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REGION 5
CHICAGO, IL 60604

March 16, 2026

Proposed Plan for Interim Remedy for Residential Soil in a Portion of OU1
Federated Metals Corp Whiting Superfund Site
Hammond and Whiting, Lake County, Indiana

1 INTRODUCTION

This Proposed Plan presents the preferred interim cleanup method of the U.S. Environmental Protection Agency (EPA) for addressing soil on approximately 160 residential parcels at the Federated Metals Corp Whiting Superfund site ("FMC Site" or "Site") in Hammond and Whiting, Lake County, Indiana. This Proposed Plan also presents background information about the FMC Site; describes the cleanup alternatives considered for addressing residential soil contamination at the Site; and solicits public comment on the alternatives evaluated.

This document is issued by the EPA, the lead agency for Site activities. The Indiana Department of Environmental Management (IDEM) is the support agency. In developing this Proposed Plan, the EPA reviewed and considered information in the Administrative Record, which provides additional detailed information about Site conditions. The EPA will select a remedy for the FMC Site after reviewing and considering all information submitted during the 30-day public comment period.

The public is encouraged to comment on this Proposed Plan. The EPA will accept comments for 30 days from the issuance of this Proposed Plan. EPA will issue a public notice of availability of the Proposed Plan in a major local newspaper of general circulation with a brief summary of the Proposed Plan and announcement of the public comment period. EPA will host a public meeting and hearing on March 26, 2026, to explain the Proposed Plan and all of the alternatives reviewed by the Agency.

Public comments will be accepted in several ways. Members of the public may submit comments by (1) providing a verbal or written comment during the public meeting; (2) using the comment form on the EPA's webpage at: www.epa.gov/superfund/federated-metals; (3) submitting a written comment via email at palomeque.adrian@epa.gov; or (4) submitting a written comment by mail to U.S. EPA Region 5, Attention: Adrian Palomeque, 25063 Center Ridge Road (Mail Code: ECW-W), Westlake, Ohio 44145. Comments must be received or postmarked by the last day of the public comment period, which is April 15, 2026, to be part of the official public record.

The EPA's recommended cleanup plan is **Alternative 3,** which consists of excavating soil to a maximum of 12 inches below the surface if the concentration of lead in the soil is greater than 200 parts per million (ppm). The estimated total cost of Alternative 3 is $9.5 million. EPA anticipates that it would take about 2 years to complete the proposed interim remedial action. This would be an interim remedial action for those residential properties that the EPA sampled prior to 2024 and that exceed the interim cleanup level of 200 ppm for lead in soil in the target interval of 0 to 12-inches below the ground surface. This action is considered interim because additional site characterization is ongoing to determine if additional residential properties are impacted. The interim remedial action will be followed by a final remedial action for all impacted residential properties. These residential properties are collectively called "operable unit 1" (OU1). The final OU1 remedy will identify a final cleanup level for lead in residential soil, incorporating site-specific factors, address all residential parcels in OU1, and address other residential exposure pathways, such as subsurface intrusion or groundwater use, as appropriate. Non-residential media and exposures, such as George Lake[1] sediment and surface water, and soil on industrial/commercial properties, will be addressed as OU2.

The EPA, in consultation with IDEM, will select an interim remedy for addressing residential soil at the Site and publish that decision in a document called an Interim Record of Decision (ROD). The EPA will issue the ROD after reviewing and considering all information submitted during a 30-day public comment period. The ROD will include a Responsiveness Summary, which provides the EPA's responses to public comments on this Proposed Plan. The EPA may modify the preferred alternative or select another response action presented in this Proposed Plan based on new information from the public comments. Therefore, the public is encouraged to review and comment on <u>all</u> the alternatives presented in this Proposed Plan.

The public is encouraged to review the supporting documents for the FMC Site at any of the following locations, or online at www.epa.gov/superfund/federated-metals:

Whiting Public Library
1735 Oliver St.
Whiting, IN 46394
(219) 473-4700

EPA Region 5 Records Center
77 W. Jackson Blvd. (SRC-7J)
Chicago, IL 60604
(312) 353-1063 – Call for appointment

Section 117(a) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and Section 300.430(f) of the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) require the EPA to issue this Proposed Plan for public comment. This Proposed Plan summarizes information that can be found in greater detail in documents contained in the Administrative Record for this Site. The EPA and IDEM encourage the public to review these documents to gain a comprehensive understanding of the Site and activities conducted at the Site to date under the Superfund authority as well as other environmental statutes.

[1] Some sources, such as United States Geological Survey topographic maps, refer to George Lake as "Lake George". In accordance with local preference, this proposed plan uses "George Lake".

2 SITE BACKGROUND

2.1 Site Description

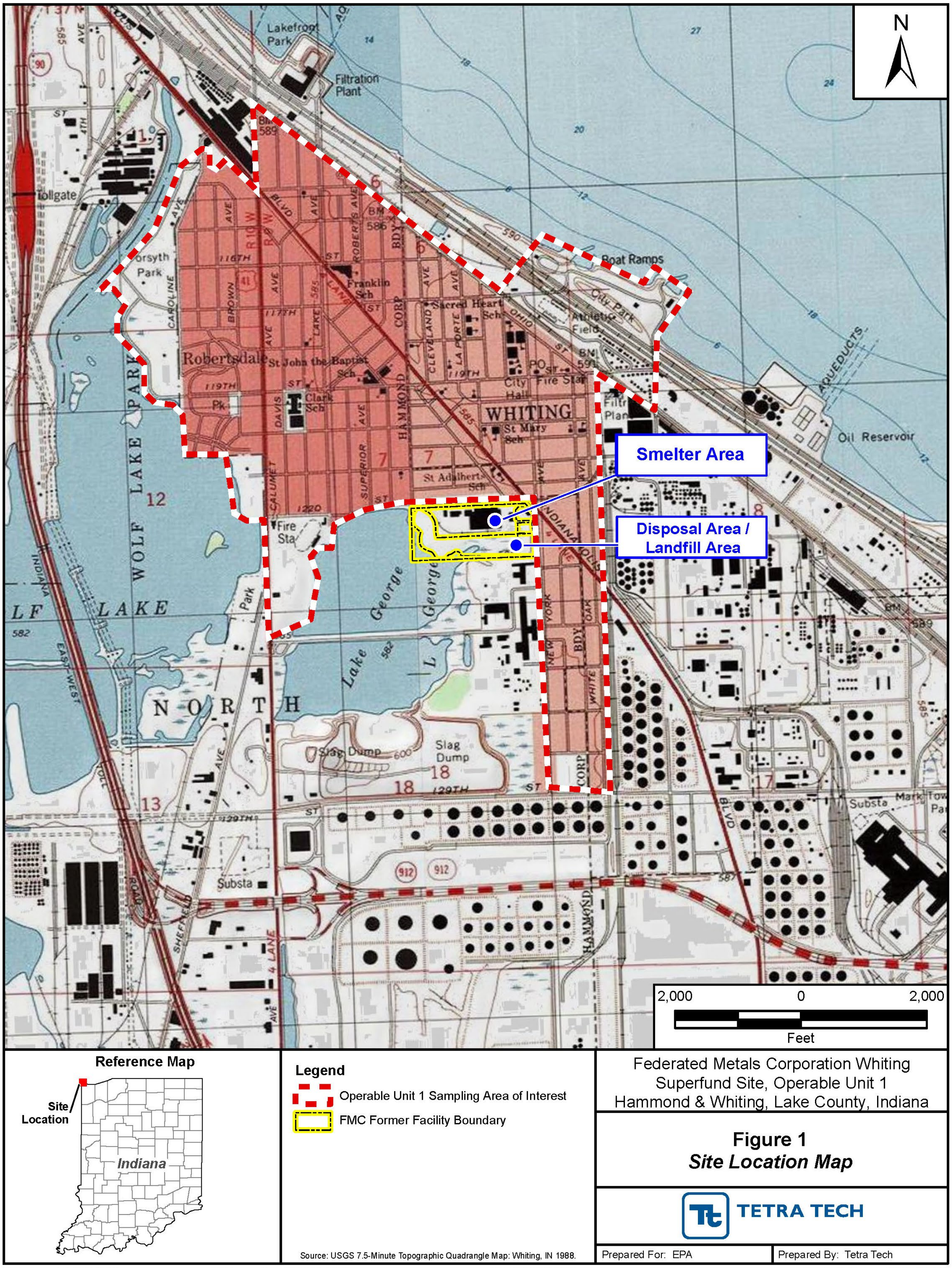
The FMC Site includes the approximately 36-acre area of the former FMC smelting facility, and the surrounding neighborhoods impacted by FMC's operations (Figure 1). Releases of lead and arsenic from the former FMC facility impacted soil on residential and non-residential properties in the surrounding neighborhoods in both cities. Sediments in George Lake, which lies adjacent to the former Federated Metals facility, have also been contaminated with lead released from the waste pile and contaminated soil sources that are located within the facility. After FMC ceased operations, other businesses, including various metals fabricating and reclaiming businesses, have continued to operate at the former FMC facility.

