concluded that it was not necessary to revise the risk assessment in the ROD because the exposure assumptions made in the original risk assessment did not change (EPA, 2020a).

5.3 Soil Excavation Depth

The EPA determined the excavation depth for Zone 1, including Modified Zone 1, by evaluating more than 1,000 soil samples collected between 2012 and 2019 as part of the RD (EPA, 2020a). The samples were composite samples collected from the ground level down to 30 inches bgs in six-inch intervals.[2] The consolidated results of all RI and RD sampling concentrations in Zone 1 are presented in Table 1.

Table 1: Summary of Zone 1 Sampling Results

Contaminant/Depth	Average (mg/kg)	Median (mg/kg)
Lead at 0-6 in.	1601.8	831.0
Lead at 6-12 in.	3721.8	1821.0
Lead at 12-18 in.	5397.0	2066.5
Lead at 18-24 in.	5203.7	1830.0
Lead at 24-30 in.	3590.2	1449.5
Arsenic at 0-6 in.	59.8	46.0
Arsenic at 6-12 in.	113.7	66.0
Arsenic at 12-18 in.	141.3	69.5
Arsenic at 18-24 in.	165.3	66.5
Arsenic at 24-30 in.	189.5	70.0

As shown in Table 1, the average concentrations of lead and arsenic in each of the six-inch intervals down to 30 inches bgs were in excess of the lead and arsenic RALs for commercial/industrial use. Based on this data, the EPA concluded that to be protective of

[2] Composite soil samples were a mixture of several cores of soil, six inches in length, taken within a distributed area of a back or front yard. The EPA did not sample below 30 inches bgs during the RD because, as described earlier, exposure risks to residents are generally limited to the top 24 inches bgs. In this case, the EPA sampled down to 30 inches bgs in order to establish where ICs would be necessary.

commercial/industrial use, all soils within Modified Zone 1 above the RALs for lead and arsenic would need to be excavated to 12 inches bgs.

In addition to the removal of soils above the RALs, the EPA determined that ICs would need to be put in place for contamination remaining above the RALs deeper than 12 inches bgs across the entirety of Modified Zone 1. Based on the EPA's experience, a minimum of 12 inches of clean soil should be used to establish an adequate barrier from contaminated soil in a commercial/industrial context for the protection of human health. The rationale for establishing a minimum cover thickness of 12 inches is that the top 12 inches of soil are considered to be available for direct human contact, and that most typical activities do not extend below a 12-inch depth (EPA, 2020a).

6.0 Remedy Implementation

The remedy for Modified Zone 1, including predesign investigations, was implemented from 2020 to 2025. The remedy for the 1.16-acre portion of the commercial/industrial Zone 1 and Zone 2 property proposed for partial deletion was implemented from 2016 to 2019.

6.1 Modified Zone 1

6.1.1 Predesign Investigations

Prior to acquiring the Modified Zone 1 property, IDA prepared a Work Plan for Decision Unit Soil Sampling (DU Sampling Plan) and a Quality Assurance Project Plan (QAPP) in September 2020 to assist with redevelopment. The objectives of the DU Sampling Plan were to (Hull & Associates, 2020):

1. Define, within discrete decision units across the Modified Zone 1 commercial/industrial property, whether soils within the upper one foot of surface grade met or exceeded the cleanup criteria for arsenic (26 mg/kg) and lead (800 mg/kg), to determine whether the soils required excavation and off-site disposal or could remain on-site.
2. Identify soils that will require stabilization treatment prior to off-site disposal; and
3. Quantify volumes of granular, engineered subbase materials from former roads that will be placed beneath future hardscape areas (i.e., building slabs and pavement).

The DU Sampling Plan was implemented in November 2020 (Verdantas, 2025a). The sampling strategy was based on a geospatial sample/incremental composite sampling (ICS) design that divided Modified Zone 1 into 55 decision units (DUs) (see Figure 5). Within each DU, sub-sample locations were arrayed in a "five on a die" pattern for compositing. Each final, composite sample was comprised of material from five, 0.0 to 1.0-foot depth interval sub-samples from each DU and analyzed for arsenic and lead. Any aggregate material for road subbases or in former building areas, large roots, or anthropogenic materials (plastic, metals, etc.) was

discarded from the sample. Only material below the aggregate was submitted to the laboratory in accordance with the Work Plan (Hull & Associates, 2021).

Triplicate sub-samples were collected within nine of the DUs for a statistical evaluation of the sampling variability across Modified Zone 1 to determine 95 percent confidence level threshold criteria for arsenic and lead to support RA decisions. These threshold criteria were determined by the EPA and were the criteria against which arsenic and lead concentrations in each DU composite sample were compared to determine whether the DU required excavation, or whether, statistically, all soil concentrations within that DU were expected to be at or below the cleanup standards at a confidence level of 95 percent, and could remain on-site (EPA, 2021b). Each composite DU sample was also analyzed for Toxicity Characteristic Leaching Procedure (TCLP) extraction for arsenic and lead to determine whether the soil in a DU would require on-site treatment (e.g., stabilization) prior to off-site disposal or on-site treatment even if the composite sample met the statistical threshold criteria and would remain in-place.

Using the data from the DU sampling, the EPA's statistical evaluation determined that the threshold criteria were 19 mg/kg for arsenic and 787 mg/kg for lead. This meant that if lead and arsenic concentrations in a composite sample from a DU were less than these threshold criteria, there was statistically significant confidence that all the soil within that DU met the cleanup criteria of 26 mg/kg for arsenic and 800 mg/kg for lead in the ROD and ROD Amendment and would not require excavation. Composite DU samples with arsenic and lead concentrations above these threshold criteria indicated all soils in the DU did not meet the cleanup criteria and would require excavation and off-site disposal.

Based on the EPA's statistical evaluation, 13 DUs required no action, 10 DUs exceeded the criteria for lead only, five DUs exceeded the criteria for arsenic only, and 27 DUs exceeded the criteria for both arsenic and lead (see Figure 6) (EPA, 2021b).

In November 2021, the IDA submitted a Lead Treatability Work Plan for a bench-scale treatability study to evaluate reagents for the chemical fixation of lead in the Modified Zone 1 soils requiring treatment (Verdantas, 2022, 2025a). The treatability study was conducted in 2022 and summarized in a Lead Treatability Study report (Verdantas, 2023a). The treatability study recommended a mix design of 2% triple super phosphate by dry weight for soil treatment and recommended that on-site field testing be conducted prior to implementing the full-scale treatment. The IDA also conducted a baseline topographic, DU, and utility survey of the property.

6.1.2 Remedial Design

IDA entered into a settlement agreement with the EPA, U.S. Department of Justice, and IDEM to implement the OU1 Modified Zone 1 remedy documented in the 2022 ESD on August 8, 2022 (U.S. Department of Justice, EPA, State of Indiana, and IDA, 2022).

IDA's contractor, Verdantas, submitted a Remedial Design/Remedial Action (RD/RA) Work Plan in December 2022 (Verdantas, 2022). Based on the sampling conducted during the predesign investigations, the RD determined that a total of 64,570 cubic yards of material to a depth of one foot would need to be excavated for off-site disposal.

The RD estimated that 36,228 cubic yards of the excavated material exceeded the TCLP limit for lead of 5 milligrams per liter (mg/l) and would require stabilization prior to off-site disposal to render the material non-hazardous. An additional 3,450 cubic yards of material from two DUs did not require excavation but exceeded the TCLP limit for lead and would require stabilization but remain on-site (see Figure 7) (Verdantas, 2025a).

IDA submitted the RD in a Design Criteria Report (DCR) which included the planning documents for the RA in May 2023 (Verdantas, 2023a). The EPA approved IDA's RD on June 29, 2023 (EPA, 2023). Additionally, IDA prepared a Soil Management Plan (SMP) which outlines the activities that are required to control exposure to the remaining lead and arsenic contamination in the soil during post-remedy construction (Verdantas, 2023b).

6.1.3 Remedial Action (RA)

IDA initiated the RA in October 2023. Due to the discovery of four high pressure petroleum pipelines within the utility right of way (ROW) along the eastern side of the property during the utility clearance, the RA for the ROW soils was delayed while IDA and the EPA evaluated alternative remedy options for the soils in conjunction with the pipeline operators for this area (Verdantas, 2025a).

The non-ROW work was conducted from October 2023 to July 2024, and the ROW cleanup was conducted from June to July 2025. IDA representatives and the EPA's oversight contractor, Tetra-Tech, conducted a final inspection of the non-ROW cleanup on July 17, 2024. IDA, the EPA, IDEM, and Tetra Tech conducted a final inspection of the ROW cleanup on July 10, 2025. IDA submitted a final Remedial Action Completion Report (RACR) to document that the cleanup was complete in December 2025 (Verdantas, 2025a). The EPA approved the RACR on April 24, 2026 (EPA, 2026a).

The general sequence of remedial activities was (Verdantas, 2023a):

1. Site preparation.
2. Treatability stabilization demonstration at DUs B6, B9, and E9.
3. In-situ stabilization of all DUs requiring stabilization. Soils that required excavation and off-site disposal were stabilized in place prior to excavation along with soils that required stabilization, but not off-site disposal.
4. Excavation, transport, and disposal of soils from DUs with soil concentrations above the threshold criteria of 19 mg/kg for arsenic and 787 mg/kg of lead (treated and untreated).
5. Surveying the base elevation of the excavated areas.

6. Installing the visual demarcation barrier in all excavated areas.
7. Placement of clean backfill material.
8. Surveying the top of the clean backfill material; and
9. Final grading, seeding and mulching where required.

At the completion of the RA:

- 11 DUs required no action.
- 20 DUs required excavation and off-site disposal with no stabilization.
- 22 DUs required stabilization, excavation, and off-site disposal; and
- 2 DUs required stabilization but did not require excavation.

The major RA construction activities are summarized in the following sections and in Figures 8 and 9. The complete details of the RA can be found in the 2025 RACR (see internet link in the Deletion Docket in Appendix B of this report) (Verdantas, 2025a).

6.1.3.1 In-Situ Stabilization

In-situ treatment was used to chemically stabilize the soils that exceeded the TCLP limit of 5 mg/l for arsenic and/or 5 mg/l for lead to meet off-site disposal requirements at 22 DUs, and to treat the soil in two DUs (C3 and E7) that required treatment, but not excavation and off-site disposal (see Figures 8 and 9) (Verdantas, 2025a).

Based on the treatability demonstration, a mix design of 3% TerraBond by dry weight was used. Confirmation sampling was performed at each DU and for the stockpiled soil in DUs B1 and C1 after stabilization as described in the Field Sampling and Analysis Plan (FSAP) and Quality Assurance Project Plan (QAPP) to verify that the stabilized soils no longer exceeded the TCLP limits. Any DUs that failed were re-treated with additional TerraBond and resampled until the DU met the TCLP limits.

The procedure used for in-situ treatment involved scraping each DU with a bulldozer adjusted to the assigned depth of 1-foot bgs into windrows, then thoroughly mixing the reagent within the windrow with a backhoe while continually managing dust generation with a water truck as needed. This method differed from the DCR which originally envisioned in-place mixing for each DU using large scale rototilling.

The alternative method allowed the entire DU (to the target depth of 1-foot bgs) to become disturbed and thoroughly mixed, and did not require “five on a die” confirmation sampling to confirm that the treatment was effective since the solids were placed in a windrow. Instead, the stabilization verification sampling was conducted by compositing samples collected from five equally spaced, equal-volume grab samples from the windrow(s) and creating a singular composite sample for laboratory analysis following the Standard Operating Procedures in the FSAP.

6.1.3.2 Soil Excavation

The soil excavation removed contaminated soils that exceeded the threshold criteria of 787 mg/kg for lead and 19 mg/kg for arsenic to a maximum depth of 12-inches bgs at 22 DUs that required in-situ stabilization and at 20 DUs where these criteria were exceeded but stabilization was not required (see Figures 8 and 9). At the six DUs in the portion of the ROW where the high-pressure petroleum pipelines were present (F1, F2, F3, F4, F8, and F9), the excavation depths varied from the 12-inch target (see Section 6.1.3.2.1 below). None of the soils in the ROW required stabilization.

After each DU was excavated, a demarcation barrier was installed at the bottom of the excavation to visually indicate the vertical extent of the remedy. The demarcation barrier in the non-ROW consists of orange mesh construction fencing. In the ROW, the demarcation barrier consists of woven geotextile fabric. A professional surveyor licensed in the state of Indiana performed pre-excavation, post-excavation, and post-backfill surveys at each DU requiring excavation consistent with the Construction Quality Assurance Plan (CQAP). Photologs of the demarcation barriers and the as-built drawings are in Appendix D of the RACR (Verdantas, 2025a).

In total:

- 35,347 cubic yards of material were stabilized, excavated, and disposed off-site;
- 25,583 cubic yards of material were excavated without stabilization and disposed off-site (23,946 cubic yards of non-pipeline ROW soil, and 1,637 cubic yards of pipeline ROW soil); and
- 3,425 cubic yards of material were stabilized and left in-place.

As indicated in Figure 9, the boundaries of the DUs established during the RD did not include 5-to-30-foot-wide strips of land along the boundary of Modified Zone 1 or within six-foot setbacks from the bases of three high tension electric transmission towers at the Site where work was not allowed by the utility (see light blue areas on Figure 9). As a result, RA decisions to excavate soils potentially exceeding the RALs above 12 inches bgs were not applied to these marginal areas and soils exceeding the RALs may remain present at these locations.

The EPA has determined that soil contamination in excess of RALs present or potentially present above 12 inches bgs in these marginal areas would be impractical to excavate and/or do not pose an unacceptable risk to human health or the environment. Additionally, these areas are not areas in which a person is likely to have prolonged exposure to contaminated soil. The largest of these areas is the steep bank along the eastern edge of the Lake George Canal and is not readily accessible. Other areas are utility and street easements where it is not customary for people to congregate or children to play.

These modifications to the excavation depths in these marginal areas were documented by the EPA in an April 15, 2026, Minor Modification to Operable Unit 1, Modified Zone 1 Remedy

Memorandum to File (Memorandum). The Memorandum, in part, clarified IC requirements to ensure these minor modifications are addressed by ICs in these areas (see Section 6.3, Institutional Controls) (EPA, 2026b).

