Analysis of Brownfield Cleanup Alternatives

Remerge, Inc.
597 Auburn Avenue NE
Atlanta, Fulton County, Georgia

January 4, 2023

Prepared for:
City of Atlanta
EPA Cooperative Agreement BF-95445109

Cardno®
Shaping the Future

Analysis of Brownfields Cleanup Alternatives

Prepared for: City of Atlanta Department of City Planning
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EPA Cooperative Agreement BF-95445109-4

and

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Project Name: **Analysis of Brownfields Cleanup Alternatives**

597 Auburn Avenue NE
Atlanta, Fulton County, Georgia 30312

Submission Date: Wednesday, January 4, 2023

Table of Contents

1 Introduction **1**

2 Background **3**

2.1 Site Description 3

2.2 Site History 3

2.3 Environmental Impact 3

3 Regional Setting and Site Characterization **5**

3.1 Physiographic Setting 5

3.2 Site Hydrogeology 5

4 Previous Assessment Activities **6**

4.1 Phase I Environmental Site Assessment, Cardno, December 2021 6

4.2 Phase II Environmental Site Assessment, Cardno, January 2022 6

4.3 Asbestos-Containing Material and Lead-Based Paint Inspection, Cardno, March 2022 6

5 Exposure Analysis **8**

5.1 Evaluation 8

5.2 Exposure Pathways 8

6 Cleanup Objectives / Applicable Regulations **9**

6.1 Cleanup Objectives 9

6.2 Cleanup Standards 9

6.3 Applicable Regulations 9

6.4 Historic Preservation 10

6.5 Davis-Bacon Act 10

7 Brownfield Cleanup Alternatives **11**

7.1 Impacted Soil Corrective Action 11

7.1.1 Alternative 1 – No Action 11

7.1.2 Alternative 2 – Engineering Controls: Capping 11

7.1.3 Alternative 3 – Excavation, Disposal, and Backfill (Removal) 12

7.2 Asbestos 12

7.2.1 Alternative 1 – No Action 12

7.2.2 Alternative 2 – Encapsulation 12

7.2.3 Alternative 3 – Full Abatement 13

8 Recommended Cleanup Alternative **14**

9 Schedule **15**

10 References **16**

Figures

Figure 1 USGS Topographic Map
Figure 2 Site Boundary Map
Figure 3 Soil Remedial Extent Map

Appendices

Appendix A Previous Environmental Reports

Appendix B Georgia Environmental Protection Division Submittals

1 Introduction

This Analysis of Brownfield Cleanup Alternatives (ABCA) has been prepared for property located at 597 Auburn Avenue NE in Atlanta, Fulton County, Georgia, as Remerge, Inc. (Remerge) has applied for sub-grant funding under the City of Atlanta's Revolving Loan Fund (RLF) grant to facilitate an environmental corrective action at the referenced property. The aforementioned property is referred to as the "Subject Site" or "Subject Property" and consists of one parcel totaling approximately 0.0826 acres, identified by the Fulton County Board of Assessors as parcel ID# 14 001900100453.

The Subject Property is located within the Northwest Atlanta, Georgia Topographic Quadrangle of the US Geological Survey (USGS) 7.5-minute series map as shown in the Site Vicinity Map (**Figure 1)**. The building located on the Subject Site is currently vacant. A Site Boundary Map is included as **Figure 2**. According to Fulton County Tax records, the subject site is currently owned by Remerge Inc (Remerge purchased the parcel in January 2022A Soil Remedial Extent Map is included as **Figure 3.**

The intended reuse of the Subject Property by Remerge is to renovate the existing building for use as non-profit offices and services.

A Phase I Environmental Site Assessment (ESA), Phase II ESA and an Asbestos and Lead-Paint Survey were performed on the property during due diligence investigations between November 2021 and March 2022. The information obtained during these assessment activities was utilized to guide site activities with respect to potential environmental impairment and liabilities associated with the property due to contamination by hazardous substances, controlled substances, or petroleum products on or near the site.

The City of Atlanta was initially awarded a fiscal year (FY) 2009 United States Environmental Protection Agency (EPA) Brownfields Revolving Loan Fund (RLF) Grant No. BF-95445109. This grant is funding the development of this and other documents associated with the soil and asbestos abatement within the on-site buildings.