To organize and facilitate cleanup, the EPA has designated residential properties as "OU1". In addition to single- and multi-family dwellings, other areas where young children may be exposed to site-related contaminated media such as vacant lots in residential areas, schools, daycare centers, community centers, playgrounds, parks and other recreational areas, and green ways, are included in the definition of "residential properties" and are considered to be part of OU1. Although not addressed in this early interim remedy, OU1 will investigate all residential exposure pathways, which may include vapor intrusion and/or consumption of groundwater, in addition to exposure to soil. All other Site areas (e.g., industrial and commercial properties, George Lake) are designated as "OU2".

2.2 Site History

The property on which the FMC facility was located was developed sometime prior to 1930 as a Federated Metals Corporation plant. In 1938, the facility expanded and was named the Federated Metals Division of the American Smelting and Refining Company (ASARCO). From 1937 until 1983, the FMC facility operated as a smelting, refining, recovery, and recycling facility for non-ferrous metals including copper, zinc and lead. Operations at the former Federated Metals facility included office work, the storage of raw materials, reclamation of lead dross (impurities that floated on refined lead), foundry operations, white metal (alloying), a large baghouse (dust collector), oil storage, and a charcoal briquetting operation. The charcoal was used as a reducing agent for the smelting of certain ores. During smelting, a flux chemical cleaning agent was used to remove impurities that resulted in the formation of a molten slag. The slag associated with the smelting of lead is high in iron and silica and once hardened can have a glasslike appearance. Federated Metals was disposing of various wastes generated during operations, such as the slag, by discharging these materials to the land and/or nearby waterways, in particular George Lake.

Figure 1: Site and Former Facility Location



2.3 Previous Investigations and Regulatory Actions

2.3.1 Resource Conservation and Recovery Act Corrective Action

In 1992, FMC and its parent corporation, ASARCO, entered into a consent decree in federal court to settle an EPA lawsuit alleging Resource Conservation and Recovery Act (RCRA) violations. In the consent decree, ASARCO agreed to perform corrective actions within the 36-acre facility. The RCRA closure and corrective action project, largely performed between 2001-2006, included demolishing an on-site baghouse; consolidating into the landfill debris, slag, and on-site hazardous wastes dredged from George Lake; and constructing a phyto-cap, a remedy that consists of growing plants and trees on a landfill cover to reduce migration of contaminants into groundwater. Groundwater monitoring to evaluate the groundwater plume and the effectiveness of the landfill cap continues under EPA's RCRA authority, but funds for monitoring will be exhausted within the couple of years, or after approximately two more sampling events.

In 2005, before the RCRA corrective action was complete, ASARCO filed for bankruptcy. In 2009, a bankruptcy Trust was established and funded to finish the EPA-required work at the facility. The Trust completed the landfill cover, installed groundwater monitoring wells, and conducted several rounds of groundwater sampling to confirm the landfill cap was minimizing groundwater contamination. Maintenance and monitoring work at the landfill is ongoing under the oversight of the EPA's RCRA Corrective Action program.

2.3.2 Superfund Removal Action

From December 2016 to November 2018, the EPA Region 5 Superfund Division conducted a removal site assessment to assess the impact of atmospheric deposition of lead and arsenic from the FMC facility and to determine if there was off-site migration of hazardous materials into groundwater. In 2016 and 2017, the EPA collected 474 composite surface soil samples at approximately 238 properties. The soil samples were analyzed using an X-Ray Florescence (XRF) device, and all 0 to 6-inch soil samples were shipped for laboratory analysis. Additional subsurface samples were sent to the lab based on a correlation with analytical and XRF data. The EPA also sampled soil/waste from 10 soil borings from the FMC landfill for a forensic analysis of metal contamination at off-facility properties, and sampled soil gas and groundwater on 10 properties.

Based on the soil results, the EPA identified 33 properties with sensitive populations in residence and had soil lead concentrations over 1,200 ppm. These properties were the subject of a time-critical removal action that was approved in the EPA's April 19th, 2018 Action Memorandum. The EPA performed a time-critical removal action to address these 33 properties during 2018 and 2019. The cleanup work involved excavating more than 10,000 tons of lead-contaminated soil to a maximum depth of 24 inches below the surface, disposing of the soil at an off-site landfill, backfilling excavated areas with clean soil, and otherwise restoring yards to their original condition. Generally, entire yards were addressed from property line to property line, and parkways adjacent to private properties were also addressed.

2.3.3 Other Cleanup and Regulatory Actions

Since August 2021, the city of Hammond has also removed and disposed of lead-contaminated soils on approximately 60 properties in Hammond with soil lead concentrations greater than 400 ppm. Parcels were generally divided into two decision units (DUs), one for the back yard and one for the front yard and parkway; some parcels had only one DU excavated.

Because the EPA's sampling identified potentially unacceptable risk on additional properties that did not meet the criteria for excavation under EPA's Superfund removal program, EPA proposed the Site to the National Priorities List (NPL) in March 2023. EPA conducted a 60-day public comment period regarding the proposal. In September 2023, EPA finalized the Site on the NPL and published a Support Document with responses to the public comments received. The State of Indiana was supportive of the addition of the Site to the NPL.