6.1.3.2.1 Non-Right of Way (ROW) Soil Excavation

During the non-ROW soil excavation, the existing aggregate base from the former roadways in the DU was removed and stockpiled in a dedicated non-remedial area in the northwest corner of the property for later reuse during future development below hardscape surfaces. Then (and after treatment if required), the soils in each DU were excavated and taken to a load out area for off-site disposal in DU B8. The stabilized soils were segregated from the non-stabilized soils. Tree stumps were aggregated in the loadout area and hauled to the landfill in loads separated from the contaminated soils (Verdantas, 2025a).

The soils were systematically excavated to allow traffic flow through the property and to minimize the potential for tracking contaminated soils off-site. This included excavating soil in the southwest corner of the property for the installation of a western gate entrance and the replacement of the haul road to the loadout area. Work was then phased to maximize the use of the existing gravel roads and sequencing the areas that required stabilization.

Water trucks were used for dust suppression on active gravel roadways and Posi-shell® was used as a dust suppressant on stockpiled soil and open excavations. Off-site road sweeping was also performed as needed. The contaminated soil was disposed of at Laraway Landfill in Joliet, Illinois as a residual waste. Separate disposal testing requirements were implemented for stabilized soils and non-stabilized soils. The complete details of the non-ROW soil excavation are available in the RACR, and the as-built drawings of the soil excavation are in Appendix D of the RACR (see internet links in the Deletion Docket in Appendix B of this report) (Verdantas, 2025a).

6.1.3.2.2 Right of Way (ROW) Excavation

Four high pressure petroleum pipelines were identified in the ROW on the eastern side of the property in DUs F1, F2, F3, F4, F8, and F9 during the October 2023 utility clearance. Due to potential health and safety risks, the soil excavation in this area was delayed while IDA evaluated alternative remedy options with the EPA and the pipeline operators from January 2024 to May 2025. In November 2024, potholing (periodic daylighting excavations) was conducted along the pipeline ROW using a hydrovac to survey the depths and the locations of the pipelines, which were then used to develop the remedial plan for this area (Verdantas, 2025a).

Due to the shallow soil depth above the buried pipelines, remedy implementation around the pipelines was too complex and presented significant health and safety risks. This area represents a “restricted area” where excavation depths varied in the because the minimum two feet of clearance required by the pipeline operators could not be maintained. The EPA, in

consultation with IDA, determined that a variable depth of excavation and fill as defined by the pipeline depth was acceptable within these restricted areas such that a minimum of eight inches of clean fill and geotextile barrier was placed above contaminated soil remaining in-place (see Restricted Area Excavation Plan in Appendix D-1A of the RACR). The excavation depths relative to pipeline locations were continuously monitored in the field by utility representatives, IDA, the EPA, and IDA's contractor to appropriately oversee the technical challenges of working around the pipelines and to ensure that remedy implementation did not result in unnecessary health and safety risks to the workers.

During the pipeline ROW work in DUs F1 through F4, the excavated soils were direct-loaded into trucks for off-site transportation and disposal. Soils from DUs F8 and F9 were temporarily stockpiled at the southern end of F9 while waiting for disposal transport. None of the soils disposed of from the pipeline ROW required stabilization.

The documentation of the remedy implementation for the ROW is included in Appendix D-1A of the RACR. Sixty-nine percent (69%) of the survey locations in the ROW met the 12-inch excavation target and 80% met or were within 90% of the 12-inch target. Points that did not meet the target were generally above or adjacent to the pipelines where the access and excavation limits were restricted. Sixty-eight percent (68%) of the fill measurements met the 12-inch cover target, while 83% met or were within 90% of the cover target. A summary table and accompanying survey plate for the ROW remedy implementation can be found in Appendix-D1A of the RACR (see internet link in Appendix B).

6.1.3.3 Backfilling

Excavated areas were backfilled with imported material and graded in accordance with the design. All imported material brought on-site was tested for contaminants and was pre-approved by the EPA in accordance with the Fill Import Plan Revision 2 (IDA, 2023). Material imported to the property as backfill was sampled and analyzed in accordance with the Fill Import Plan, FSAP, and QAPP (see Section 8.1.1) (Verdantas, 2025a).

Air-cooled blast furnace slag (ACBFS), a coarse stonelike inert by-product of iron production, was used as clean backfill material for 36 of the 55 DUs that were excavated within Modified Zone 1 (see Figure 9). The remaining 19 DUs either did not require excavation and were left vegetated, or required excavation and were restored with clean soil as required by the ROD Amendment and ESD.

6.1.3.4 Vegetative Cover

Due to the potential for erosion, the ROD Amendment and ESD require backfilled areas to be restored with sod or seed unless the construction of an impermeable surface was to commence over the area within 90 days of restoration to grade. Due to IDA's accelerated schedule for redevelopment, IDA used construction-grade ACBFS as the backfill material instead of soil for 36 of the DUs that required backfill where redevelopment is expected. The remaining 19 DUs

either did not require excavation and were left vegetated, or required excavation and were restored with topsoil, seeding, and straw bedding as required by the ROD Amendment and ESD (see Figure 9).

The DUs where the ACBFS was used as backfill do not require cover due to the robust physical barrier this material provides, minimizing the risk of erosion or displacement that could otherwise expose contaminated soils beneath the ACBFS. Additionally, IDA expects to import additional fill material (redevelopment fill) to be placed on top of the remedy fill/surface grade to raise ground elevation an additional 4-to-5 feet. This rise in the ground elevation will allow the installation of redevelopment infrastructure without interference to the remedy. A variance from this 90-day requirement where ACBFS was used as backfill was documented by the EPA in the April 15, 2026, Memorandum (EPA, 2026b).

6.1.3.5 Groundwater Monitoring Well Replacement

IDA installed six replacement groundwater monitoring wells after the soil remedy in the non-ROW and ROW areas was completed (see Figure 10). The wells were installed to replace the monitoring wells that were removed prior to the remedy implementation in accordance with the Groundwater Monitoring Well Abandonment and Installation Plan (Verdantas, 2023c).

IDA and the EPA met several times to ensure that the replacement wells would be installed in areas that met the monitoring criteria for the OU2 groundwater investigation and would also be outside of the property redevelopment footprint to minimize potential damage to the wells. The wells were reinstalled in October 2025 and are documented in the Monitoring Well Installation, Well Development, and Waste Characterization report dated November 11, 2025 (Verdantas, 2025b).

Sampling and maintenance of the groundwater monitoring wells will be conducted by the USS Lead PRPs as part of the OU2 groundwater investigation, and not by IDA.

6.2 Zone 1 and Zone 2 Property Proposed for Partial Deletion

Approximately 1.16 acres of IDA's ROW property, extending north of DU F0 to just north of Vernon Avenue, was investigated by the EPA and remediated (if required) by the USS Lead PRPs in accordance with the residential cleanup criteria in the ROD from 2016 to 2020 as part of the Zone 1 and 3 RA and the Zone 2 RA (see purple shaded area in Figure 9) (SulTRAC, 2016, Parsons, 2020a, 2020b).

6.2.1 Zone 1 Property (Corridor 3)

The commercial/industrial ROW property located north of DU F0 in Figures 5 to 7, which extends north to the alley south of, and parallel to, Vernon Avenue, was addressed as part of

the OU1, Zone 1 residential cleanup. This area was designated as Corridor 3, Quadrants QA, QB, QC, and QD (see Figure 11).

Each quadrant in Corridor 3 was sampled during the preliminary design using the “five on a die” pattern for compositing. Each final composite sample was comprised of material from five locations collected from four discrete depth intervals: 0 to 6 inches, 6 to 12 inches, 12 to 18 inches, and 18 to 24 inches. No samples were collected beneath paved areas or other hardscape materials (SulTRAC, 2016).

The composite samples were analyzed for arsenic and lead in the field using x-ray fluorescence (XRF). If the XRF screening concentrations for lead were between 300 mg/kg and 400 mg/kg and/or the screening concentrations for arsenic were between 20 mg/kg and 30 mg/kg, the composite samples were sent to the EPA’s Contract Laboratory Program (CLP) laboratories or the EPA’s Central Regional Laboratory for analysis. In addition, composite samples with XRF screening concentrations of lead above 2,000 mg/kg or arsenic above 100 mg/kg were submitted to a laboratory for TCLP (lead and/or arsenic) analysis.

The sampling results were compared to the residential criteria in the ROD, which indicated that remediation was required in Corridor 3 Quadrants QA and QB. No remediation was required in Quadrants QC or QD (Parsons, 2020a).

The soil in Corridor 3 Quadrant QA was excavated to an average depth of 21 inches bgs and the soil in QB was remediated to an average depth of 26 inches bgs (see Figure 12). Due to the presence of the underground high-pressure pipelines in the easement, some of the soils in this area could only be excavated to depths ranging from 6.2 inches bgs to 13.27 inches bgs. Additionally, one area of Corridor 3 adjacent to a 1:1 slope to the sidewalk could only be excavated to 17.98 inches.

Based on the average depths of the excavations, a demarcation barrier was not required. A review of the Quadrants QA and QB data indicates that none of the soil in Quadrants QA and QB, either excavated or remaining, exceeds the industrial criteria in the ROD Amendment. The excavated soils were direct-loaded into trucks and transported to the Republic Newton County Landfill in Brook, Indiana and disposed of as nonhazardous special waste. The excavated areas were backfilled with clean fill, six inches of clean topsoil, and covered with sod.

The concentrations of arsenic and lead detected in Quadrant QC in Corridor 3 were below the residential criteria from 0 to 24 inches bgs, therefore, this area did not require any remediation. However, as indicated in Figure 11, the concentration of arsenic (53 mg/kg) and lead (1,463 mg/kg) detected in the interval from 24 to 30 inches bgs in Quadrant QC are above the residential criteria and the commercial/industrial criteria in the ROD and ROD Amendment. Additionally, no sampling or excavation was conducted under any roads or sidewalks. These residual concentrations above criteria are being addressed by ICs as indicated in the April 15, 2026 Memorandum (see Section 6.3, Institutional Controls).

The complete details of the Corridor 3 investigation and remediation are available in the Pre-Final Remedial Design (SulTRAC, 2016) and the Zone 1 & 3 2019 Remedial Action Construction Report (Parsons, 2020a). These documents can be viewed via the internet links in the Deletion Docket in Appendix B of this report). The EPA approved the Zone 1 & 3 2019 Remedial Action Construction Report on April 7, 2021 (EPA, 2021c).

6.2.2 Zone 2 Property (Corridor 4 and Property ID 2608)

The northernmost portion of the commercial/industrial ROW property proposed for partial deletion was addressed as part of the OU1, Zone 2 residential cleanup. The Zone 2 property south of Vernon Avenue proposed for partial deletion was designated as Corridor 4, Quadrants QA, QB, QC, and QD. The Zone 2 property extending across Vernon Avenue and approximately 11 feet north of the north Vernon Avenue sidewalk proposed for partial deletion was addressed as part of the Back of Property ID 2608 (see Figures 13 and 14) (Parsons, 2020b).

Each quadrant in Corridor 4 and the Back portion of Property ID 2608 was sampled and analyzed using composited XRF sampling and the same “five on a die” compositing method described in Section 6.2.1 for the Zone 1 property, with no samples collected below pavement or other hardscape areas.

The sampling results were compared to the residential criteria in the ROD and indicated that Quadrants QA and QB in Corridor 4 and the Back of Property ID 2608 required remediation. No remediation was required in Corridor 4 Quadrants QC or QD.

The soil in Corridor 4 Quadrant QA was excavated to a depth of 6 to 12 inches bgs and the soil in QB was remediated to a depth of 18 inches bgs. No excavation occurred in areas with pavement or other hardscape areas. The soil at the Back of Property ID 2609 was excavated to a depth of 12 inches bgs, however, in QB and the Back of Property ID 2609, the presence of the underground pipe lines and/or underground concrete limited the excavation depths in some areas from 0.48 inches to 11.42 inches bgs (see Figures 15 and 16).

Because the residual concentrations of arsenic and lead below the excavated material were below the residential criteria, a demarcation barrier was not required. The excavated soils were loaded into trucks and transported to the former Chemours facility located at 5135 Kennedy Ave, East Chicago, Indiana for waste characterization and final disposal at the Republic Newton County Landfill, located in Brook, Indiana as nonhazardous special waste (Parsons, 2019).

The complete details of the Zone 2 remediation are available in the Interim Zone 2 2019 Remedial Action Construction Report (Parsons, 2020b), which can be viewed via the internet link in the Deletion Docket in Appendix B of this report). The EPA approved the Zone 2 RA report on March 22, 2021 (EPA, 2021d).

6.3 Institutional Controls (ICs)

Land and groundwater use at the commercial/industrial property proposed for partial deletion is restricted by the May 16, 2026 ERC recorded with Lake County, Indiana, as Instrument 2026-011506 (IDA, 2026) (see internet link in Appendix B).

The ERC applies to the entirety of the approximately 52.54-acre property proposed for partial deletion, which is legally described in Exhibit A of the ERC and was surveyed on July 11, 2022 (Robinson Engineering, LTD., 2022) (see Figure 9 and survey in internet link in Appendix B). The Lake County parcel identification number for the restricted property in the ERC is 45-03-33-101-001.000-024.

The ERC includes an Institutional Controls Implementation and Assurance Plan (ICIAP), the SMP, and an Operation & Maintenance (O&M) Plan that provide additional details and requirements for long-term management of the property.