This ABCA has been prepared to demonstrate to the EPA that appropriate cleanup methods have been evaluated and will be applied for the contaminated soil located at the Subject Property as required by the Grant. This document was also designed to meet the following requirements:

- Soil removal action requirements outlined in the Hazardous Site Response Act (HSRA) Official Code of Georgia Annotated (O.C.G.A.) 12-8-90 *et seq*.
- Removal of asbestos and lead-based paint to the standards and requirements outlined by EPA National Emission Standards for Hazardous Air Pollutants (NESHAP), Occupational Safety and Health Administration (OSHA), and Toxic Substances and Control Act (TSCA).

Furthermore, this document has been prepared to programmatically ready the site for cleanup and future redevelopment. Cleanup activities will be funded through a grant ~~loan~~ via the City of Atlanta's EPA Brownfields RLF Grant. Public notice will be given in accordance with the requirements of the RLF, and this document will be available for public review and comment prior to implementation.

Community outreach to date includes a presentation of the brownfield program and overall cleanup of 597 Auburn Avenue NE site during a City of Atlanta Neighborhood Planning Unit (NPU) M virtual community engagement meeting on January 23, 2023. Further, a more detailed community engagement meeting is scheduled to occur on January 26, 2023, in which this draft ABCA and other programmatic documents will be discussed. Programmatic documents will be made available to the

public on the City of Atlanta's brownfield website www.atlantaga.gov/brownfields for public review and comment prior to implementation.

Per EPA grant requirements, this ABCA includes:

- Information about the site and contamination issues (e.g., exposure pathways, identification of contaminant sources, etc.), cleanup standards, applicable laws, alternatives considered, and the proposed remediation -approach.
- A discussion of the effectiveness, implementability, and cost of the cleanup methods considered.

The proposed soil cleanup method alternatives:

  - No action;
  - Implementation of institutional controls such as capping or covering, fencing, or barring access to contaminated soil; or
  - Excavation and removal of contaminated soil.

The proposed asbestos cleanup alternatives:

  - No action;
  - Encapsulation of asbestos-containing materials (ACMs); or
  - Full abatement of ACMs.

2 Background

2.1 Site Description

The Site is located on the northeast side of Atlanta, Georgia, just east of downtown Atlanta. The property rests at the east corner of the intersection between Randolph Street, Auburn Avenue, and Old Wheat Street. The Site is comprised of a 0.0826-acre commercial parcel, improved with one approximately 3,600 square-foot, single-story building. The building is constructed over a partially finished basement with a slab concrete floor, supporting a wood superstructure and a brick-mortar façade covering the original wood or cement tile siding. A chain-link security fence encloses the back landscaped area. The building is situated in the northwest area of the Site, encircled to the north, south and west by residential and commercial parcels. The Subject Property layout is depicted in **Figure 2**.

2.2 Site History

Historically, the surrounding area was developed with a mix of residential, commercial, and industrial warehouses from at least the early 1930s. Significant residential and commercial re-development occurred on adjoining and nearby properties from the early 2000s through present day. The Site was originally developed with a residential building prior to 1911 along with numerous small residential properties in the surrounding areas There is no information providing the exact year of development. In the 1940's, the residential structure was converted for religious use. A commercial building adjacent to the Site was evident from the 1940s until 1988 becoming vacant land until the late 2000s. This property was identified in historical city directories records as Robert's Dry Cleaners which is discussed in the Phase I ESA for the Subject Property as a Recognized Environmental Condition (REC).

2.3 Environmental Impact

Based on the discovery of the adjoining historical dry cleaner, Cardno completed a Limited Phase II ESA on the Subject Property in December 2021. The Limited Phase II ESA consisted of the advancement of two soil borings and installation of two temporary monitoring wells. Two soil samples were collected from the Subject Property and analyzed for volatile organic compounds (VOCs), polynuclear aromatic hydrocarbons (PAHs), and Resource Conservation Recovery Act (RCRA) metals. The groundwater samples collected from the temporary monitoring wells were analyzed for VOCs, PAHs, and RCRA metals.

The analytical results identified metal concentrations in soil samples collected both SB-1 and SB-2, with barium and lead reported above their respective Georgia Environmental Protection Division (EDP) Notification Concentrations (NC) in surficial soil collected from SB-2. Remaining metal constituents reported above laboratory method detection limits are below applicable NCs in both samples. Trace concentration of several VOC constituents were reported in soil borings SB-1 at 4-5′ bgs and SB-2 at 0-1′ bgs, all at concentrations well below respective NCs. From the laboratory analysis of groundwater samples collected from the temporary monitoring wells, only reported barium and chloroform above laboratory method detection limits, which were both identified at concentrations below respective EPD Media Target Concentrations.