3 SITE CHARACTERISTICS

3.1 Physical Characteristics and Land Use

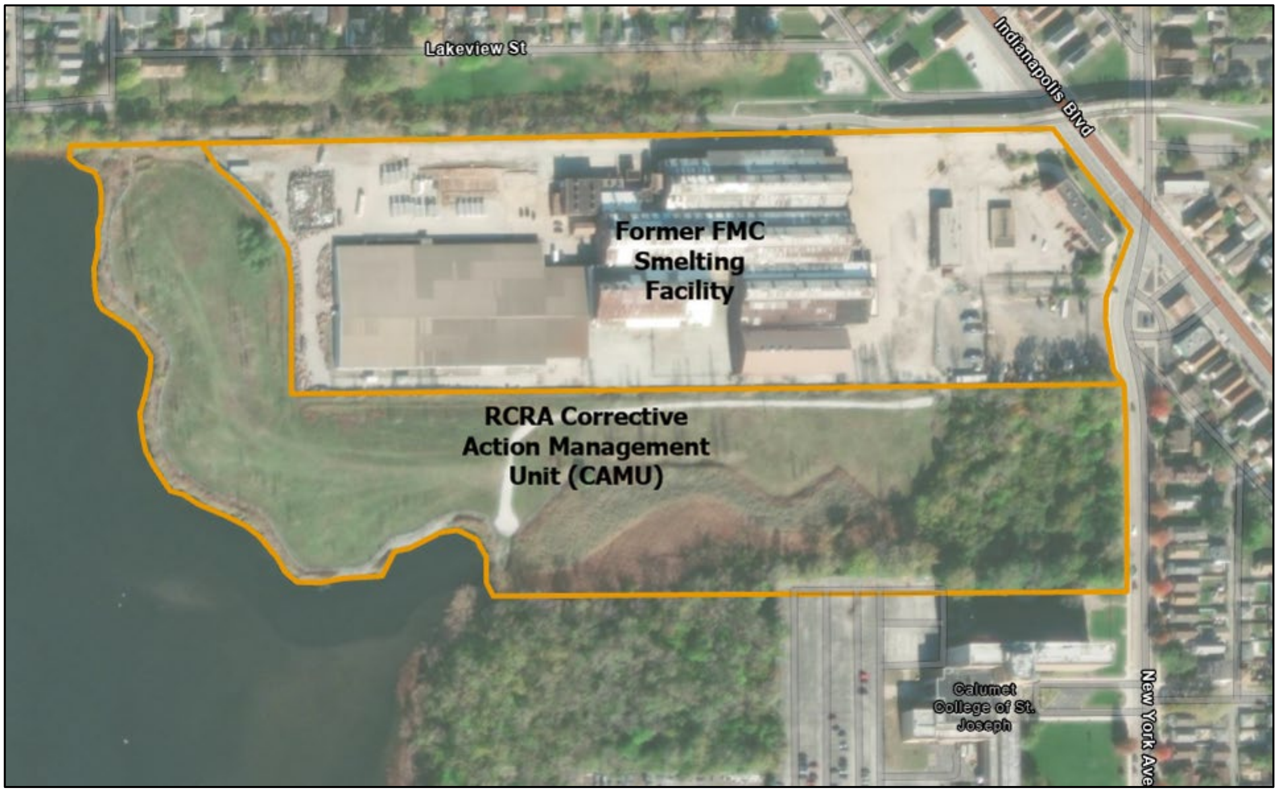
The former FMC facility refers to two areas associated with the former 36-acre FMC smelter plant: an approximately-17-acre former smelter area and an adjacent 19-acre disposal area where the RCRA Corrective Action Management Unit is located (Figure 2). The former facility is within an urbanized area with a mixture of industrial, commercial, and residential properties as well as vacant lots, community centers, playgrounds, parks, churches and schools. North of the former facility, a bike path runs along former railroad tracks associated with FMC's historic operations, while vacant land and Calumet College of St. Joseph are to the south. The residential area of concern is comprised of single family and multi-family homes, and other areas where sensitive populations may be exposed, located primarily north and east of the facility. To the west, the facility is adjacent to the shore of the 148-acre George Lake. Lake Michigan is approximately 0.7 miles northeast of the Site. The current site and surrounding area's land use is reasonably anticipated to remain a mix of industrial, commercial, residential and recreational uses.

3.2 Geology

The U.S. Department of Agriculture classifies surface soils as "Urban Land" throughout most of the Site. During the EPA sampling, soil collected from properties around the Site had varying compositions. The composition for most samples was dark organic, rich soil at the top, with sand, industrial fill, gravel, clay, or mixed soil below. Hydric marsh soils that frequently create ponds and drain very poorly are present south of the Site.

The Site lies in the low-lying Calumet Lacustrine Plain within the Northern Moraine and Lake Region. Unconsolidated deposits are a result of glacial, glaciofluvial, shallow-water coastal and lake, wetland, and wind-blown sedimentation from the Wisconsinan-age glacial advance and subsequent retreat, which formed glacial Lake Chicago. Unconsolidated deposits in the Site area are about 50 feet thick and consist of peat, lake silt and clay, clay-rich till, sand and gravel outwash, and sand beaches and dunes.

Figure 2: Former Facility Layout



The underlying bedrock at the Site is comprised of more than 4,000 feet of sedimentary rock resting on a Precambrian granitic basement. The Devonian Antrim Shale lies at the top of the bedrock sequence, and is underlain by successively older limestone, dolomite, sandstone, and shale units. The Site lies on the Kankakee Arch, in which consolidated units form a gentle saddle-shaped structure that dips to the northeast towards the Michigan Basin, and to the southwest to the Illinois Basin.

3.3 Nature and Extent of Contamination

From 2016-2023, the EPA collected composite soil samples at 240 residential and non-residential properties (Figure 3). The main area of sampling was directly north of the former Federated Metals facility. Most properties were divided into two or more DUs with one or more composite samples collected from each DU. Of the 240 properties sampled, approximately 215 parcels had concentrations exceeding 200 ppm, and of those 215 parcels, approximately 160 residential properties have not been remediated by either the EPA or the City of Hammond. An estimated 3,800 residential properties are in the broader area of potential concern (shown as light and dark pink in Figure 1), but these properties have not been sampled and will be addressed in a future final remedial action for OU1.

Figure 3: Residential Sample Locations, Excavated Areas, and General Area of Observed Contamination above 200 ppm

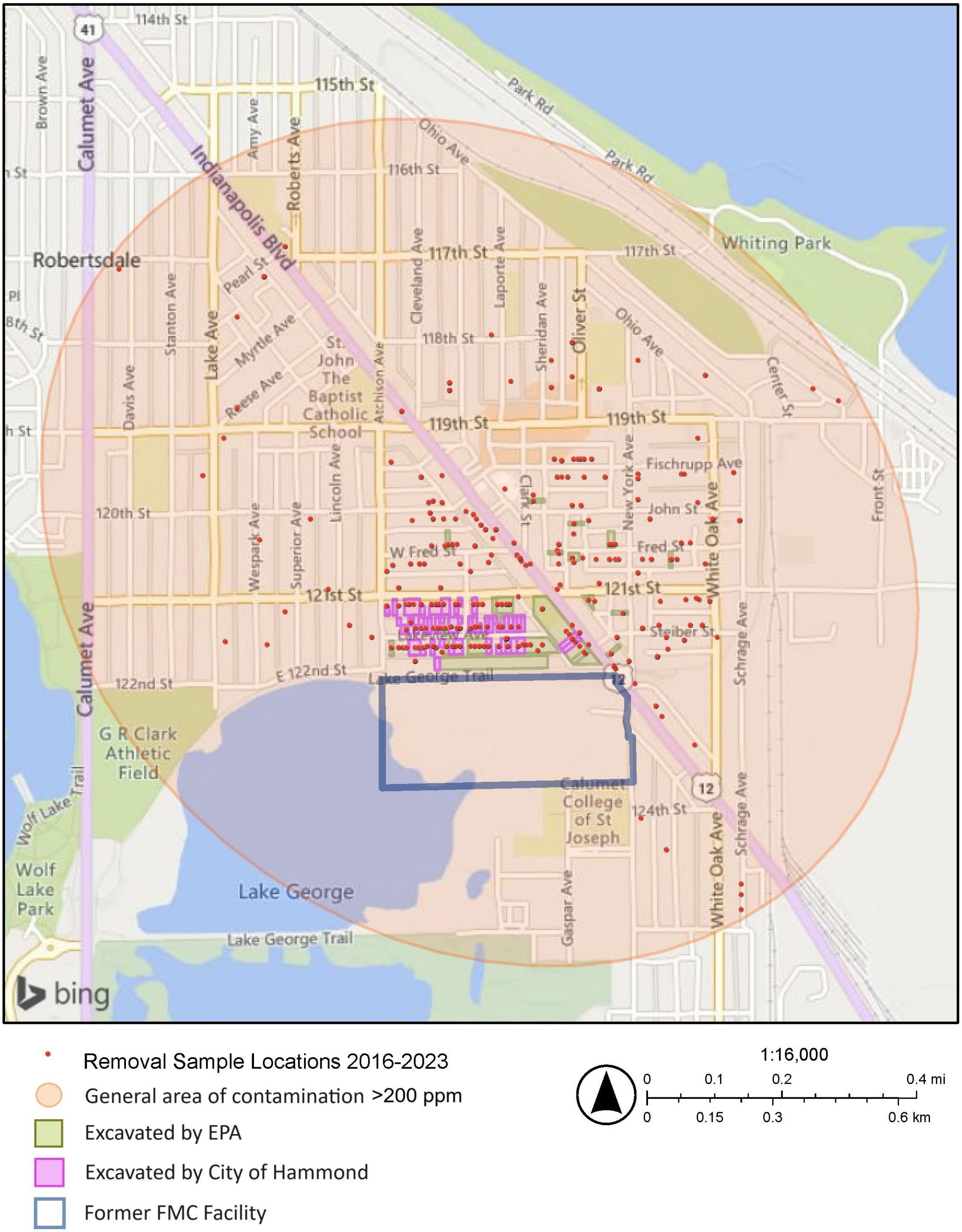


Table 1 and Table 2 summarize lead concentrations by depth in soil samples from laboratory analysis and XRF analysis, respectively. Very few samples below the 0 to 6 inch interval were analyzed in the laboratory, so estimates of the extent of contamination below 6 inches rely on the XRF data in Table 2. Generally, exceedances of the 200 ppm screening level are more common in shallower intervals than deeper intervals. The rate of exceedance of the 200 ppm screening level in the 0 to 6 inch and 6 to 12 inch intervals is 74% and 78%, respectively. However, the exceedance rate drops in subsurface intervals to 56% in the 12 to 18 inch interval, and 34% in the 18 to 24 inch interval. The threats to human health posed by these concentrations are described in Section 5.1.