The ERC:

- Prohibits residential use of the property, including, but not limited to, daily childcare facilities or educational facilities for children (e.g., daycare centers or K-12 schools).
- Prohibits agricultural use.
- Prohibits groundwater use for any purpose, including but not limited to human or animal consumption, gardening, industrial processes, or agriculture, except that groundwater may be extracted in conjunction with environmental investigation and/or remediation activities, unless such use or extraction is necessary for construction or redevelopment activities and approved via a modification to the ERC.
- Prohibits soil excavation below 12 inches, unless in conformance with the approved SMP attached as Exhibit D, or any approved updates on file with EPA and IDEM. Disturbed soil and any disturbances to the demarcation barrier from excavation and construction activities must be restored in accordance with the SMP. Upon EPA or IDEM's request, the property owner shall provide EPA and IDEM with written evidence (which could include sampling data, if necessary) showing that the excavated and restored area, and any other area affected by the excavation, does not represent a threat to human health or the environment.
- Prohibits the excavation or allowing the excavation of soil at any depth, except in conformance with the SMP, within the areas depicted in Exhibit E, which depicts soil that has not been remediated due to impracticability or other considerations.
- Requires maintenance of the soil cover to protect its functional integrity in accordance with the approved O&M Plan, attached as Exhibit E, or any approved updates to the O&M Plan on file with EPA and IDEM.
- Prohibits any activity that may interfere with the integrity or operation of a groundwater monitoring well or well network installed and maintained for use in environmental investigations required by EPA.

The ERC provides the EPA and IDEM with access for site inspections, requires the EPA and IDEM to be noticed if the property is transferred, is enforceable by the EPA and IDEM, and runs with the land.

7.0 Sampling Results and Attainment of Cleanup Criteria

7.1 Soil Treatment Confirmation Sampling

7.1.1 Modified Zone 1

For Modified Zone 1, soil samples were collected from each DU that required soil stabilization to confirm that the treated material met the TCLP limits for lead (5 mg/l) and arsenic (5 mg/l) for disposal as a nonhazardous waste. The samples were collected prior to excavation and off-site disposal, or, for the two DUs that required treatment but not off-site disposal, to verify that the treated material met the requirements for remaining on-site. The stockpiled soils in DUs B1 and C1 from previous fieldwork prior to the initiation of the remedy were also characterized, stabilized, and disposed of (Verdantas, 2025a).

The treatment verification sampling was conducted by compositing samples collected from five equally spaced, equal-volume grab samples from the stabilized soil in the windrow(s) of each DU (or the stockpiles in DUs B1 and C1) to create a singular composite sample for laboratory analysis following the Standard Operating Procedures in the FSAP.

The samples were analyzed by either SRN Testing in Bartlett, Illinois or ALS Global in Holland, Michigan and validated in accordance with the QAPP. DUs with confirmation samples that did not meet the TCLP criteria were treated with additional TerraBond and resampled until the TCLP criteria was met (see Figure 8).

Documentation of the soil treatment is provided in Appendices D-2 to D-3 of the RACR and is arranged by DU. The documentation includes sampling logs, laboratory analytical reports, and the data validation reports. The laboratory data for the samples that initially failed the TCLP testing is available in Appendix D-4 of the RACR (see internet link in Appendix B of this report) (Verdantas, 2025a).

7.1.2 Zone 1 and Zone 2 Property Proposed for Partial Deletion

Soil characterization sampling to determine whether the excavated soil in Zone 1 exceeded hazardous waste criteria and would require treatment or additional disposal requirements was conducted during the predesign for all samples that exceeded 2,000 mg/kg of lead based on the XRF screening. Based on the XRF results, none of the samples on the Zone 1 property proposed for partial deletion required treatment and the material was disposed of as a nonhazardous special waste (Parsons, 2020a).

In Zone 2, soil characterization sampling was conducted at a centralized staging location. As with the Zone 1 samples, none of the Zone 2 samples required treatment and the soil was disposed of as a nonhazardous special waste (Parsons, 2019).

7.2 Confirmation of Soil Excavation Limits

7.2.1 Modified Zone 1

The Modified Zone 1 RA did not require post-excavation confirmation sampling because the 12-inch soil excavation depth was specified in the ROD Amendment and ESD (see Section 5.3) (EPA, 2020a, 2022). Additionally, the horizontal limits of the 52 DUs and the determination as to what action was needed for each DU (i.e., excavation with treatment, excavation without treatment, treatment without excavation, or no action) was determined by the EPA during the predesign investigation based on the data collected pursuant to the DU Sampling Plan and QAPP (see Section 6.1.1) (EPA, 2021b, 2022, Hull & Associates, 2020).

Instead, and as required by the CQAP in the EPA-approved DCR, confirmation of the predetermined soil excavation limits were verified by a professional surveyor licensed in the State of Indiana who performed pre-excavation, post-excavation, and post-backfill surveys for each DU that required excavation. After the excavation limit survey was verified, a demarcation layer was placed in each DU to indicate the limits of the remedial action (see Figure 8). The documentation of the soil excavation is available in Appendix D of the RACR and includes photologs, as-built surveys, and data tables that include the pre-excavation, post-excavation, and post-backfill survey data collected by the surveyors, arranged by each by DU (Verdantas, 2025a) (see internet link in Appendix B of this report).

7.2.2 Zone 1 and Zone 2 Property Proposed for Partial Deletion

Post-excavation confirmation sampling was not required for the Zone 1 and Zone 2 soil excavations because the depths of the excavations were determined during the RD based on the predesign sampling data. Pre-construction and post-excavation surveys were performed during or directly after the excavations and were completed to verify that the target excavation depths met the required specifications (Parsons, 2020a, 2020b).

8.0 Demonstration of Cleanup Quality Assurance/Quality Control (QA/QC)

8.1 Modified Zone 1

The soil cleanup on the commercial/industrial property was conducted in accordance with the QA/QC procedures outlined in the CQAP included in the EPA-approved DCR during the RD (Verdantas, 2023d, 2025a). The CQAP outlined the procedures to be used to implement the

remedy and document that the RA was conducted in accordance with all aspects of the planning documents in the approved RD (see Section 6.1.2). Implementation of the CQAP ensured, with a reasonable degree of certainty, that the completed RA meets or exceeds the design criteria, plans, specifications, and performance standards in the DCR and Settlement Agreement.

The CQAP outlined project personnel, defined responsibilities, and detailed QA/QC activities such as inspections, testing, monitoring, and potential corrective actions, if necessary, for all aspects of the RA. The CQAP also included procedures for documenting all QA/QC activities and for retaining and the final storage of project documents. Specific QA/QC testing activities that were performed during the RA (in addition to those discussed in Section 7.0) are discussed below.

8.1.1 Backfill and Topsoil Source Material Sampling

Import fill used for backfill and topsoil was sampled and analyzed in accordance with the FSAP, the Fill Import Plan, and the QAPP prior to use. Fill Acceptance Requests summarizing the source of the fill, the results of an environmental questionnaire, soil profile sampling activities, laboratory analytical reports, data validation reports, and any other pertinent source-related details were prepared and submitted to EPA for approval prior to use.

In total, six fill import sources were used during the implementation of the remedy. The documentation of the fill and topsoil imported to the site is provided in Appendix F of the RACR (see internet link in Appendix B of this report). The topsoil (used for the ROW remedy) was sourced from Chicago Heights (Verdantas, 2025a).

8.1.2 Dust Monitoring

Real-time dust monitoring locations were set at locations at or near the property boundary from October 2023 through July 2024, and from June through July 2025 during the RD/RA earthwork activities in accordance with the planning documents. Real-time dust monitoring was continuously conducted throughout the entirety of the RD/RA, while perimeter dust sampling submitted for laboratory analysis for lead and arsenic was performed only during earthwork activities (Verdantas, 2025a).

The samples for laboratory analysis were analyzed by ALS in Cincinnati, Ohio for arsenic and lead using National Institute for Occupational Safety and Health (NIOSH) Method 7300. One field blank was submitted for each set of samples submitted to the laboratory and analyzed for the same compounds using the same test methods. A 3-day baseline monitoring period was completed prior to any ground disturbance(s) to document ambient conditions, and an on-site weather station provided real-time documentation of prevailing wind directions near the work zone, air temperature, precipitation, relative humidity, and barometric pressure.

The air samplers were factory set to draw air through the sample filters at a rate of 2 liters per minute. Real-time alarms were set to immediately alert appropriate project team members via e-mail and/or text message when the 5-minute average of total suspended particulates was elevated [≥0.050 milligrams per cubic meter (mg/m^3) pre-alert], and also when the 15-minute average exceeded the project action level of 0.068 mg/m^3 established by the EPA's March 18, 2021, document "Modification of the Calculation of Lead and Arsenic in Airborne Dust Level for the USS Lead Site" (Verdantas, 2025a).

Real-time exceedances of total suspended particulates were verified in the field by on-site personnel since the sensitivity of the monitoring equipment could be artificially elevated due to weather events (e.g., fog), or dust drifting from off-site sources. These instances were recorded on daily field reports and documented in weekly Perimeter Air Monitoring Results reports submitted to the EPA. Otherwise, engineering controls were implanted as required by the AMP.

Real-time total suspended particulate data was reviewed daily and downloaded weekly to determine that all required data was being collected and reported. Downloaded data were managed in accordance with the procedures documented in the QAPP and summarized in the weekly reports. The reports summarized the real-time monitoring results, associated laboratory analytical data, and engineering controls implemented in response to real-time dust alerts, if required. Copies of the weekly air monitoring reports are provided in Appendix B of the RACR (see internet link in Appendix B of this report) (Verdantas, 2025a).

8.1.3 Personal Monitoring

Personal air monitoring was performed in accordance with the FSAP and AMP when personnel were directly exposed to inhalation hazards by entering or working near DUs where earthwork was being performed and when personnel were collecting confirmation samples following stabilization procedures. Personal air monitoring was performed via a wearable air sampling pump with a filter cassette that was sent to the laboratory and analyzed for arsenic and lead via NIOSH Method 7300 in accordance with the QAPP. One field blank was included for each set of samples submitted to the laboratory and analyzed for the same compounds using the same test methods.

In total, 146 samples were submitted for laboratory analysis during RD/RA-related earthwork activities. If applicable personnel did not enter or work near an excavation area during a specific day, no samples were required for analysis. The personal air monitoring data results were reported in the weekly air monitoring reports submitted to the EPA and are available in Appendix B of the RACR (see internet link in Appendix B of this report) (Verdantas, 2025a).

8.2 Zone 1 and 2 Property Proposed for Partial Deletion

The QA/QC for the Zone 1 and Zone 2 RAs was conducted by the USS Lead PRP's contractor, Parsons, following the procedures in the RD documents developed by the EPA (Parsons, 2020a,

2020b). Parsons' Construction Quality Manager reviewed submittals, oversaw and coordinated testing, certified QA/QC activities, and attended weekly status/coordination meetings. Field verification, inspections, and observations were performed to confirm that the work was being conducted in accordance with the work plans and the RDs.

Inspections were performed during the preparation, initial, and follow-up phases of construction and recorded on Field Reconciliation Forms. The forms were included in the Final Property Completion Package along with documentation of field activities, inspections, photographs, and sampling information. The Final Property Completion Package includes:

- Access Agreement
- Restoration Agreement
- Design
- Utility Locate Verification
- Water Line Flushing Log
- Excavation Survey Data
- Survey Map
- Survey Points
- Volumetric Data
- Compaction Data
- As-Built Drawing
- Post-Restoration Photos
- Completion Agreement
- Field Reconciliation Form

A quality management process was designed to discuss project requirements prior to initiating the construction work activities, to assess the quality of work early in its execution, and to monitor the work throughout delivery until completion. Construction tasks with QA/QC requirements for the projects included:

- Mobilization and Site Preparation
- Property Remediation
- Surveying
- Sampling/Testing
- Residential Air Monitoring and Sampling
- Residential Perimeter Air Sampling
- Stockpile Perimeter Air Monitoring and Sampling
- Real-Time Particulate Monitoring
- Stockpile Perimeter Air Sampling
- Borrow Source and Sampling of clean backfill and topsoil
- XRF Soil Testing (as needed)
- Soil Compaction Testing
- Waste Management

- Waste Characterization
- Stockpile Sampling and Analyses
- Transportation
- Unloading and Soil Handling at Staging Areas
- Disposal of Soils

The complete details of the construction QA/QC for the Zone 1 and Zone 2 property proposed for partial deletion are provided in the Zone 1 & 3 2019 Remedial Action Construction Report and the Interim Zone 2 2019 Remedial Action Construction Report which are available via the internet links in the Deletion Docket in Appendix B (Parsons, 2020a, 2020b).

9.0 Operation and Maintenance (O&M)

IDA is required to conduct O&M at the 52.54-acre commercial/industrial property proposed for partial deletion in accordance with the March 2023 O&M Plan (Verdantas, 2023e). The O&M Plan outlines the requirements for inspecting, operating, and maintaining the RA including:

- Inspection and maintenance of the soil cover,
- Erosion inspection and maintenance,
- Damage inspection and maintenance,
- Inspection and maintenance of perimeter controls, and
- Vegetation maintenance.

The specific details of the O&M can be found in the March 2023 O&M Plan which is available via the internet links in the Deletion Docket in Appendix B.

10.0 Five Year Reviews (FYRs)

The EPA conducts FYRs at sites to determine whether an RA remains protective of human health and the environment over the long-term or whether additional investigations or cleanup actions may be warranted. The review methods, findings, and conclusions are documented in FYR reports. The EPA identifies any issues found impacting remedy protectiveness during the review in the FYR report with recommendations to address the issues.

The EPA and IDEM completed the first FYR for OU1 of the USS Lead Site on August 24, 2021. These reviews are statutory reviews and are required because hazardous substances, pollutants or contaminants remain in certain areas of OU1 above levels that allow for unlimited use/unrestricted exposure (UU/UE).

The EPA concluded in the 2021 FYR that the remedy implemented on the Zone 1 property proposed for partial deletion (Corridor 3) was remediated in accordance with the ROD and was functioning as intended. The FYR indicated that ICs and long-term stewardship procedures

needed to be developed and implemented for the Zone 2 properties proposed for partial deletion (including Corridor 4 and the Back of Property ID 2608), and that the Modified OU1 remedy selected in the ROD Amendment needed to be implemented. As documented in Section 6.0, Remedy Implementation, these actions have been completed for the 52.54-acre property proposed for partial deletion. The EPA will complete the next FYR for the Site on or before August 24, 2026.