Cardno completed an inspection for ACM and lead-based paint (LBP) at the Subject Property in February 2022. During this assessment, Cardno identified the following materials exceeding the

AHERA definition of ACM, defined as any material containing greater than 1 percent (>1%) asbestos. The ACM are summarized below:

Material	Location	Estimated Quantity
• Roof flashing	Roof	200 square feet (sf)
• Cementitious siding	Exterior siding	3,000 sf (presumed)

Cementitious siding was observed behind vinyl siding along the building's northeastern exterior totaling 600 sf. This material was not observed along the west or south building faces, which are finished with a brick façade.

In accordance with EPA standards (40 CFR 745), any paint containing 0.5% by weight of lead is categorized as LBP. All paint chip samples collected are detailed in Table 2 of the Asbestos and Lead-Based Paint Survey Report in **Appendix A**. None of the collected samples were found to be LBP.

3 Regional Setting and Site Characterization

3.1 Physiographic Setting

The site is located in the Piedmont Physiographic Province. The Piedmont topography is characterized by low, rolling hills in the north and a broad rolling upland or plateaus in the south. The Piedmont is comprised of metamorphic and igneous rocks that are overlain by regolith of varying thickness. The regolith beneath the subject site is composed of semi-consolidated to unconsolidated saprolite (weathered bedrock), soil, and other surficial deposits.

3.2 Site Hydrogeology

Based on the USGS topographic map, surface water from the subject site likely flows to the southeast. The Subject Property is located in the Low Groundwater Pollution Susceptibility Class (Georgia Geological Survey, 1992). Lithology descriptions from the site indicate that the shallow subsurface is composed primarily of sandy micaceous silts and clays (weathered saprolite). Based on the soil boring log data, soil underlying the site consists of unconsolidated shallower fine-grained and deeper coarse-grained deposits. These deposits were represented by fine-grained clayey silt with minor sandy interbeds laterally grading into clay and silty clay from the surface down to depths ranging from approximately 10 to 15 feet below ground surface (bgs). Below these deposits, well-graded sand to silty sand was found to occur from depths of approximately 15 to 20 feet bgs. Underlying the sandy deposits from an approximate depth of 13 feet bgs to the deepest terminal boring depth of 30 feet bgs, predominant admixtures of coarser-grained clayey gravel with clayey silt interbeds. Geoprobe refusal was encountered in SB-1 at the terminal depth of 30 feet bgs. Groundwater was consistently encountered in these deposits at depths ranging from 19 to 25 feet bgs.

Groundwater flow is unknown but based on topography would likely flow to the south/southeast. During previous investigations, groundwater was encountered between 16 and 20 feet bgs.

4 Previous Assessment Activities

4.1 Phase I Environmental Site Assessment, Cardno, December 2021

Cardno, Inc., (Cardno) completed a Phase I ESA on the Subject Property in December 2021. Information garnered during the Phase I ESA proved the surrounding area was developed with a mix of residential, commercial, and industrial warehouses from at least the early 1930s. Significant residential and commercial redevelopment occurred on adjoining and nearby properties from the early 2000s through present day. One REC was discovered associated with an offsite source to the north of the Subject Property. Specially, review of historical city directories and fire insurance maps proved the north adjoining property at 594 Auburn Avenue historically supported a commercial structure that operated as Roberts Dry Cleaners during the 1970s. The property is now developed as a small municipal park.

An excerpt of this Phase I ESA is included in **Appendix A.**

4.2 Phase II Environmental Site Assessment, Cardno, January 2022

Based on the discovery of the adjoining historical dry cleaner, Cardno completed a Limited Phase II ESA on the Subject Property in December 2021 to address the REC. The Limited Phase II ESA consisted of the advancement of two soil borings and installation of two temporary monitoring wells. Two soil samples were collected from the Subject Property at depths of 0-1′ foot and 4′-5′ bgs, and analyzed for VOCs, PAHs, and RCRA metals. Both soil borings (SB-1 and SB-2) were advanced to shallow groundwater and then converted into a temporary monitoring wells (TW-1 and TW-2). The groundwater samples collected from the temporary monitoring wells were analyzed for VOCs, PAHs, and RCRA metals.