Table 1: Bulk Soil Lead Concentrations in Composite Samples by Laboratory Analysis, 2016-2023

Sampling Depth	Total # Samples	# Samples >200 ppm	% Samples >200 ppm	Lead Concentration (mg/kg)		
				Minimum	Median	Maximum
0-3”	1	1	100%	3,110	3,110	3,110
0-6”	432	380	88%	19	535	2,960
6-12”	7	4	57%	101	230	2,990
12-18”	7	3	43%	37	183	3,540
18-24”	7	3	43%	12	170	2,700

Table 2: Bulk Soil Lead Concentrations in Composite Samples by XRF, 2016-2017

Sampling Depth	Total # Samples	# Samples >200 ppm	% Samples >200 ppm	Lead Concentration (mg/kg)		
				Minimum	Median	Maximum
0-6”	103	76	74%	6.3	431	2,575
6-12”	101	79	78%	37	453	4,427
12-18”	102	57	56%	16	227	3,250
18-24”	102	35	34%	5.5	113	14,222

The highest subsurface concentration is associated with a parcel immediately north of the smelting facility known as “Former Outlot A.” Former Outlot A is currently owned by the City of Hammond. This parcel may have received fill or waste from the former facility and is not representative of most residential properties. The XRF data indicate that median concentrations decrease with depth, but subsurface soil lead concentrations still generally exceed the 200 ppm screening level. The ubiquity in northwest Indiana of “urban land”, in which non-native materials have frequently been used as fill, suggests that in addition to the aerial deposition pathway, lead-contaminated fill may be a contributing source to subsurface concentrations on residential parcels in OU1. Although fill may have come from multiple industrial sources in the area, the EPA determined through forensic analysis that FMC is largely responsible for the soil contamination in OU1. The EPA’s forensic evaluation of landfill samples and residential soil samples indicated that the landfill waste and residential soil samples are likely to have the same or a similar source. This indicates that the historic FMC operations (over a period of about 46 years) were likely a substantial source of the lead released to the soils in the surrounding neighborhoods.

The EPA's removal site assessment also sampled groundwater and soil gas. The EPA found no groundwater exceedances above the EPA's Removal Management Levels for tap water, based on a target risk level of 10^{-4} for carcinogens and a hazard quotient or hazard index of three (3) for non-carcinogens. Analytical results of 10 soil gas samples collected indicated that five samples had exceedances of at least one chemical above the EPA's Regional Screening Levels corresponding to an excess lifetime cancer risk of 10^{-6} and a noncancer hazard quotient of 0.1 for residential air. While soil gas and groundwater are not addressed in this interim remedy, the EPA is performing a remedial investigation and risk assessment for OU1 that will address all media and exposure pathways. The final OU1 ROD will select a protective remedy for all Site-related contaminants and exposure pathways.

3.4 Principal Threat Waste

The NCP establishes an expectation that the EPA will use treatment to address the principal threat posed by a site wherever practicable. Principal threat wastes are those source materials considered to be highly toxic or highly mobile which generally cannot be contained in a reliable manner, or would present a significant risk to human health or the environment should exposure occur. The NCP (40 CFR 300.430 (a)(1)(iii)(A)) indicates principal threats are most likely to include liquids, areas contaminated with high concentrations of toxic compounds, and highly mobile materials. Low-level threat wastes are those source materials that generally can be reliably contained and that would present only a low risk in the event of release. Low-level threat wastes include source materials that exhibit low toxicity, low mobility in the environment, or are near health-based levels.

EPA has not identified any principal threat wastes at the Site. Instead, EPA considers the contaminated soil and the process residue source materials low-level threat waste materials that can be reliably contained.

4 SCOPE AND ROLE OF THE ACTION

The EPA's strategy for cleaning up the Site is to first address unacceptable risks to human health and the environment posed by lead-contaminated soil on the approximately 160 residential properties, as an interim remedial action for OU1. The final remedial action for OU1 will establish a final cleanup level and address soil on additional residential properties that have not yet been sampled. After the remedial investigation for OU1, the final remedy will also address any other contaminants and media in OU1 that EPA finds pose an unacceptable risk to residents. Non-residential media and exposure pathways will be addressed separately as OU2.

The proposed action for the residential properties is considered early and interim because it addresses the known threats to human health. The full assessment of contamination and risks to human health is incomplete. The EPA is developing a remedial investigation that will fully screen contaminants of potential concern (COPCs), define the extent and magnitude of contamination, and calculate threats to human health and the environment. The final remedy will be comprehensive and protective for all residential exposures in OU1.

5 SUMMARY OF SITE RISKS

5.1 Human Health Risks

The lead contamination in residential soil at the FMC Site presents a threat to human health. EPA is using a preliminary remediation goal (PRG) of 200 milligrams/kilogram (mg/kg), or parts per million (ppm), for lead in soil at residential properties in accordance with the October 16, 2025, EPA memorandum *Residential Lead Directive for CERCLA Sites and RCRA Hazardous Waste Cleanup Program Facilities*[2](2025 Lead Directive). As outlined in the 2025 Lead Directive, EPA's national lead policy specifies the use of a regional screening level (RSL) of 200 ppm for lead in residential soil and a target children's blood lead level (BLL) of 5 micrograms per deciliter (µg/dL) to develop PRGs.

The EPA uses the Integrated Exposure Uptake Biokinetic (IEUBK) Model for Lead in Children as a risk assessment tool to support environmental cleanup decisions at residential sites. The IEUBK Model considers exposure to lead from several sources and routes, and correlates blood lead levels in young children (birth to 7 years of age) to lead concentrations in environmental media. EPA calculated a new risk-based PRG for lead using Integrated Exposure Uptake Biokinetic version 2 (IEUBKv2), based on default values. The results indicate that the interim risk-based residential soil PRG is 200 ppm. Therefore, the EPA is using 200 ppm as a screening level for evaluating the potential for unacceptable exposure to lead-contaminated soil at the FMC Site.

Residential exposure to contaminants in soil occurs through incidental ingestion, inhalation, and dermal contact (collectively, "direct contact"). According to the Agency for Toxic Substances and Disease Registry (ATSDR), the public is generally exposed to only the top few inches of soil. ATSDR defines surface soil as the top 0 to 3 inches.[3] With respect to risk assessment, the top inch of soil best represents current direct contact exposure to contaminants. As shown in Table 1, at least 88% of the shallowest (0-3 inches and 0-6 inches) residential composite samples collected by the EPA and analyzed by laboratory methods exceeded the screening level of 200 ppm for lead. The maximum lead concentration at these surficial depths was 3,110 ppm, which the IEUBK model correlates to a BLL of 14.5 µg/dL. This level indicates a significant potential threat to the health of child residents from soil lead attributed to the Site. Lead serves as the sole basis for taking this interim remedial action to address residential soil at the Site. Lead is the only COPC for this interim action.