11.0 Approval

Approved by:

6/22/2026

X Michael D. Harris

Michael D. Harris, Director

Signed by: MICHAEL HARRIS

Superfund & Emergency Management Division
U.S. EPA, Region 5

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FIGURE 1: USS Lead Superfund Site

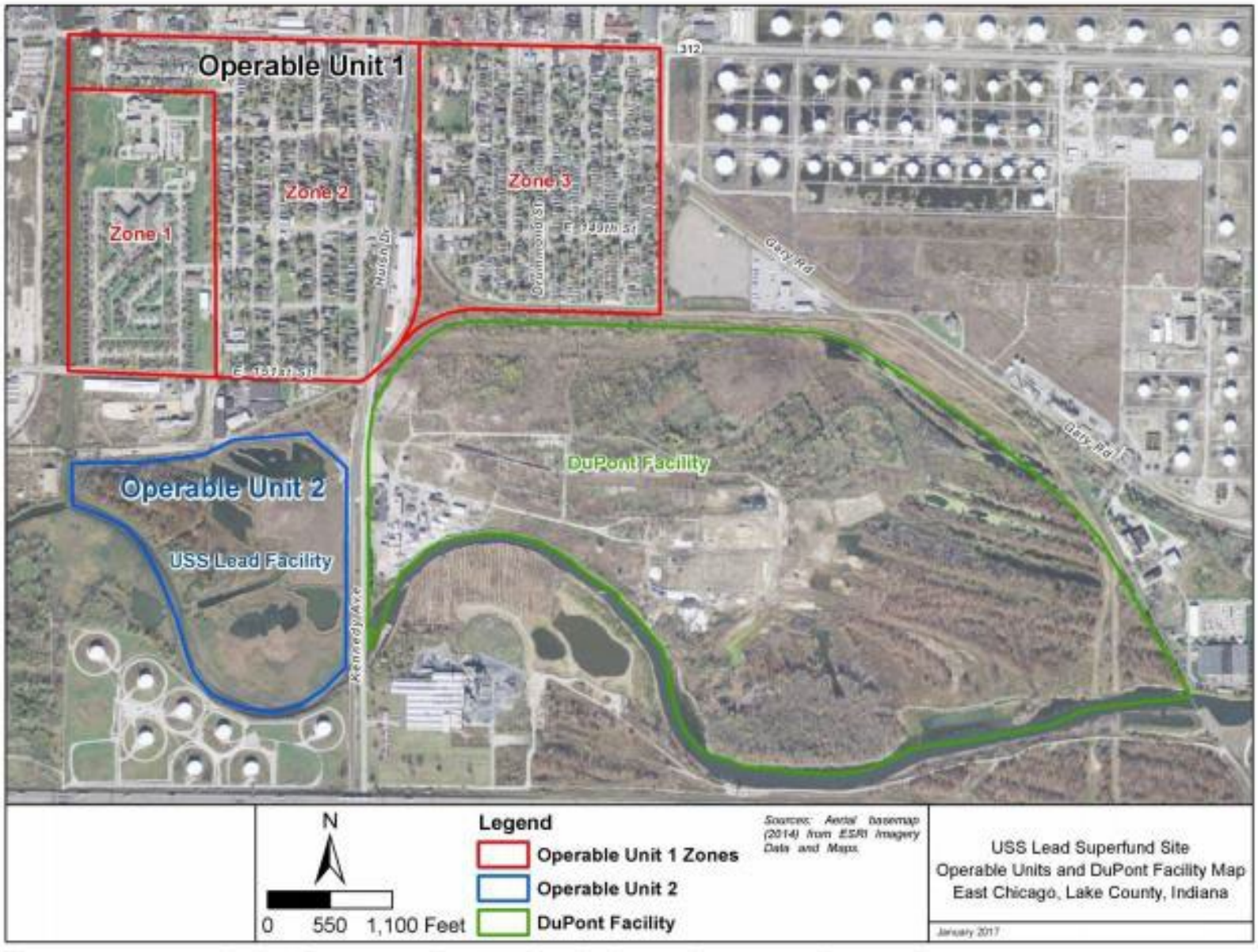


FIGURE 2: 52-54-Acre Commercial/Industrial Property Location

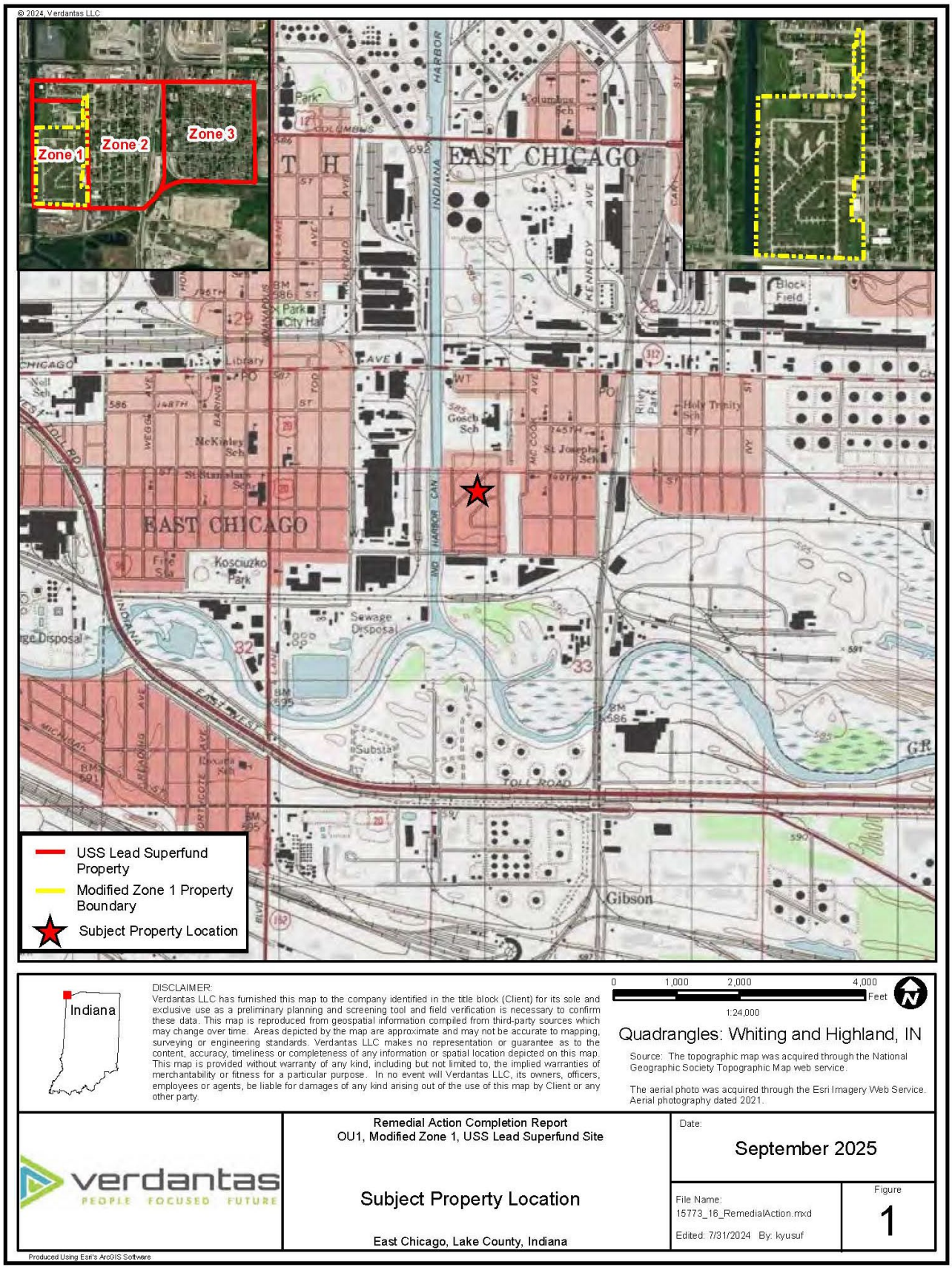


FIGURE 3: 52.54-Acre Commercial/Industrial Property Proposed for Deletion

(Shown in Yellow Dashed Line)

FIGURE 4: Modified Zone 1 (from 2022 ESD)

FIGURE 5: Modified Zone 1 Decision Unit (DU) Sampling Design

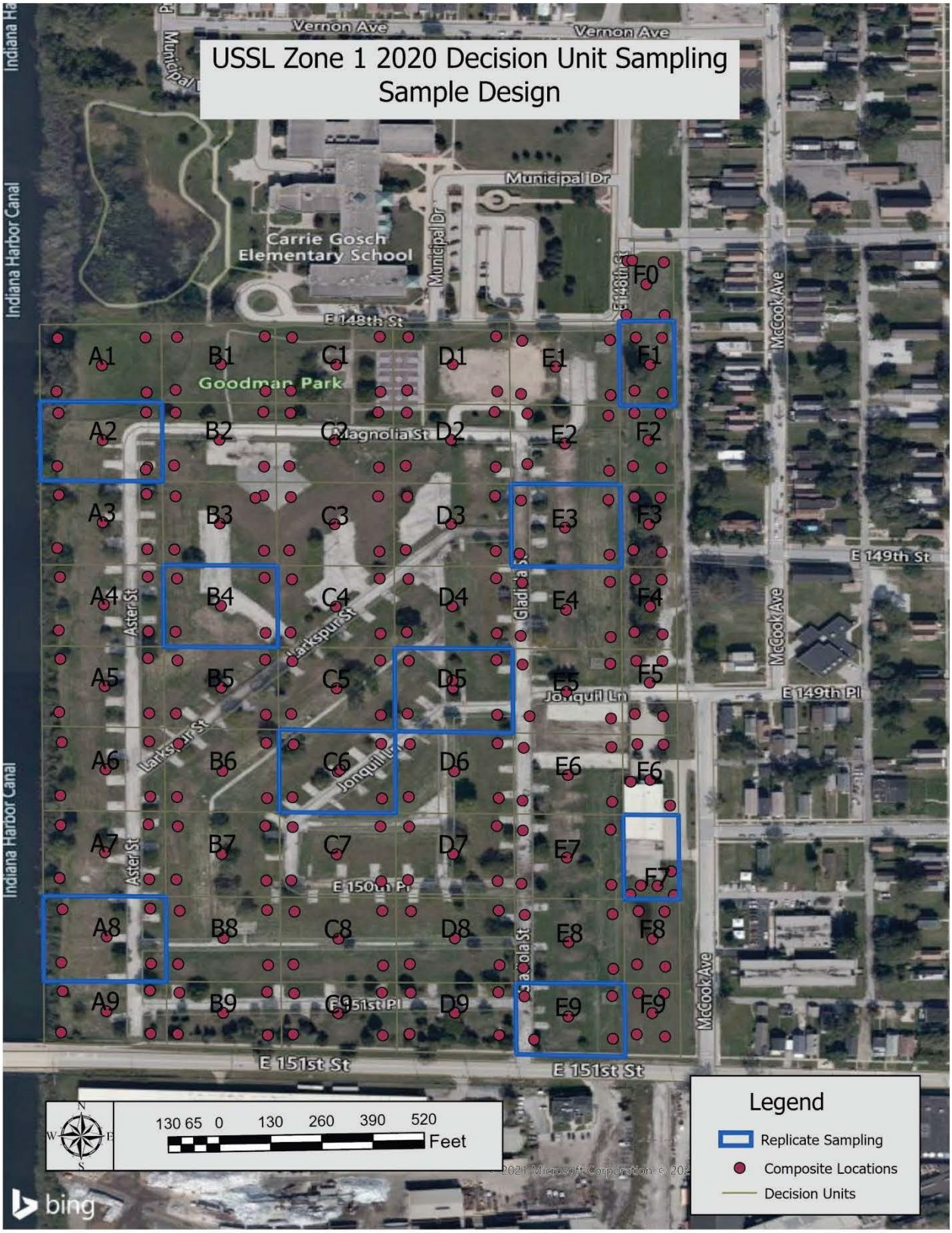


Figure 1. Decision Units and Sample Locations.

FIGURE 6: Modified Zone 1 Decision Units (DUs) Above Remedial Action Levels

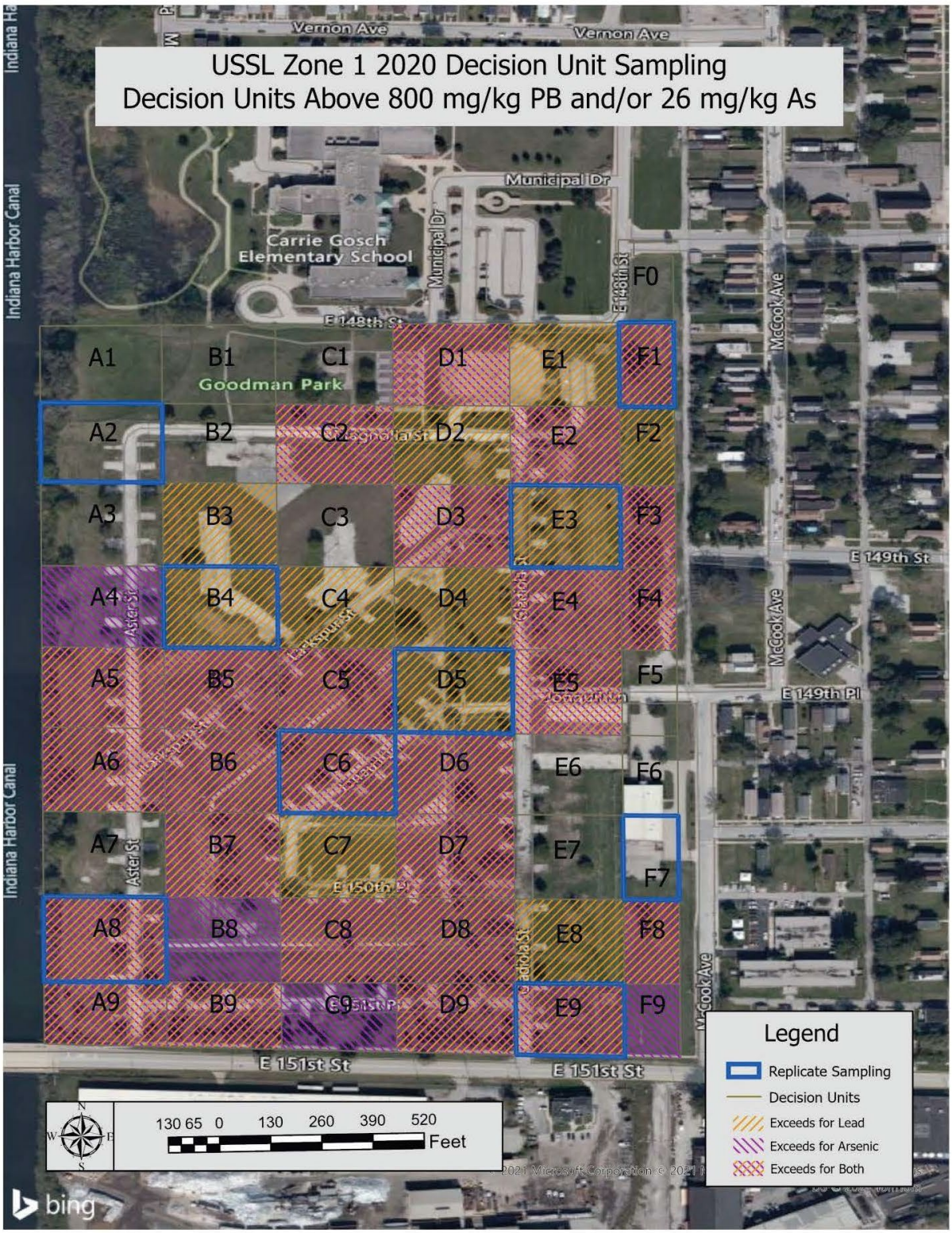


Figure 2. Decision units requiring remediation based on 95% Confidence Intervals of the replicate samples.