As stated in Section 2.3, the analytical results identified metal concentrations in soil samples collected both SB-1 and SB-2, with barium and lead reported above their respective NC in surficial soil collected from SB-2 (totaling approximately 30 yards of soil). Remaining metal constituents reported above laboratory method detection limits are below applicable NCs in both samples. Trace concentration of several VOC constituents were reported in soil borings SB-1 at 4-5′ bgs and SB-2 at 0-1′ bgs, all at concentrations well below respective NCs. Laboratory analysis of groundwater samples collected from the temporary monitoring wells, only reported barium and chloroform above laboratory method detection limits, which were both identified at concentrations below respective EPD Media Target Concentrations.

An initial release notification for lead and barium in soil was submitted to GA EPD, dated March 15th, 2022 along with two subsequent reporting deferral requests based on the need for funding to complete remedial activities. Submittals to GA EPD are included in Appendix B.

4.3 Asbestos-Containing Material and Lead-Based Paint Inspection, Cardno, March 2022

Cardno completed an ACM and LBP survey at the Subject Property. The inspection was completed to identify the presence of ACM and LBP requiring abatement or special attention prior to renovation. The Subject Site is developed with one 3,600-square foot structure that was constructed prior to 1910. A figure depicting the property boundaries is provided as **Figure 2**.

As discussed in Section 2.3, the ACM assessment was completed under guidelines set forth by the Asbestos Hazard Emergency Response Act (AHERA), NESHAP, and in compliance with the Georgia

EPD Standard 391-3-14. Assessment of LBP was completed under guidelines set forth by Georgia EPD Lead-Based Paint Program Standard 391-3-24 and EPA Standard CFR 745.

Asbestos Findings

During this assessment, a total of 54 samples from 20 homogenous areas (HAs) were collected and analyzed for the presence of asbestos and then compared to the AHERA definition of ACM, which includes any material containing greater than 1 percent (>1%) asbestos. All HAs and samples collected are detailed with their analytical results in Table 1 of the ACM and LBP Survey Report (**Appendix A**) and the materials confirmed as ACM are summarized below:

Material	Location	Estimated Quantity
• Roof flashing	Roof	200 sf
• Cementitious siding	Exterior siding	3,000 sf (presumed)

Cementitious siding was observed behind vinyl siding along the building's northeastern exterior totaling 600 sf. This material was not observed along the west or south building faces, which are finished with a brick façade. However, the inspection did not include destructive exterior sampling and the void space behind the brick was not inspected. Unless future inspections prove otherwise, it should be presumed the cementitious siding is present on all exterior walls beneath modern brick or vinyl façade (totaling approximately 3,000 sf).

Lead-Based Paint Findings

In accordance with EPA standards (40 CFR 745), any paint containing 0.5% by weight of lead is categorized as LBP. All paint chip samples collected are detailed in Table 2 of the ACM and LBP Survey Report (**Appendix A**). None of the collected samples were found to be LBP.

Additionally, paint that contains any detectable amount of lead triggers the OSHA Lead in Construction Standard (29 CFR 1926.62). The following paints are not considered LBP, but were found to contain detectable concentrations of lead:

Material	Location	Estimated Quantity
• White/green paint on wood/plaster	Walls and doors	Not quantified
• White paint on interior window	Windows	Not quantified
• Gray on exterior concrete façade	Exterior	Not quantified
• White paint on exterior window	Windows	Not quantified
• Yellow/green paint on siding	Exterior siding	Not quantified

5 Exposure Analysis

5.1 Evaluation

Preparation of an ABCA requires an evaluation be made as to the possible corrective actions and their respective costs to remedy effected areas. Not all remedies are physical or chemical and may include other types of remedies such as institutional controls (e.g. restriction on residential development recorded on the deed). Excess public risk requires four factors, all of which must be present to produce excess risk from contaminants at the site. These are:

- A chemical with sufficient toxicity to do harm (whether acute or chronic);
- A sufficient quantity of the chemical to be toxic and do harm;
- A receptor on which to do harm; and
- A pathway by which a sufficient amount of the contaminant can actually reach a receptor and do harm.

Corrective actions to remedy affected areas rarely eliminate all chemicals of concern or hazardous building materials. It is generally the intent to remove/abate, treat or immobilize/encapsulate impacted media or hazardous building materials to levels producing an acceptable risk to human health and the environment. The degree of acceptable risk has to be determined by the public through legislative and regulatory processes. This has been accomplished by the development and implementation of rules at the federal, state, and local levels.

5.2 Exposure Pathways

In order for possible contaminants of concern to do harm to public health or the environment, they must occupy a point of exposure accessible to the population at risk. Compounds to which populations are not currently, nor in the future likely to be exposed via complete exposure pathways do not constitute a probable condition of elevated risk.