While the top one to three inches of soil is the most significant source for current exposure to contaminants, exposure to contaminants in soil below the top inch may still occur over the long term. Soil as deep as 12 inches below grade can be frequently brought to the surface through typical residential activities such as gardening, landscaping, and digging by small children and pets. This is consistent with guidance from ATSDR that exposures from subsurface soil could occur from activities such as gardening, digging, and construction.[4] As shown in Table 2, 78% of the properties

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[2] https://www.epa.gov/superfund/lead-superfund-sites-guidance#25directive
[3] https://www.atsdr.cdc.gov/pha-guidance/toolbox/key_contamination_information.html
[4] https://www.atsdr.cdc.gov/pha-guidance/resources/Data-Needed-for-the-PHA-Process-508.pdf

sampled by XRF exceeded the 200 ppm screening level for lead in the 6 to 12-inch interval, which indicates significant lead contamination to this depth.

XRF analyses of samples below 12 inches below grade showed exceedances of the 200 ppm screening level in 56% of the parcels at the 12 to 18-inch interval, and 34% of the parcels at the 18 to 24-inch interval (see Table 2). These analyses indicate decreasing but still widespread elevated lead concentrations in subsurface soil. At-grade vegetable gardening is a residential activity that could cause exposure to soil in the 12 to 24-inch interval. Other residential activities that disturb soil at this depth, such as the planting of shrubs and trees with very large root balls, excavating for an underground pool or utilities, and excavation of a basement for new construction, are infrequent. These types of activities are rarely performed by residents, and are not performed by children, who are the most vulnerable to health impacts from lead. Although these subsurface soil disturbances could result in mixing of subsurface soil with surface soil, the relatively infrequent nature and low volumes of subsurface soil brought to the surface supports the conclusion that there is a substantially lower residential exposure to subsurface soil than there is residential exposure to the 0 to 12-inch interval.

5.2 Ecological Risks

This interim remedial action does not address ecological receptors and does not consider the presence of ecological risks. Ecological risks on urban residential properties are unlikely but will be evaluated in the remedial investigation and feasibility study for OU1 and addressed in the final OU1 ROD, if necessary. Ecological risks in George Lake and non-residential properties will be considered in the remedial investigation and feasibility study for OU2.

5.3 Conclusion

EPA has concluded that implementation of the Preferred Alternative identified in this Proposed Plan, or another active measure considered in the Proposed Plan, is necessary to protect public health or welfare or the environment from actual or threatened releases of pollutants or contaminants from the Site which may present an imminent and substantial endangerment to public health or welfare.

6 REMEDIAL ACTION OBJECTIVE

Remedial action objectives (RAOs) describe what a proposed site cleanup is expected to accomplish. RAOs specify the exposure routes and receptors to be addressed by the proposed remedial action and the target level of protection to be achieved.

EPA has identified one RAO for the interim remedy for OU1:

- Prevent residential direct contact exposure (incidental ingestion, inhalation, and dermal contact) to soil with lead concentrations in excess of 200 ppm.

6.1 Preliminary Remediation Goal for Lead in Residential Soil

Preliminary Remediation Goals (PRGs) are proposed cleanup levels that specify the chemical concentration for achieving the RAO. EPA is selecting a lead concentration of 200 ppm as the surface soil PRG for this interim action. As described in Section 5.1, the EPA has identified a target BLL of 5 µg/dL as the appropriate protective BLL endpoint for screening purposes at the FMC Site. Using default inputs to the IEUBK model, this target BLL for lead corresponds to a soil lead concentration of 200 ppm. Selecting a PRG of 200 ppm for this interim remedy will allow the EPA to quickly address residential properties with known high levels of lead.

While the interim remedy is being performed, the EPA will also be collecting information on background concentrations and bioavailability of lead, as described below, to calculate a final cleanup level. The EPA will identify the final RAO and soil cleanup level in a final OU1 Record of Decision. However, the fundamental remedial approach of excavating lead-contaminated surface soil, and using institutional controls (ICs) with ongoing outreach to notify future homeowners of contamination remaining in the subsurface, is not expected to change. Therefore, this interim remedy is consistent with the expected final remedy.

The 200 ppm interim PRG is greater than the Site-specific background concentration of 110 ppm calculated by IDEM in its Expanded Site Inspection Report. However, this background concentration is based on a relatively small data set that included two apparently distinct types of properties: parks and public lands that have relatively low lead concentrations and residential properties that have higher concentrations. To address the resulting uncertainty in the background concentration, the EPA is collecting as part of the remedial investigation for OU1 additional background samples and will refine the Site-specific background lead concentration before selecting a final cleanup level for lead. The EPA does not expect the final background lead concentration to exceed 200 ppm.

The 200 ppm interim PRG also assumes a default value of 60% for relative bioavailability. Relative bioavailability measures how much of the lead in the soil is available for absorption by the body. The EPA has not conducted a study of the bioavailability of lead in Site soils, and the actual Site-specific value may be less than or greater than the default value. However, the range of lead bioavailability seen previously in Region 5 soils suggests that the Site-specific value is likely to differ from the default value by less than 10%. A difference of less than 10% between the Site-specific value and the default value is not likely to result in a significant change to the target lead concentration. Selection and application of a final surface soil cleanup level may incorporate the Site-specific bioavailability value determined during the remedial investigation.

7 SUMMARY OF REMEDIAL ALTERNATIVES

The EPA is considering three alternatives for addressing residential lead-contaminated soil in OU1. The alternatives are summarized below. Each alternative is evaluated against the EPA's nine criteria as described in Section 8.

Table 3: Summary of the Remedial Alternatives

Alternative	Description of Alternative
1	No further action
2	Excavation of soil exceeding 200 ppm to a maximum depth of 6 inches, minimum of 12 inches of clean soil cover, institutional controls
3	Excavation of soil exceeding 200 ppm to a maximum depth of 12 inches, backfill with clean soil, institutional controls

7.1 Common Elements

As described in Section 5.1, EPA generally recommends a minimum of 12 inches of clean soil for protection of residential exposure through direct contact. The active alternatives described below in Sections 7.3 and 7.4 use a combination of excavation of contaminated soil, along with backfill and/or additional supplemental fill with clean soil, to address the top 12-inch interval. Due to the lower residential exposure to soil below a 12-inch depth, the active alternatives call for ICs to identify the presence of contaminated subsurface soil and require soil management practices during any utility or construction work that may disturb the subsurface. However, to ensure a protective remedy, if EPA determines that certain areas are likely to have frequent or significant soil disturbance below 12 inches, such as at-grade vegetable gardens, EPA may extend excavation to a depth below 12 inches in those areas.

7.2 Cleanup Alternative 1 – No Further Action

Estimated Capital Cost: $0
Estimated O&M Cost: $0
Estimated Present Worth Cost (30 years): $0
Estimated Construction Timeframe: Not Applicable
Estimated Time to Achieve RAOs: Not Applicable

The EPA includes a "No-Action" Alternative as a basis for comparison to the other cleanup alternatives. In this alternative, no actions to address contaminated soil on residential properties would be performed.

7.3 Cleanup Alternative 2 – Excavation of soil exceeding 200 ppm lead to a maximum 6-inch depth; minimum of 12 inches of clean soil cover, institutional controls; restoration; and institutional controls

Estimated Capital Cost: $7.8M
Estimated O&M Present Worth Cost (30 years): $0.15M
Estimated Present Worth Cost: $7.9M
Estimated Construction Timeframe: 2 years
Estimated Time to Achieve RAOs: 2 years

Alternative 2 involves the following construction activities:

- Excavation of soil exceeding the surface soil PRG up to a maximum depth of 6 inches;

- Disposal of the excavated soil at an off-site, Subtitle D landfill;

- Placement of a visual barrier, such as orange construction fencing or landscape fabric, if contaminated soil is identified below the base of excavation;

- Backfilling the excavated areas with clean topsoil, and placement of up to six additional inches of clean topsoil, to achieve a minimum 12-inch depth of clean soil; and

- Restoration of vegetation as close as possible to its pre-remedial condition.

Because the soil cover would raise the grade of most yards by six inches, covered areas would be sloped to meet the current elevation at the edges of the covered areas and at existing structures.