FIGURE 7: Modified Zone 1 Remedial Action Areas

FIGURE 8: Summary of Modified Zone 1 Remedial Action

REMEDIAL ACTION COMPLETION REPORT
USS LEAD SUPERFUND SITE, MODIFIED ZONE 1

TABLE 1

SUMMARY OF COMPLETED REMEDICAL ACTIONS

Grid ID	Type	Gravel Removal	Demolition Completed	Cleared and Grubbed	DU Stabilized with Reagent	Initial % Stabilization Agent Added	Initial Confirmatory Samples Collected	Initial Confirmatory Analytical Pass or Fail	If initial sample fails, repeat stabilization, recollect confirmatory samples	% Stabilization Agent Added 2nd Treatment	Second Resample Collection Date	Second Resample Pass or Fail	% Stabilization Agent Added 3rd Treatment	3rd Resample Collection Date	3rd Resample Pass or Fail	Excavate 1' across DU	Survey Base, Confirm 1' removed	Install Demarcation Barrier	Place 1' backfill	Backfill Placement Material Meets Spec - Firm Unyielding Subgrade	Survey Top of Backfill to assure 1' Material Placed
A8	Excavation and Stabilization	Complete	NA	Complete	Complete	2	12/6/2023	Fail	Complete	2	12/18/2023	Pass	NA	NA	NA	Complete	Pass	Complete	Complete	Complete	Complete
A9	Excavation and Stabilization	Complete	NA	Complete	Complete	2	12/5/2023	Pass	NA	NA	NA	NA	NA	NA	NA	Complete	Pass	Complete	Complete	Complete	Complete
B3	Excavation and Stabilization	Complete	NA	Complete	Complete	3	2/21/2024	Pass	NA	NA	NA	NA	NA	NA	NA	Complete	Pass	Complete	Complete	Complete	Complete
B4	Excavation and Stabilization	Complete	NA	Complete	Complete	3	2/22/2024	Pass	NA	NA	NA	NA	NA	NA	NA	Complete	Pass	Complete	Complete	Complete	Complete
B5	Excavation and Stabilization	Complete	NA	Complete	Complete	3	2/27/2024	Fail	Complete	1	3/6/2024	Fail	1	NA	Pass	Complete	Pass	Complete	Complete	Complete	Complete
B6	Excavation and Stabilization	Complete	NA	Complete	Complete	4	2/27/2024	Pass	NA	NA	NA	NA	NA	NA	NA	Complete	Pass	Complete	Complete	Complete	Complete
B7	Excavation and Stabilization	Complete	NA	Complete	Complete	3.4	3/11/2024	Pass	NA	NA	NA	NA	NA	NA	NA	Complete	Pass	Complete	Complete	Complete	Complete
B9	Excavation and Stabilization	Complete	NA	Complete	Complete	2	12/1/2023	Fail	Complete	1	12/8/2023	Pass	NA	NA	NA	Complete	Pass	Complete	Complete	Complete	Complete
C2	Excavation and Stabilization	Complete	Complete	Complete	Complete	2	12/8/2023	Fail	Complete	2	1/8/2024	Pass	NA	NA	NA	Complete	Pass	Complete	Complete	Complete	Complete
C4	Excavation and Stabilization	Complete	NA	Complete	Complete	3	2/14/2024	Fail	Complete	1	2/21/2024	Fail	1	2/28/2024	Pass	Complete	Pass	Complete	Complete	Complete	Complete
C5	Excavation and Stabilization	Complete	NA	Complete	Complete	3	2/16/2024	Pass	NA	NA	NA	NA	NA	NA	NA	Complete	Pass	Complete	Complete	Complete	Complete
C6	Excavation and Stabilization	Complete	NA	Complete	Complete	3	2/16/2024	Pass	NA	NA	NA	NA	NA	NA	NA	Complete	Pass	Complete	Complete	Complete	Complete
C7	Excavation and Stabilization	Complete	NA	Complete	Complete	3	2/20/2024	Pass	NA	NA	NA	NA	NA	NA	NA	Complete	Pass	Complete	Complete	Complete	Complete
C8	Excavation and Stabilization	Complete	NA	Complete	Complete	2.5	2/7/2024	Pass	NA	NA	NA	NA	MA	NA	NA	Complete	Pass	Complete	Complete	Complete	Complete
D1	Excavation and Stabilization	NA	Complete	Complete	Complete	2	12/8/2023	Pass	NA	NA	NA	NA	NA	NA	NA	Complete	Pass	Complete	Complete	Complete	Complete
D4	Excavation and Stabilization	Complete	NA	Complete	Complete	2	12/13/2023	Fail	Complete	2	12/21/2023	Pass	NA	NA	NA	Complete	Pass	Complete	Complete	Complete	Complete
D8	Excavation and Stabilization	Complete	NA	Complete	Complete	2	12/15/2023	Pass	NA	NA	NA	NA	NA	NA	NA	Complete	Pass	Complete	Complete	Complete	Complete
E2	Excavation and Stabilization	Complete	Complete	Complete	Complete	2	12/12/2023	Pass	NA	NA	NA	NA	NA	NA	NA	Complete	Pass	Complete	Complete	Complete	Complete
E3	Excavation and Stabilization	Complete	NA	Complete	Complete	2	12/13/2023	Pass	NA	NA	NA	NA	NA	NA	NA	Complete	Pass	Complete	Complete	Complete	Complete
E4	Excavation and Stabilization	Complete	NA	Complete	Complete	4	2/8/2024	Pass	NA	NA	NA	NA	NA	NA	NA	Complete	Pass	Complete	Complete	Complete	Complete
E5	Excavation and Stabilization	Complete	NA	Complete	Complete	3	2/9/2024	Fail	Complete	0.5	2/19/2024	Fail	0.5	2/27/2024	Pass	Complete	Pass	Complete	Complete	Complete	Complete
E9-East	Excavation and Stabilization	Complete	NA	Complete	Complete	4.5	4/9/2024	Pass	NA	NA	NA	NA	NA	NA	NA	Complete	Pass	Complete	Complete	Complete	Complete
E9-West	Excavation and Stabilization	Complete	NA	Complete	Complete	5	3/5/2024	Pass	NA	NA	NA	NA	NA	NA	NA	Complete	Pass	Complete	Complete	Complete	Complete
A4	Excavation no Stabilization	Complete	NA	Complete	N.A.	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Complete	Pass	Complete	Complete	Complete	Complete
A5	Excavation no Stabilization	Complete	NA	Complete	N.A.	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Complete	Pass	Complete	Complete	Complete	Complete
A6	Excavation no Stabilization	Complete	NA	Complete	N.A.	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Complete	Pass	Complete	Complete	Complete	Complete
A7	Excavation no Stabilization	Complete	NA	Complete	N.A.	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Complete	Pass	Complete	Complete	Complete	Complete
B8	Excavation no Stabilization	Complete	NA	Complete	N.A.	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Complete	Pass	Complete	Complete	Complete	Complete
C9	Excavation no Stabilization	Complete	NA	Complete	N.A.	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Complete	Pass	Complete	Complete	Complete	Complete
D2	Excavation no Stabilization	Complete	Complete	Complete	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Complete	Pass	Complete	Complete	Complete	Complete
D3	Excavation no Stabilization	Complete	NA	Complete	N.A.	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Complete	Pass	Complete	Complete	Complete	Complete
D5	Excavation no Stabilization	Complete	NA	Complete	N.A.	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Complete	Pass	Complete	Complete	Complete	Complete
D6	Excavation no Stabilization	Complete	NA	Complete	N.A.	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Complete	Pass	Complete	Complete	Complete	Complete
D7	Excavation no Stabilization	Complete	NA	Complete	N.A.	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Complete	Pass	Complete	Complete	Complete	Complete
D9	Excavation no Stabilization	Complete	NA	Complete	N.A.	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Complete	Pass	Complete	Complete	Complete	Complete
E1	Excavation no Stabilization	NA	Complete	Complete	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Complete	Pass	Complete	Complete	Complete	Complete
E8-East	Excavation no Stabilization	Complete	NA	Complete	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Complete	Pass	Complete	Complete	Complete	Complete
E8-West	Excavation no Stabilization	Complete	NA	Complete	N.A.	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Complete	Pass	Complete	Complete	Complete	Complete
F1	Excavation no Stabilization	NA	NA	Complete	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Complete	Pass	Complete	Complete	Complete	Complete
F2	Excavation no Stabilization	NA	NA	Complete	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Complete	Pass	Complete	Complete	Complete	Complete
F3	Excavation no Stabilization	NA	NA	Complete	N.A.	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Complete	Pass	Complete	Complete	Complete	Complete
F4	Excavation no Stabilization	Complete	NA	Complete	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Complete	Pass	Complete	Complete	Complete	Complete
F8	Excavation no Stabilization	NA	NA	Complete	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Complete	Pass	Complete	Complete	Complete	Complete
F9	Excavation no Stabilization	NA	NA	Complete	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Complete	Pass	Complete	Complete	Complete	Complete
A1	No Excavation	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
A2	No Excavation	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
A3	No Excavation	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B1	No Excavation	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B2	No Excavation	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
C1	No Excavation	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
E6	No Excavation	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
F0	No Excavation	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
F5	No Excavation	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
F6	No Excavation	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
F7	No Excavation	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
C3	No Excavation - TCLP	Complete	NA	Complete	Complete	2.5	2/6/2024	Fail	Complete	1	2/14/2024	Fail	0.5	2/21/2024	Pass	NA	NA	NA	NA	NA	NA
E7-East	No Excavation - TCLP	Complete	NA	Complete	Complete	2.5	5/23/2024	Pass	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
E7-West	No Excavation - TCLP	Complete	NA	Complete	Complete	2.5	3/4/2024	Pass	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

FIGURE 9: Remedial Action Map for Commercial/Industrial Soils Proposed for Deletion

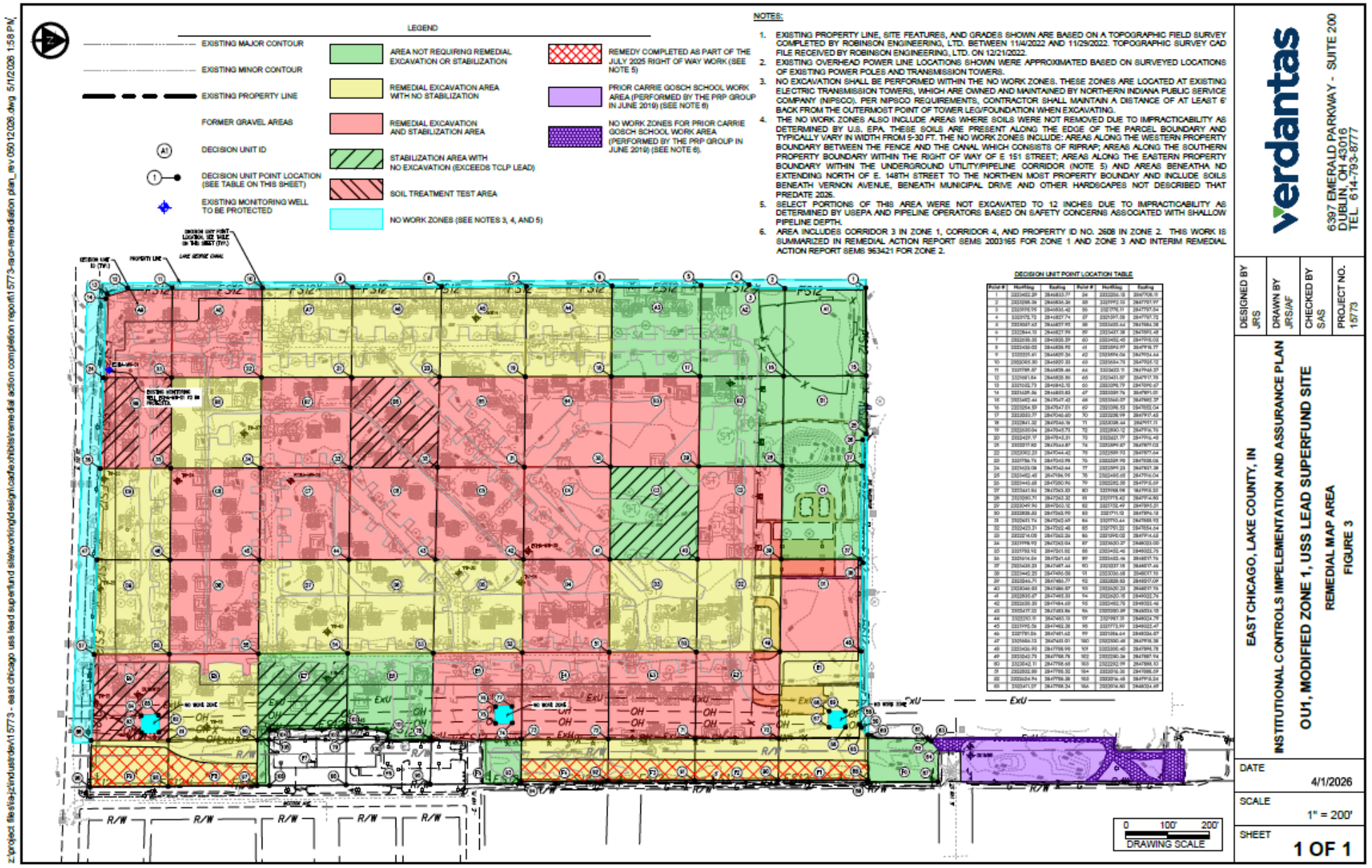


FIGURE 10: Monitoring Well Replacement Locations

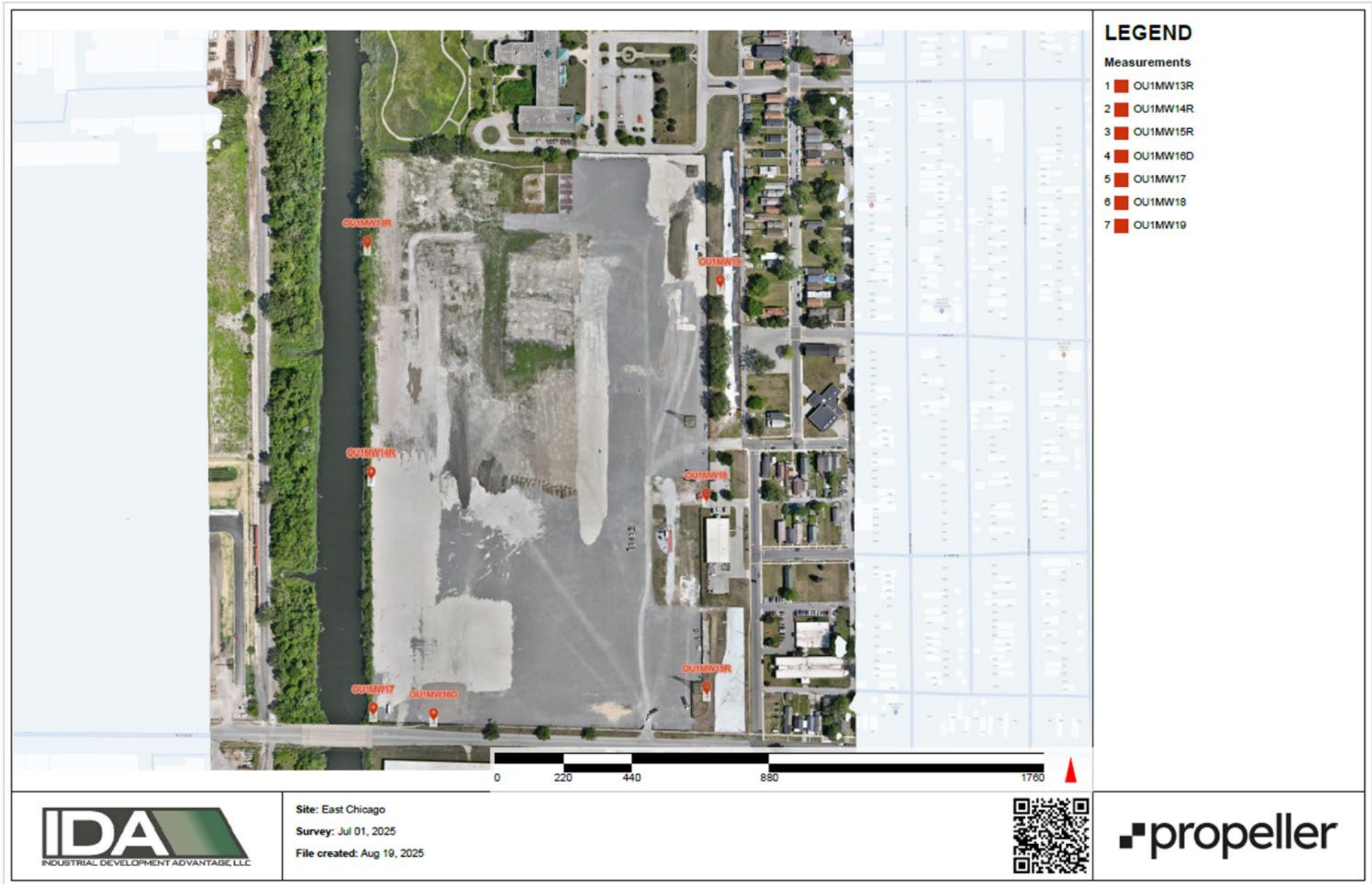
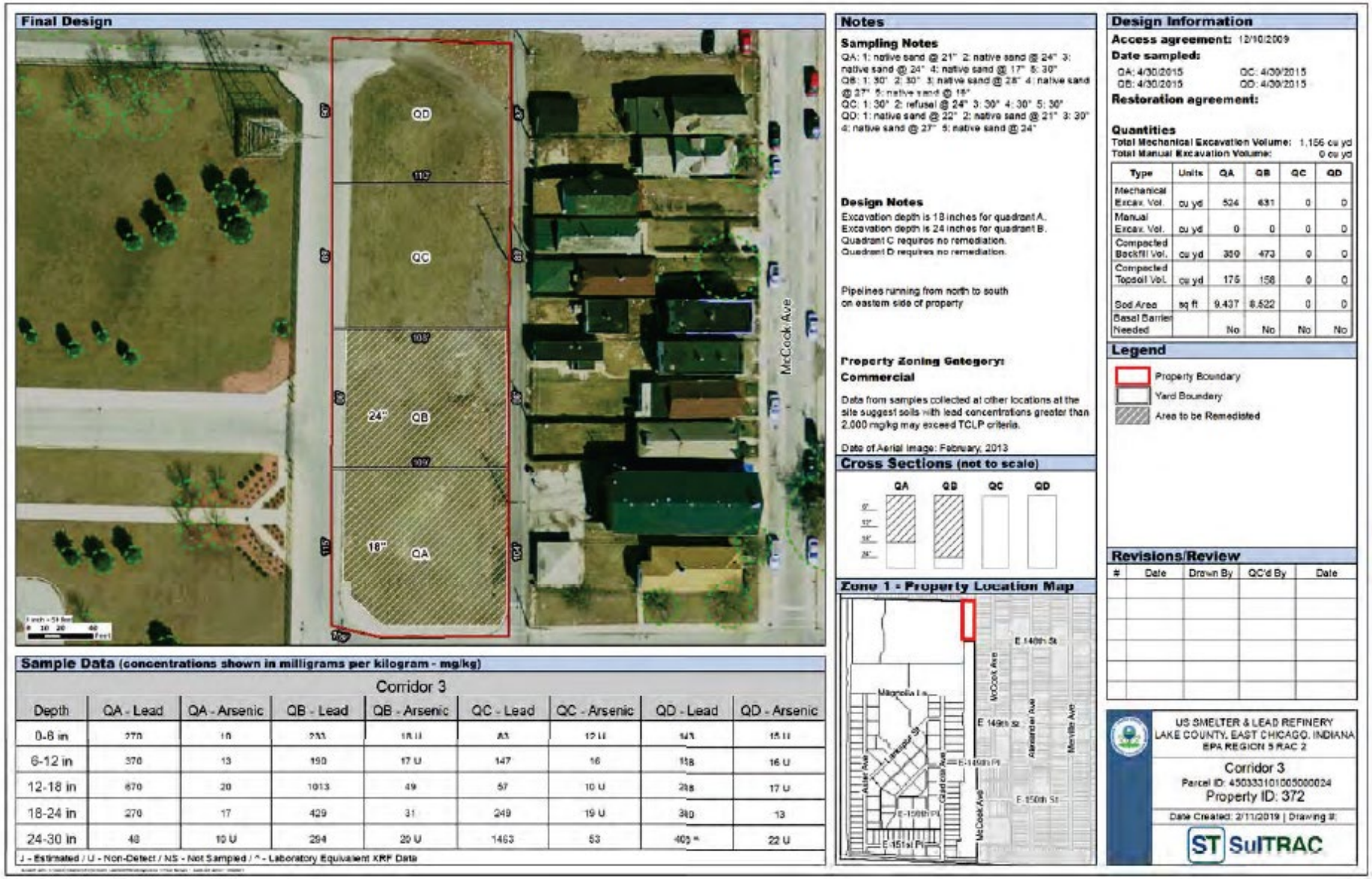


FIGURE 11: Zone 1 Corridor 3 Property Sampling Results and Remedial Design



Sample Data (concentrations shown in milligrams per kilogram - mg/kg)

Corridor 3

Depth	QA - Lead	QA - Arsenic	QB - Lead	QB - Arsenic	QC - Lead	QC - Arsenic	QD - Lead	QD - Arsenic
0-6 in	270	16	233	18 U	83	13 U	147	15 U
6-12 in	370	13	190	17 U	147	16	138	16 U
12-18 in	670	20	1013	49	57	10 U	288	17 U
18-24 in	270	17	429	31	249	19 U	380	13
24-30 in	48	10 U	294	20 U	1463	53	402 *	22 U

J - Estimated / U - Non-Detect / NS - Not Sampled / * - Laboratory Equivalent XRF Data

FIGURE 12: Zone 1 Corridor 3 Property Remedial Action As-Built Drawing

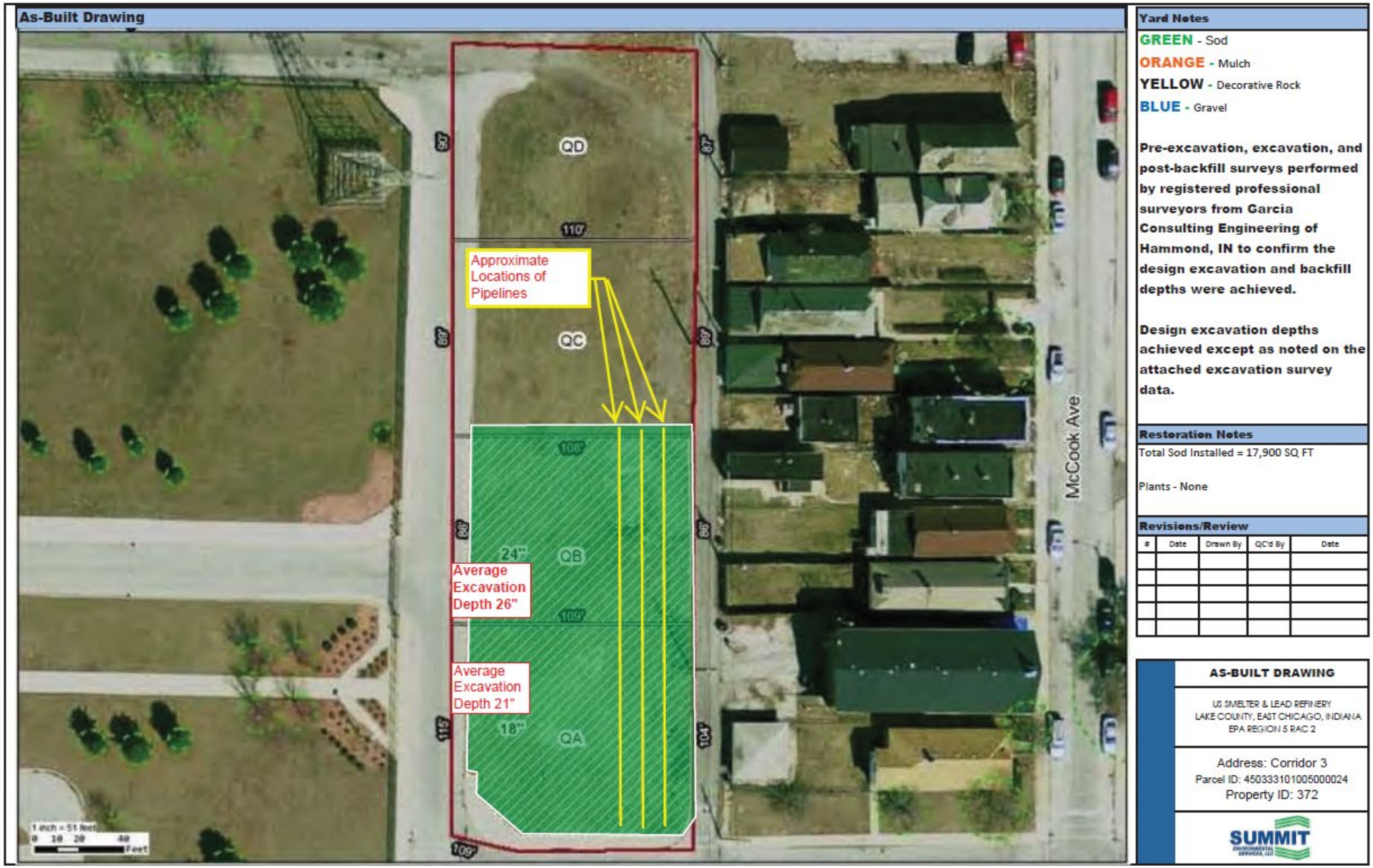


FIGURE 13: Zone 2 Corridor 4 Property Sampling Results and Remedial Design

Final Design

Sample Data (concentrations shown in milligrams per kilogram - mg/kg)

Corridor 4

Depth	QA - Lead	QA - Arsenic	QB - Lead	QB - Arsenic	QC - Lead	QC - Arsenic	QD - Lead	QD - Arsenic
0-6 in	840	8.9	160	7.7	240	5.3	270	6
6-12 in	210	9.6	260	8.9	230	11	160	6.6
12-18 in	Native Sand (NS)	Native Sand (NS)	400	12	83	9.7	110	6.4
18-24 in	Native Sand (NS)	Native Sand (NS)	180	7.6	57	4	Native Sand (NS)	Native Sand (NS)
24-30 in	Native Sand (NS)	Native Sand (NS)	Native Sand (NS)	Native Sand (NS)	Native Sand (NS)	Native Sand (NS)	Native Sand (NS)	Native Sand (NS)

J - Estimated / U - Non-Detect / NS - Not Sampled

Notes

Sampling Notes

QA: 1: native sand @ 12" 2: native sand @ 12" 3: 30" 4: native sand @ 8" 5: native sand @ 20"
QB: 1: refusal (concrete) @ 14" 2: 30" 3: native sand @ 20" 4: native sand @ 6" 5: 30"
QC: 1: native sand @ 18" 2: 30" 3: 30" 4: native sand @ 20" 5: native sand @ 24"
QD: 1: native sand @ 12" 2: native sand @ 15" 3: native sand @ 20" 4: native sand @ 8" 5: refusal (concrete) @ 17"

Design Notes

Excavation depth is 6 inches for quadrant A.
Excavation depth is 18 inches for quadrant B.
Quadrant C requires no remediation.
Quadrant D requires no remediation.