After a yard is restored, measures will be taken to maintain the vegetation until it is established. For the purpose of cost estimating, Alternative 2 assumes 30 days of watering, fertilizing, and cutting, but vegetation maintenance could take the form of a stipend to homeowners to offset their increased water bill for maintaining the vegetation. After an initial time period to establish the vegetation, property owners would be responsible for the maintenance of their own yards.

Alternative 2 requires implementing ICs on those properties that do not meet the 200 ppm cleanup level below the base of excavation in order to protect the integrity of the clean soil cover and to prevent exposure to contaminated soil at depth. The goals of the ICs are to promote awareness in the community of the presence of subsurface contamination, encourage practices that keep the clean soil cover intact, and promote soil management best practices for subsurface work (utility maintenance, foundation work, etc.) that minimize disturbance to the clean soil layer and appropriately manage contaminated soil if contaminated soil is disturbed. To accomplish this, the remedy will employ multiple IC types and robust long-term stewardship procedures in a layered approach. A site-specific Institutional Control Implementation and Assurance Plan (ICIAP), prepared during remedial action, will specify IC mechanisms and long-term stewardship procedures to ensure ongoing protectiveness. In addition to regular maintenance and monitoring of ICs, the ICIAP may include the following:

- Recording notices of contamination filed on property deeds to document the existence of contamination remaining at depth and inform future property owners.

- Registering properties and creating an environmental advisory area in the IDEM IC Registry and IC ArcGIS mapping layer.[5]

- Performance of ongoing community education and outreach efforts.

- Enrolling property in the Indiana "call-before-you-dig" program.

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[5] See https://www.in.gov/idem/cleanups/investigation-and-cleanup-programs/institutional-controls/ and https://www.in.gov/idem/resources/whats-in-my-neighborhood/.

- Providing soil management best practices for future utility or construction work.

Based on the XRF data presented in Table 2, the EPA estimates that 96%[6] of the 160 properties to be addressed are likely to exceed the lead cleanup level below the 6-inch base of excavation, and would need ICs and long-term stewardship during O&M.

Because contaminated soil exceeding the surface soil PRG would remain below the base of excavation on some properties, the EPA would perform five-year reviews of the remedy. Five-year reviews are required by CERCLA since impacted soil would be left in place above levels that allow for unlimited use and unrestricted exposure.

7.4 Cleanup Alternative 3 – Excavation of soil exceeding 200 ppm lead to 12 inches; backfill and restoration; and institutional controls

Estimated Capital Cost: $9.4M
Estimated O&M Present Worth Cost (30 years): $0.15M
Estimated Present Worth Cost: $9.5M
Estimated Construction Timeframe: 2 years
Estimated Time to Achieve RAOs: 2 years

Alternative 3 involves the following construction activities:

- Excavation of soil exceeding the interim soil PRG up to a maximum depth of 12 inches;
- Disposal of the excavated soil at an off-site Subtitle D landfill;
- Placement of a visual barrier, such as orange construction fencing or landscape fabric, if contaminated soil is identified below the base of excavation;
- Backfilling of excavated areas with up to 12 inches of clean top soil; and
- Restoration of vegetation as close as possible to its pre-remedial condition.

After a yard is restored, measures will be taken to maintain the vegetation until it is established. For the purpose of cost estimating, Alternative 3 assumes 30 days of watering, fertilizing, and cutting, but vegetation maintenance could take the form of a stipend to homeowners to offset their increased water bill for maintaining the vegetation. After an initial time period to establish the vegetation, property owners would be responsible for the maintenance of their own yards.

Alternative 3 includes implementing and performing long-term stewardship of ICs on properties that do not meet the PRG below the base of excavation, as described in Alternative 2. Based on the XRF dataset summarized in Table 2, the EPA estimates that 68%[7] of the 160 properties to be

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[6] Of the 76 DUs for which XRF data showed an exceedance of 200 ppm in the 0-12” interval, 73, or 96%, exceeded 200 ppm below 6 inches below ground surface.
[7] Of the 76 DUs for which XRF data showed an exceedance of 200 ppm in the 0-6” interval, 52, or 68%, exceeded 200 ppm below 12 inches below ground surface.

addressed are likely to exceed the lead cleanup level below the 12-inch base of excavation, and would need ICs and long-term stewardship during O&M.

Because contaminated soil exceeding the surface soil PRG will remain below the base of excavation on some properties, the EPA would perform five-year reviews of the remedy. Five-year reviews are required by CERCLA since impacted soil would be left in place above levels that allow for unlimited use and unrestricted exposure.

8 EVALUATION OF ALTERNATIVES

The EPA uses nine criteria to evaluate remedial alternatives to select a remedy:

Table 4: Evaluation Criteria for Superfund Remedial Alternatives

Threshold Criteria
1. Overall Protection of Human Health and the Environment determines whether an alternative eliminates, reduces, or controls threats to the public health and the environment through institutional controls, engineering controls, or treatment**.**
2. Compliance with Applicable or Relevant and Appropriate Requirements (ARARs) evaluates whether the alternative meets Federal and State environmental statutes, regulations, and other requirements that pertain to the site, or whether a waiver is justified.
Balancing Criteria
3. Long-term Effectiveness and Performance considers the ability of an alternative to maintain protection of human health and the environment over time.
4. Reduction of Toxicity, Mobility, or Volume of Contaminants through Treatment evaluates an alternative’s use of treatment to reduce the harmful effects of principal contaminants, their ability to move in the environment, and the amount of contamination present.
5. Short-term Effectiveness considers the length of time needed to implement an alternative and the risks the alternative poses to workers, residents, and the environment during implementation.
6. Implementability considers the technical and administrative feasibility of implementing the alternative, including factors such as relative availability of goods and services.
7. Cost includes estimated capital and annual operations and maintenance costs, as well as present worth cost. Present worth cost is the total of an alternative over time in today’s dollar value. Cost estimates are expected to be accurate within a range of +50% to -30%.

Modifying Criteria
8. State Acceptance considers whether the State agrees with the EPA's analyses and recommendations, as described in the remedial investigation and feasibility study, and the Proposed Plan.
9. Community Acceptance considers whether the local community agrees with the EPA's analyses and preferred alternative. Comments received on the Proposed Plan are an important indicator of community acceptance.

8.1 Comparison of Remedial Alternatives

The comparison of the cleanup alternatives with respect to the nine criteria is discussed below.

8.1.1 Overall Protection of Human Health and the Environment

This criterion assesses how well the alternatives achieve and maintain protection of human health and the environment. It draws on the assessments conducted under other evaluation criteria, especially long-term effectiveness, short-term effectiveness, and permanence.

Alternative 1 would provide no risk reduction and would not be protective of human health and the environment. Because it does not meet this threshold criterion, it is not eligible for selection and is not discussed with respect to the other selection criteria.

Alternatives 2 and 3 both provide overall protectiveness of human health and the environment by removing surface soil from residential properties and preventing exposure to contaminated soil below the depth of excavation. The long-term protectiveness of both alternatives relies on ICs and the integrity of the clean soil cover. Both alternatives have some risk of impacts to the local community from traffic and dust created during the remedial action but these risks can be managed by incorporating best management practices.

8.1.2 Compliance with ARARs

This criterion assesses how the alternatives comply with promulgated federal and state ARARs. Only state requirements that are more stringent than federal requirements are ARARs. There are three different categories of ARARs: chemical-specific, action-specific, and location-specific ARARs. "To Be Considered" (TBC) requirements are non-promulgated criteria, advisories, or other documents that may be useful to determine what is protective or in developing Superfund remedies.

Potential ARARs and TBCs are identified in Attachment 1. There are no chemical-specific ARARs, so the RAO and PRGs for this action were developed in consideration of guidance in the October 16, 2025 EPA memorandum *Residential Lead directive for CERCLA Sites and RCRA Hazardous Waste Cleanup Program Facilities*.[8] The active remedial alternatives (2 and 3) would have action- and

[8] https://semspub.epa.gov/src/document/HQ/100003761

location-specific ARARs, such as requirements for the handling and disposal of hazardous waste, and controlling fugitive dust and surface water discharge from the work site. Implementation of both Alternative 2 and Alternative 3 would comply with ARARs.