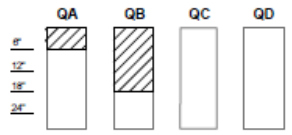
Pipelines running from north to south on eastern side of property.

Property Zoning Category:
Residential

Data from samples collected at other locations at the site suggest soils with lead concentrations greater than 2,000 mg/kg may exceed TCLP criteria.

Date of Aerial Imagery: 2018

Cross Sections (not to scale)



Zone 2 - Property Location Map

Design Information

Access agreement: 09/14/2016
Date sampled:
QA: 10/19/2016 QC: 10/19/2016
QB: 10/19/2016 QD: 10/19/2016
Restoration agreement:

Quantities
Total Mechanical Excavation Volume: 103 cu yd
Total Manual Excavation Volume: 0 cu yd

Type	Units	QA	QB	QC	QD
Mechanical Excav. Vol.	cu yd	24	79	0	0
Manual Excav. Vol.	cu yd	0	0	0	0
Compacted Backfill Vol.	cu yd	0	53	0	0
Compacted Topsoil Vol.	cu yd	24	26	0	0
Sod Area	sq ft	1,282	1,423	0	0
Basal Barrier Needed		No	No	No	No

Legend

- Property Boundary
- Yard Boundary
- Area to be Remediated
- Utility Pole / Fire Hydrant

Revisions/Review

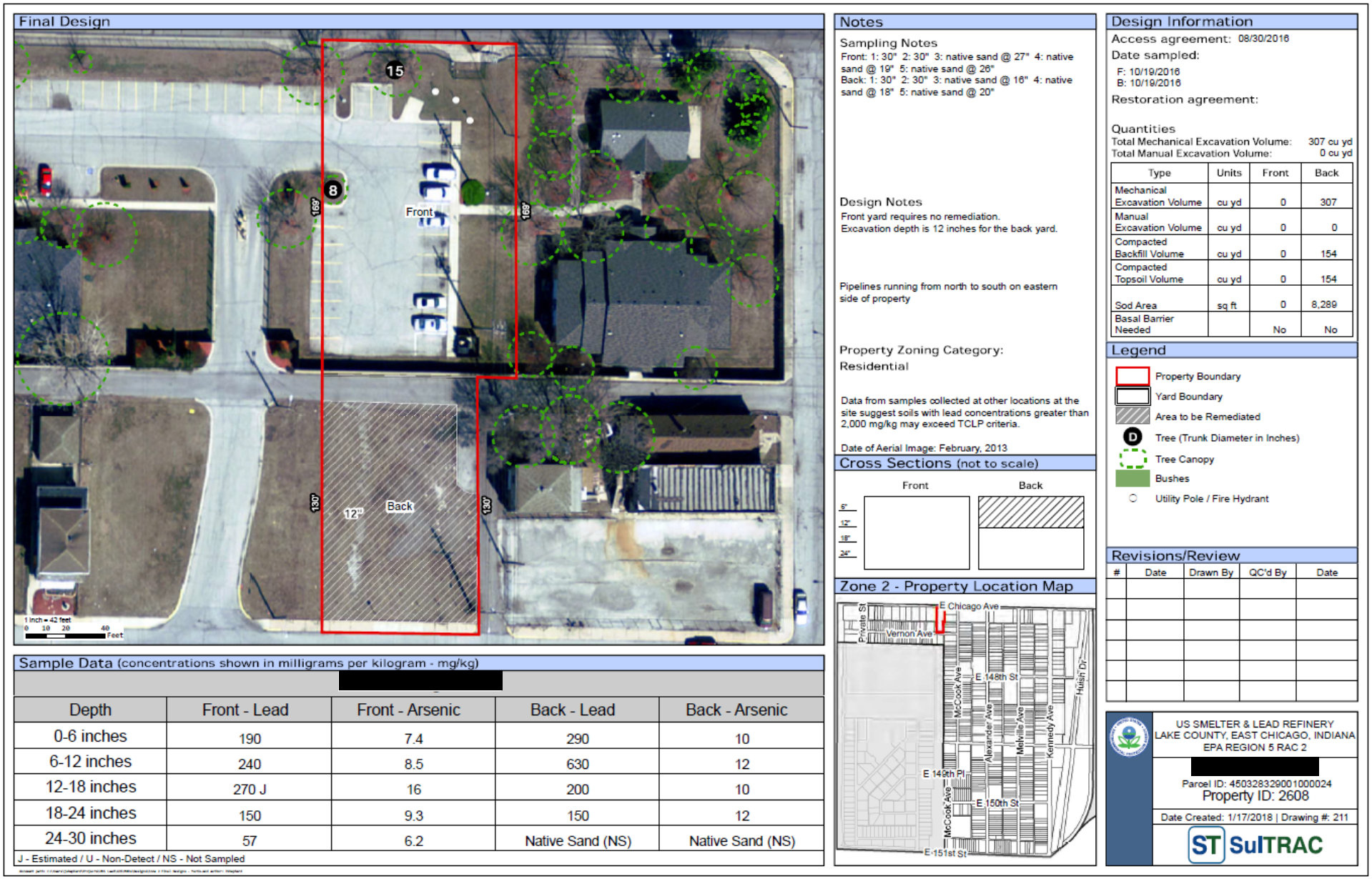
#	Date	Drawn By	QC'd By	Date
1	5/7/19	JB	CO	5/7/19

US SMELTER & LEAD REFINERY
LAKE COUNTY, EAST CHICAGO, INDIANA
EPA REGION 5 RAC 2

Corridor 4
Parcel ID: 45032835104200024
Property ID: 2619
Date Created: 5/7/2019 | Drawing #:

SulTRAC

FIGURE 14: Zone 2 Back of Property ID 2608 Sampling Results and Remedial Design



Sample Data (concentrations shown in milligrams per kilogram - mg/kg)

[redacted]

Depth	Front - Lead	Front - Arsenic	Back - Lead	Back - Arsenic
0-6 inches	190	7.4	290	10
6-12 inches	240	8.5	630	12
12-18 inches	270 J	16	200	10
18-24 inches	150	9.3	150	12
24-30 inches	57	6.2	Native Sand (NS)	Native Sand (NS)

J - Estimated / U - Non-Detect / NS - Not Sampled

FIGURE 15: Zone 2 Corridor 4 Property Remedial Action As-Built Drawing

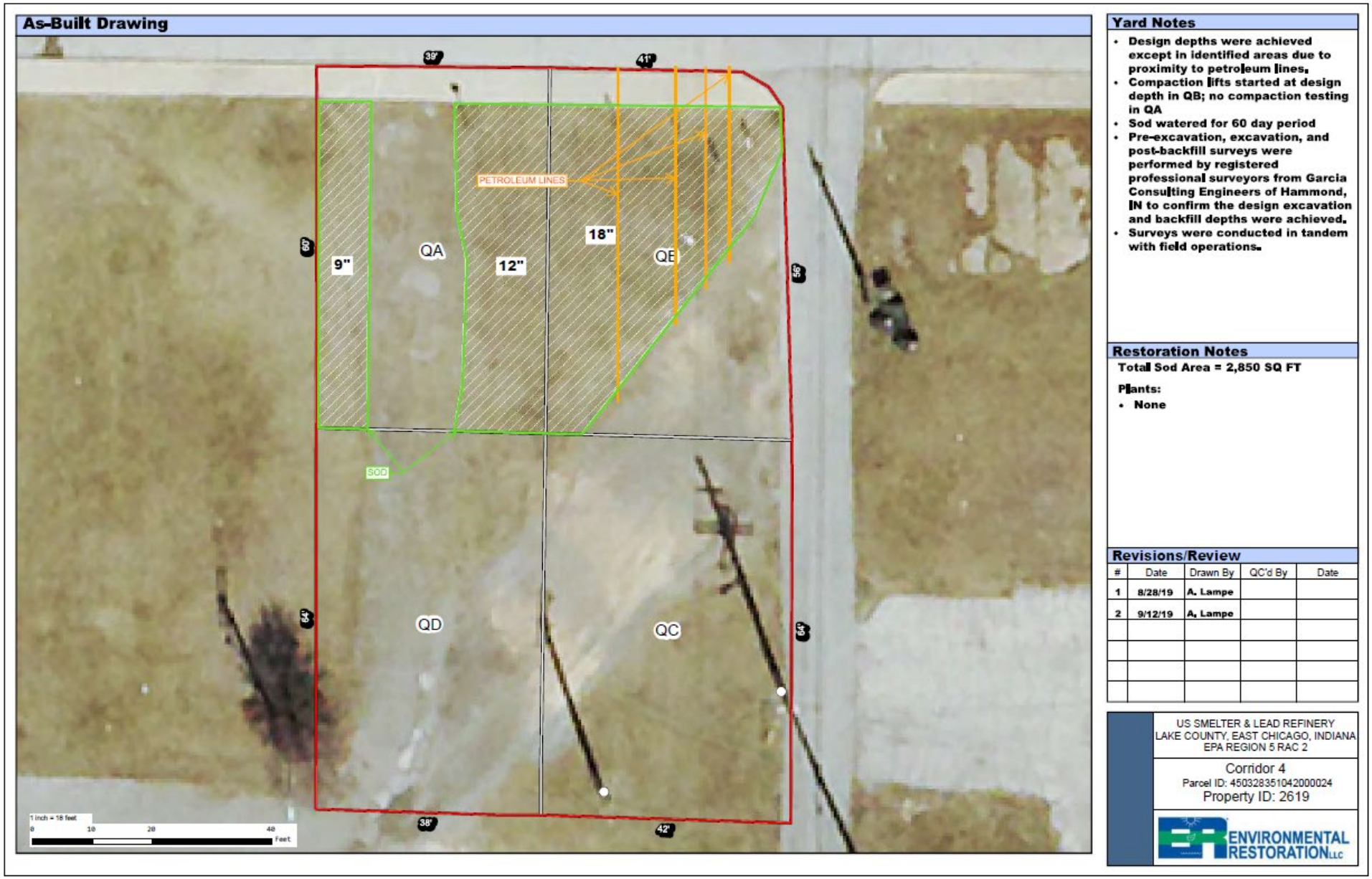
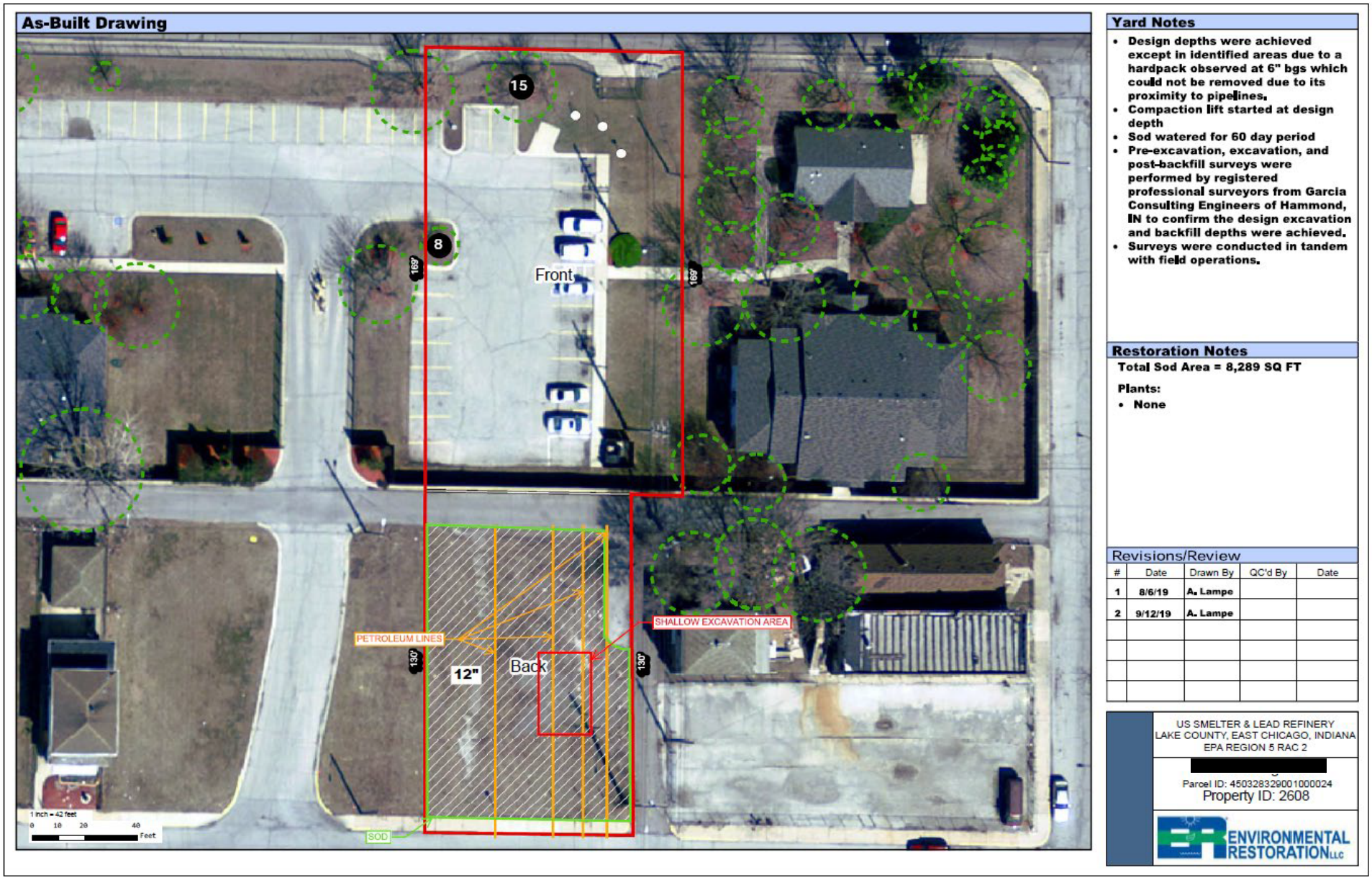


FIGURE 16: Zone 2 Back of Property ID 2608 Remedial Action As-Built Drawing



APPENDIX A: INDIANA STATE LETTER OF CONCURRENCE

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

100 N. Senate Avenue • Indianapolis, IN 46204
(800) 451-6027 • (317) 232-8603 • Fax (317) 233-6647 • www.idem.IN.gov

Mike Braun
Governor

Clint Woods
Commissioner

June 4, 2026

Michael Harris
Director, Superfund and Emergency
Management Division
US EPA Region V
77 West Jackson St.
Chicago, IL 60604

Re: Partial Deletion of the IDA OU1 Property,
U.S. Smelter and Lead (USS Lead) Superfund Site,
East Chicago, IN

Dear Mr. Harris:

Indiana Department of Environmental Management (IDEM) staff have reviewed the draft document *Partial Deletion Justification for the Industrial Development Advantage of East Chicago, LLC (IDA) Operable Unit 1 (OU1) Property of the U.S. Smelter and Lead (USS Lead) Superfund Site from the National Priorities List (NPL)* that was transmitted electronically by US EPA on May 6, 2026. US EPA is proposing to delete the surface and subsurface soils portion of the IDA property located within OU1 of the USS Lead Site from the NPL.