8.1.3 Long-term Effectiveness and Permanence

The factors for this criterion include the magnitude of risk associated with residual contamination after the conclusion of remedial activities, and the adequacy and reliability of the remedy. Alternatives 2 and 3 would both reduce the risks from exposure to lead-contaminated soil by removing surface soil from the site and safely disposing of it, and by backfilling properties with clean soil.

Alternative 2 would require an additional six inches of topsoil on most properties to meet the 12-inch minimum depth of clean soil. However, areas that are near structures, trees, pavement, or other obstacles to excavation cannot be raised above a slope that can resist erosion and provide for proper drainage of stormwater away from structures. Because the yards in this dense urban area are relatively small (as narrow as 25 feet wide), a significant areal extent of each parcel would have less than 12 inches of clean soil in Alternative 2. In contrast, Alternative 3 would not raise the overall surface grade, so only areas immediately adjacent to tree roots and structures would have less than 12 inches of clean soil.

Both alternatives would leave soil that do not meet the surface soil PRG below the base of excavation on some properties. These properties will need ICs and ongoing monitoring and maintenance of the soil cover to prevent exposure. Alternative 2 will need ICs on an estimated 96% of properties addressed, while Alternative 3 would need ICs on only an estimated 68% (see Table 5). The monitoring of IC effectiveness is a routine component of many residential soil remedies and provides long-term effectiveness for those properties.

Table 5: Comparison of Factors Considered in the Long-Term and Short-Term Protectiveness Criteria

Alternative	2	3
Maximum excavation depth, inches	6	12
Estimated % properties that would need ICs	96%	68%
Estimated # properties with/without ICs	153/7	110/50
Estimated soil excavation volume (cubic yards)	3,889	7,544
Estimated construction time (years)	2	2
Estimated time to meet RAOs (years)	2	2

Alternative 3 has greater long-term protectiveness than Alternative 2 because it would have 12 inches of clean soil on a greater area of each parcel and be more resistant to erosion. Alternative 3 fully meets the long-term protectiveness criterion, while Alternative 2 partially meets the long-term protectiveness criterion.

8.1.4 Reduction of Toxicity, Mobility, or Volume of Contaminants through Treatment

None of the proposed alternatives reduce the toxicity, mobility, or volume of the soil contaminants through treatment. The large volume of relatively low-level lead-contaminated soil in OU1 does not lend itself to any cost-effective treatment. Instead, protectiveness is achieved by removing contamination, disposing of contamination in a permitted disposal facility, and maintaining a clean interval of soil from 0 to 12 inches below the surface.

8.1.5 Short-term Effectiveness

Short-term effectiveness considers the amount of time until the remedy is constructed, as well as the potential adverse effects to the community, workers, and the environment during remedy implementation. The EPA estimates a construction time of two years to excavate the properties addressed in this interim action (Table 5). Alternative 3 would excavate approximately 52% more soil than Alternative 2, which marginally increases the risk of impacts to workers and the community from fugitive dust and truck and heavy equipment traffic. However, measures to control these risks are routine in excavation projects and are expected to mitigate the risks such that both Alternatives 2 and 3 partially meet this criterion.

8.1.6 Implementability

Assessing the ease or difficulty of implementing an alternative may include: (1) its technical feasibility or challenges associated with its construction and operation, the ease of undertaking additional actions, and the ability to monitor the remedy; (2) its administrative feasibility or non-technical challenges to implementation, such as the need for approvals or permits and the associated time and effort; (3) the availability of technical services and materials; and (4) the availability of necessary equipment or other resources.

Both Alternative 2 and Alternative 3 utilize a routine and widely available technology – excavation and offsite disposal – and can be implemented. The larger volume of soil that would be excavated in Alternative 3 may slightly increase the difficulty of implementation compared with Alternative 2. However, a larger number of property owners who must agree to implement ICs on their properties in Alternative 2 may slightly increase the difficulty of fully implementing the remedy in Alternative 2.

The implementability of Alternative 2 would be limited by the need to slope the ground surface on parcels with raised surface elevations. Raising the grade by six inches would impact stormwater drainage on the remediated properties as well as neighboring properties. At minimum, Alternative 2 would require additional design considerations to ensure proper drainage of stormwater, and additional monitoring of erosion may be needed. However, small and fragmented areas that are targeted for remediation may not be able to have the grade raised enough to meet the 12-inch clean soil requirement. Therefore, Alternative 2 partially meets the implementability criterion, while Alternative 3 fully meets the implementability criterion.

8.1.7 Cost

The estimated present value costs of remedial alternatives include the net present value of both the capital costs, or the initial expense of installing the remedy, and the subsequent costs for operations and maintenance (O&M) of the remedy. O&M costs refer to post-construction expenses, including the cost to operate, maintain, and monitor the remedy over an assumed 30-year period. The O&M costs for Alternatives 2 and 3 pertain to the long-term stewardship of ICs, including ongoing outreach and education, as well as the occasional minor repairs of the clean soil cover. The present-day value of future O&M costs are calculated assuming a 7% discount rate. Table 6 summarizes the total estimated present value costs of Alternatives 2 and 3.

Table 6: Comparison of Present Value Estimated Total Costs[9]

Alternative	Capital Cost ($ Millions)	O&M Costs, Net Present Value ($ Millions)	Total Cost ($ Millions)
2	$7.8	$0.15	$7.9
3	$9.4	$0.15	$9.5

The estimated present-day cost of each alternative is closely related to the volume of soil to be excavated, transported and disposed. O&M costs of both alternatives are a small fraction of the capital costs. Alternative 3 would excavate a greater volume of soil than Alternative 2, and has a cost estimate of $9.5M compared to Alternative 2's cost estimate of $7.9M. The present value cost of Alternative 3 is 20% greater than the present value cost of Alternative 2.

8.1.8 State Acceptance

The State of Indiana has indicated that it prefers Alternative 3, and that it will concur with the proposed remedy.

8.1.9 Community Acceptance

Community Acceptance will be evaluated after the public comment period ends. The EPA will address public comments in the Responsiveness Summary in the ROD.

8.2 The EPA's Preferred Alternative: Alternative 3

Under CERCLA, the selected remedy must meet the threshold criteria of Overall Protection of Human Health and the Environment, and Compliance with ARARs. The preferred alternative meets these threshold criteria by removing lead-contaminated soil from OU1 residential properties to a maximum depth of 12 inches and disposing of the soil in a landfill.

In addition to meeting the two threshold criteria, the selected remedy must be evaluated by assessing: Long-term Effectiveness and Permanence; Reduction of Toxicity, Mobility or Volume

[9] Costs include a 20% contingency. Total costs may not equal the sum of capital and O&M costs shown in this table due to rounding.

through Treatment; Short-Term Effectiveness; Implementability; and Cost. The preferred alternative provides long-term and permanent protection against exposure to Site-related contaminants by soil excavation and off-Site disposal, along with placement of a clean soil cover to current surface grade conditions. None of the alternatives reduce toxicity, mobility or volume of the contamination through treatment because effective alternative treatment technologies or resource recovery technologies are not practical for large quantities of lead-contaminated soil. The preferred alternative would be protective in the short-term during construction through mitigating fugitive dust and other incidental releases, and is implementable. The cost of Alternative 3 is higher than the cost of Alternative 2, but the additional cost is justified by the greater long-term protection and relative ease of implementation.

Based on information currently available, the EPA believes the Preferred Alternative meets the threshold criteria and provides the best balance of tradeoffs among the other alternatives with respect to the balancing and modifying criteria. The EPA expects the Preferred Alternative to satisfy the following statutory requirements of CERCLA §121(b): (1) be protective of human health and the environment; (2) comply with ARARs (or justify a waiver); (3) be cost-effective; and (4) utilize permanent solutions to the maximum extent practicable.

9 COMMUNITY PARTICIPATION

The EPA will solicit and evaluate public reaction to the preferred cleanup alternative during the public comment period before deciding on a final cleanup alternative. Based on new information gathered from the public comments, the EPA may modify its preferred alternative or choose another that is discussed in this Proposed Plan. The EPA encourages the public to review and comment on the cleanup alternatives.

The EPA will respond in writing to all significant comments in a Responsiveness Summary, which is part of the interim ROD. The EPA will announce the selected cleanup alternative in a local newspaper advertisement and will place a copy of the ROD in the local information repositories. A copy of the ROD will also be placed on the Site’s webpage.

Attachment 1

Operable Unit 1 Interim Remedial Action ARARs Table

Federated Metals Corp. Whiting Superfund Site

Chemical-specific ARARs

Media/Action	Requirement	Prerequisite/ARAR Status	Citation
None			

Location-specific ARARs/TBCs

Media/Action	Requirement	Prerequisite	Citation
Fish and Wildlife Coordination Act	Requires Federal agencies to take into consideration the effect that water-related projects would have upon fish and wildlife and then take action to prevent loss or damage to these resources.	Federal action that results in the control or structural modification of a natural stream or body of water. ➢ **Potentially applicable, but action is unlikely to meet prerequisite.**	16 U.S.C. §§ 661 et seq. 33 C.F.R. §§ 320-330
Endangered Species Act	Identify activities that may affect listed species. Actions must not threaten the continued existence of a listed species. Actions must not destroy critical habitat	Presence of species listed as endangered or threatened, or critical habitat thereof. ➢ **Potentially applicable, but action is unlikely to meet prerequisite.**	16 U.S.C. §§ 1531 et seq. 50 C.F.R. §§ 402.01, 402.04, and 402.10 to 402.16
Migratory Bird Treaty Act of 1972	Prohibits the take (including killing, capturing, selling, trading, and transport) of protected migratory bird species without prior authorization by the Department of Interior U.S. Fish and Wildlife Service.	Identification of protected migratory birds in OU1 that may be harmed by the remedial action. ➢ **Potentially applicable, but action is unlikely to meet prerequisite.**	16 U.S.C. §§ 703-712 50 C.F.R. § 10.13
National Historic Preservation Act, as amended	Federal agencies undertaking a project affecting a listed or eligible property must provide the Advisory Council on Historic Preservation a reasonable opportunity to comment. Before approval of any Federal undertaking which may directly and adversely affect any National Historic Landmark, the head of the responsible Federal agency shall, to the maximum extent possible, undertake such planning and actions as may be necessary to minimize harm to such landmark, and shall afford the Advisory Council a reasonable opportunity to comment on the undertaking.	Federal construction project or a federally licensed activity or program with the presence of a property listed on the national register of historic places, or where scientific, historic, or archaeological artifacts are identified during implementation of the remedy. ➢ **Potentially applicable, but action is unlikely to meet prerequisite.**	54 U.S.C. §§ 306107-306108 36 C.F.R. Part 800 Subpart B

Action-specific ARARs

Media/Action	Requirement	Prerequisite	Citation
Definition of hazardous waste	Describes the conditions under which solid waste is determined to be hazardous waste.	Generation of solid waste. ➢ **Relevant and appropriate**	40 C.F.R. § 261.3 and § 261.24

Attachment 1
Operable Unit 1 Interim Remedial Action ARARs Table
Federated Metals Corp. Whiting Superfund Site

Media/Action	Requirement	Prerequisite	Citation
Hazardous waste determination	Requires that a proper hazardous waste determination must be made on all wastes generated from remedial actions.	Generation of solid waste. ➢ **Relevant and appropriate**	40 C.F.R. § 262.11
Hazardous waste transportation	Requires preparation and use of a manifest for transport of hazardous waste.	Generator that transports, or offers for transport a hazardous waste for offsite treatment, storage, or disposal; applies to small and large quantity generators. ➢ **Potentially Applicable, if hazardous waste is identified**	40 C.F.R. §§ 262.20-262.27
Preparation of hazardous waste for transportation	All hazardous waste must be properly packaged, with labels, markings, and placards, prior to transport.	Handling and transport of hazardous waste; applies to small and large quantity generators. ➢ **Relevant and appropriate, if hazardous waste is identified**	40 C.F.R. §§ 262.30 - 262.33
Transport of hazardous materials	Transportation of hazardous materials on public roadways must comply with the requirements.	Transportation of hazardous waste within the United States if the transportation requires a manifest under 40 C.F.R. Part 262. ➢ **Applicable, if hazardous waste is identified**	40 C.F.R. Part 263
Special provisions for cleanup	Standards for corrective action management units, temporary units, and staging piles.	Use of staging piles or temporary units for characteristically hazardous waste. ➢ **Applicable, if off-Site** ➢ **Relevant and appropriate, if on-Site**	40 C.F.R. Part 264 Subpart S
Use and management of containers	Standards for use and management of containers for hazardous waste.	Storage of containers of hazardous waste. ➢ **Applicable, if off-Site** ➢ **Relevant and appropriate, if on-Site**	40 C.F.R. Part 265 Subpart I
Resource Conservation and Recovery Act of 1976 Land Disposal Restrictions	Hazardous waste cannot be placed on the land until the waste meets specific treatment standards to reduce the mobility or toxicity of its hazardous constituents.	Relevant for treatment of soils that are characteristic hazardous wastes. ➢ **Applicable, if off-Site, if hazardous waste is identified** ➢ **Relevant and appropriate, if on-Site, if hazardous waste is identified**	40 C.F.R. § 268.34
Generator Responsibilities for Waste Information	Requires all wastes undergo a waste determination by the generator, and if found to be nonhazardous, be disposed of in a permitted solid waste disposal facility.	Remedies that involve off-site disposal of materials typically involved with excavations. ➢ **Relevant and appropriate**	329 Indiana Administrative Code (IAC) § 10-7.2-1

Attachment 1
Operable Unit 1 Interim Remedial Action ARARs Table
Federated Metals Corp. Whiting Superfund Site

Media/Action	Requirement	Prerequisite	Citation
Rule 4. Fugitive Dust Emission	Rule 4 establishes that visible fugitive dust must not escape beyond the property line or boundaries of the property, right-of-way, or easement on which the source is located.	This law applies to the regulation of air emissions, for activities such as excavation, that have the potential to create dust and sets emissions limits for particulates. ➢ **Relevant and appropriate**	326 IAC § 6-4-2[4]
Motor vehicle fugitive dust sources	No vehicle driven on any public right of way may allow its contents to escape and form fugitive dust.	This law applies to the regulation of air emissions, for activities such as excavation, that have the potential to create dust and sets emissions limits for particulates. ➢ **Relevant and appropriate**	326 IAC § 6-4-4
Storm Water Run-off Associated with Construction Activity	Sets requirements for managing storm water during construction activities, including sediment and erosion control, including submittal of a Notice of Intent and a Construction/Stormwater Pollution Prevention Plan to IDEM.	Discharge of storm water from construction activities of one acre or more. Discharge is defined in 327 IAC § 5-1.5-11 as additions of pollutants into waters of the state from (1) Surface run-off collected or channeled by man; or (2) Discharges through pipes, sewers, or other conveyances that do not lead to treatment works. ➢ **Relevant and appropriate**	327 IAC § 15-1 et seq.
National Pollutant Discharge Elimination System Program	Requires use of best available technology economically achievable to control discharges of toxic pollutants to navigable waters from point sources.	Discharge of pollutants into waters of the United States from a disturbance of one acre or more of total land area. 40 C.F.R. Part 401.15 defines lead and compounds as toxic pollutants designated pursuant to section 307(a)(1) of the Clean Water Act. ➢ **Relevant and appropriate**	33 U.S.C. §§ 1251-1387 40 C.F.R. Part 122 40 C.F.R. § 122.26(b)(14)(x) and (15)
Environmental Restrictive Covenant (ERC)	An institutional control that limits the use of the land or activities to be performed on the property or requires the maintenance of engineering controls on the land designed to protect human health or the environment.	Applies if the remedial action results in leaving contamination in place such that unrestricted use and unlimited exposure is not permitted. ➢ **Relevant and appropriate**	Indiana Code (IC) § 13-11-2-193.5