IDEM staff concur with the findings in the document that all required cleanup actions have been implemented and no further action is necessary for these soils, other than periodic inspection and maintenance of the soil cover, continued monitoring and maintenance of the land and groundwater use restrictions on the property, and five-year reviews (FYRs). Consequently, we concur that the surface and subsurface soils portion of the IDA property located within OU1 of the USS Lead Superfund Site meets the requirements for deletion from the NPL. IDEM staff will continue to work with US EPA and the responsible parties to ensure all continuing monitoring and operation and maintenance obligations are met at the Site.

If my staff or I can provide any further assistance in this matter, please let me know.

Sincerely,

Brian Wolff
Assistant Commissioner,
Office of Land Quality

Cc: Karen Cibulskis, US EPA
Jessica Huxhold Fliss, IDEM
Doug Petroff, IDEM

APPENDIX B: NPL PARTIAL DELETION DOCKET REPORTS INDEX FOR 52.54-ACRE COMMERCIAL/INDUSTRIAL PROPERTY LOCATED WITHIN OU1, USS LEAD SUPERFUND SITE

NPL Partial Deletion Docket Reports Index: Initial – 06/10/2026 52.54-Acre Commercial/Industrial Property Located Within Operable Unit 1 (OU1) USS Lead Superfund Site, East Chicago, Indiana Docket EPA-HQ-OLEM-2025-2499, EPA SEMS Special Collection ID No. 05-44395					
EPA Document Region	**Document ID**	**Document Date**	**Document Title**	**Pages**	**SEMS-Public Document URL**
			PARTIAL DELETION JUSTIFICATION *(PENDING)*		
05	2009642	06/04/2026	IDEM STATE CONCURRENCE LETTER – PARTIAL DELETION OF THE IDA OU1 PROPERTY, U.S. SMELTER AND LEAD (USS LEAD) SUPERFUND SITE, EAST CHICAGO, IN	1	https://semspub.epa.gov/src/document/05/2009642
05	2009598	05/16/2026	RESTATEMENT ENVIRONMENTAL RESTRICTIVE COVENANT	133	https://semspub.epa.gov/src/document/05/2009598
05	2009365	04/24/2026	US EPA LETTER RE: CERTIFICATE OF REMEDIAL ACTION COMPLETION U.S. SMELTER AND LEAD REFINERY, INC. – OPERABLE UNIT (OU) 1 MODIFIED ZONE 1	2	https://semspub.epa.gov/src/document/05/2009365
05	709429	04/15/2026	US EPA MEMO RE: MINOR MODIFICATION TO OPERABLE UNIT 1 MODIFIED ZONE 1 REMEDY	9	https://semspub.epa.gov/src/document/05/709429
05	709848	12/22/2025	VERDANTAS - REMEDIAL ACTION COMPLETION REPORT OU1 MODIFIED ZONE 1	21673	https://semspub.epa.gov/src/document/05/709848
05	2009369	11/11/2025	VERDANTAS LETTER RE: MONITORING WELL INSTALLATION, WELL DEVELOPMENT, AND WASTE CHARACTERIZATION FOR THE USS LEAD SUPERFUND PROPERTY, EAST CHICAGO	37	https://semspub.epa.gov/src/document/05/2009369
05	983946	06/29/2023	US EPA LETTER RE: APPROVAL OF REMEDIAL DESIGN	1	https://semspub.epa.gov/src/document/05/983946
05	981973	06/01/2023	IDEA - FILL IMPORT PLAN - USS LEAD OU1 ZONE 1 - REV 2	851	https://semspub.epa.gov/src/document/05/981973

NPL Partial Deletion Docket Reports Index: Initial – 06/10/2026 52.54-Acre Commercial/Industrial Property Located Within Operable Unit 1 (OU1) USS Lead Superfund Site, East Chicago, Indiana Docket EPA-HQ-OLEM-2025-2499, EPA SEMS Special Collection ID No. 05-44395					
EPA Document Region	**Document ID**	**Document Date**	**Document Title**	**Pages**	**SEMS-Public Document URL**
05	981982	05/01/2023	VERDANTAS - CONSTRUCTION QUALITY ASSURANCE / QUALITY CONTROL PLAN	12	https://semspub.epa.gov/src/document/05/981982
05	982008	05/01/2023	VERDANTAS - DESIGN CRITERIA REPORT - OU1 MODIFIED ZONE 1	160	https://semspub.epa.gov/src/document/05/982008
05	981969	03/01/2023	VERDANTAS - SOIL MANAGEMENT PLAN - OU1 MODIFIED ZONE 1	32	https://semspub.epa.gov/src/document/05/981969
05	981971	03/01/2023	VERDANTAS - OPERATION AND MAINTENANCE PLAN - OU1 MODIFIED ZONE 1	35	https://semspub.epa.gov/src/document/05/981971
05	981975	02/01/2023	VERDANTAS - GROUNDWATER MONITORING WELL ABANDONMENT AND INSTALLATION PLAN - OU1 MODIFIED ZONE 1	18	https://semspub.epa.gov/src/document/05/981975
05	979396	12/01/2022	VERDANTAS - RD/RA WORK PLAN - OU1 MODIFIED ZONE 1	59	https://semspub.epa.gov/src/document/05/979396
05	950549	09/16/2022	ADMINISTRATIVE RECORD SITE INDEX - U.S. SMELTER AND LEAD REFINERY SITE - UPDATE 10	4	https://semspub.epa.gov/src/document/05/950549
05	977381	09/02/2022	EPA - SECOND EXPLANATION OF SIGNIFICANT DIFFERENCES (ESD) ZONE 1	13	https://semspub.epa.gov/src/document/05/977381
05	975632	08/08/2022	U.S. EPA - ADMINISTRATIVE SETTLEMENT AGREEMENT FOR REMEDIAL ACTION BY PROSPECTIVE PURCHASER Z1 PPA - FINAL 08/08/2022	75	https://semspub.epa.gov/src/document/05/975632

NPL Partial Deletion Docket Reports Index: Initial – 06/10/2026 52.54-Acre Commercial/Industrial Property Located Within Operable Unit 1 (OU1) USS Lead Superfund Site, East Chicago, Indiana Docket EPA-HQ-OLEM-2025-2499, EPA SEMS Special Collection ID No. 05-44395					
EPA Document Region	**Document ID**	**Document Date**	**Document Title**	**Pages**	**SEMS-Public Document URL**
05	2009367	07/11/2022	ALTA/NSPS LAND TITLE SURVEY FOR: INDUSTRIAL DEVELOPMENT ADVANTAGE OF EAST CHICAGO, LLC	3	https://semspub.epa.gov/src/document/05/2009367
05	968656	08/24/2021	FIRST FIVE-YEAR REVIEW REPORT (SIGNED) - US SMELTER AND LEAD REFINERY - 2021	32	https://semspub.epa.gov/src/document/05/968656
05	2003295	04/07/2021	US EPA LETTER RE: EPA REVIEW AND APPROVAL OF THE 2019 ZONE 1 AND 3 REMEDIAL ACTION CONSTRUCTION REPORT	1	https://semspub.epa.gov/src/document/05/2003295
05	964856	03/22/2021	US EPA LETTER RE: EPA REVIEW AND APPROVAL OF THE 2019 ZONE 2 AND 3 INTERIM INTERIOR SAMPLING AND DUST CLEANING CLOSE OUT REPORT	1	https://semspub.epa.gov/src/document/05/964856
05	974984	02/10/2021	U.S. EPA FIELD GROUP - REPORT ON CALCULATION OF 95% UCL ACTION LEVELS FROM USSL ZONE 1 REPLICATES	9	https://semspub.epa.gov/src/document/05/974984
05	965551	01/13/2021	HULL - DECISION UNIT SAMPLING SOIL DATA PACKAGE FOR USS LEAD OPERABLE UNIT 1, ZONE 1	5656	https://semspub.epa.gov/src/document/05/965551
05	709972	12/15/2020	[REDACTED] PARSONS - ZONE 1 & 3 2019 REMEDIAL ACTION CONSTRUCTION REPORT	676	https://semspub.epa.gov/src/document/05/709972
05	709973	09/01/2020	[REDACTED] PARSONS - INTERIM ZONE 2 REMEDIAL ACTION CONSTRUCTION REPORT	5355	https://semspub.epa.gov/src/document/05/709973
05	962274	09/01/2020	HULL & ASSOC - WORK PLAN FOR DECISION UNIT SOIL SAMPLING	71	https://semspub.epa.gov/src/document/05/962274

NPL Partial Deletion Docket Reports Index: Initial – 06/10/2026 52.54-Acre Commercial/Industrial Property Located Within Operable Unit 1 (OU1) USS Lead Superfund Site, East Chicago, Indiana Docket EPA-HQ-OLEM-2025-2499, EPA SEMS Special Collection ID No. 05-44395					
EPA Document Region	**Document ID**	**Document Date**	**Document Title**	**Pages**	**SEMS-Public Document URL**
05	2002859	06/25/2020	SITE-SPECIFIC JUSTIFICATION FOR THE DELETION OF 671 PROPERTIES IN NEIGHBORHOOD ZONES 2 AND 3 OF OPERABLE UNIT 1 OF THE U.S. SMELTER AND LEAD REFINERY, INC. SUPERFUND SITE EAST CHICAGO, INDIANA FROM THE NATIONAL PRIORITIES LIST	36	https://semspub.epa.gov/src/document/05/2002859
05	956211	05/19/2020	ADMINISTRATIVE RECORD SITE INDEX - U.S. SMELTER AND LEAD REFINERY SITE - UPDATE 9	8	https://semspub.epa.gov/src/document/05/956211
05	955458	03/24/2020	FINAL RECORD OF DECISION (ROD) AMENDMENT (SIGNED) FOR THE USS LEAD SUPERFUND SITE ZONE 1	128	https://semspub.epa.gov/src/document/05/955458
05	709971	11/01/2019	[REDACTED] PARSONS - 2019 ZONE 2 SOIL DISPOSAL COMPLETION REPORT	3176	https://semspub.epa.gov/src/document/05/709971
05	943696	11/01/2018	ADMINISTRATIVE RECORD SITE INDEX - U.S. SMELTER AND LEAD REFINERY SITE - UPDATE 8	2	https://semspub.epa.gov/src/document/05/943696
05	939056	02/14/2018	ADMINISTRATIVE RECORD SITE INDEX - U.S. SMELTER AND LEAD REFINERY SITE - UPDATE 7	4	https://semspub.epa.gov/src/document/05/939056
05	938037	12/19/2017	ADMINISTRATIVE RECORD SITE INDEX - U.S. SMELTER AND LEAD REFINERY SITE - UPDATE 6	8	https://semspub.epa.gov/src/document/05/938037
05	709622	06/15/2016	[REDACTED] SULTRAC - PRE-FINAL REMEDIAL DESIGN	110	https://semspub.epa.gov/src/document/05/709622

NPL Partial Deletion Docket Reports Index: Initial – 06/10/2026 52.54-Acre Commercial/Industrial Property Located Within Operable Unit 1 (OU1) USS Lead Superfund Site, East Chicago, Indiana Docket EPA-HQ-OLEM-2025-2499, EPA SEMS Special Collection ID No. 05-44395					
EPA Document Region	**Document ID**	**Document Date**	**Document Title**	**Pages**	**SEMS-Public Document URL**
05	446987	11/30/2012	RECORD OF DECISION (ROD) (SIGNED) - U.S. SMELTER AND LEAD	81	https://semspub.epa.gov/src/document/05/446987
05	441206	11/30/2012	ADMINISTRATIVE RECORD SITE INDEX - - U.S. SMELTER AND LEAD SITE - OU 1 - REMEDIAL ACTION - UPDATE #2	1	https://semspub.epa.gov/src/document/05/441206
05	441205	09/24/2012	ADMINISTRATIVE RECORD SITE INDEX - U.S. SMELTER AND LEAD SITE - OU 1 - REMEDIAL ACTION - UPDATE 1	1	https://semspub.epa.gov/src/document/05/441205
05	925317	07/10/2012	ADMINISTRATIVE RECORD SITE INDEX - U.S. SMELTER AND LEAD SITE - OU 1 - REMEDIAL ACTION - ORIGINAL (REDACTED)	16	https://semspub.epa.gov/src/document/05/925317