The four potential receptor populations evaluated are:

- The Remerge employees who access the Subject Site;
- Residents – persons who reside near the Subject Site;
- Construction workers during the potential redevelopment; and
- Future patrons and/or residences of the end use development.

Based on the historical assessment activities, there is soil contamination identified on the Subject Site.

For each of the potential receptors being considered, the applicable exposure pathway of concern is direct contact with hazardous materials via incidental ingestion, dermal contact, and/or inhalation of particulates or vapors.

6 Cleanup Objectives / Applicable Regulations

This ABCA document evaluates several alternatives for site remediation and provides a recommended strategy for site remediation. The recommended cleanup objectives for the Subject Site will be protective of human health and the environment and comply with all applicable federal, state, and local regulations.

6.1 Cleanup Objectives

The first and foremost cleanup objective is the protection of human health and the environment. This objective will be completed by removing the impacted soils located throughout the site to below the Georgia EPD NCs, or to limit direct access to contaminated soil through the use of cap, cover, or fencing. The Subject Site end use is anticipated to be non-residential office space.

Additionally, the cleanup will be performed in accordance with Georgia HSRA program guidelines to ensure the soil release will not result in the Subject Property listing on the EPD Hazardous Site Inventory.

The clean-up objective for asbestos is to remove all ACM from specific areas of the site that may result in ACMs being disturbed during planned renovation. The ACM in areas planned for disturbance during renovations must be removed completely.

6.2 Cleanup Standards

Corrective action remedial concentrations for soil are regulated under Chapter 391-3-19 of the GA EPD HSRA criteria. Based on the anticipated end use as a public park, Type 1 residential RRS are proposed.

Proper ACM abatement will be verified by physical inspection by an asbestos inspector or abatement supervisor for visual clearance. Once visually clearance is attained air samples should be completed according to the standard methods set forth in **Appendix A** of Subpart E of 40 CFR Part 763. The clearance criteria set forth in this regulation is 0.01 fibers per cubic centimeter of air analyzed via phase contrast microscopy (PCM).

6.3 Applicable Regulations

Regulated Constituents in Soil/Groundwater

Releases to soil or groundwater of hazardous substances or petroleum products is regulated under the Rules and Regulation of the Sate of Georgia, Department 391, Chapter 391-3, Subject 391-3-19 Hazardous Site Response.

Asbestos Laws and Regulations

Asbestos is regulated by AHERA, TSCA, the Clean Air Act (CAA), and Georgia Environmental Rule 391-3-14 and O.C.G.A. §12-12-1. To protect asbestos abatement workers, all asbestos abatement work must be performed in accordance with Occupational Safety and Health Administration (OSHA) asbestos regulations as promulgated in Title 29 of the Code of Federal Regulations (29 CFR), Section 1926.1101. Though cancer risk from exposure to asbestos is most appropriately viewed as a chronic concern, short-term standards have been established by OSHA's permissible exposure limits (PEL) to limit exposures to workers in the workplace. The exposure limits are as follows:

- Short-term exposure limit (STEL) – 1.0 fibers per cubic centimeter (f/cc), analyzed by PCM
- 8-Hr Time weighted average (TWA) – 0.1 f/cc, analyzed by PCM

The following work practices should be followed whenever demolition/renovation activities involving asbestos-containing materials occur:

- Prepare abatement specifications by an EPA-licensed Asbestos Designer when applicable based on the size of the abatement project (i.e. quantity of ACM to be removed);
- Notify the Georgia EPD of intention to demolish/renovate by the required NESHAP notification form;
- Remove all ACM from the facility being demolished or renovated prior to any disruptive activity;
- Handle and dispose of all ACM in an approved manner (USEPA, 2006a; Asbestos/NESHAP Regulated ACM Guidance);
- Monitor asbestos abatement activities by an EPA Licensed Asbestos Abatement Supervisor;
- Perform air clearance testing upon completion of ACM abatement; and
- Prepare an Asbestos Abatement Compliance Report.

6.4 Historic Preservation

To verify no historic structures or features will be impacted by the planned remedial actions, the City of Atlanta will submit a Section 106 National Historic Preservation Act (NHPA) form to the Georgia Historic Preservation Division (HPD) for their review and determination.

6.5 Davis-Bacon Act

All remediation work funded by the City of Atlanta's EPA Brownfields RLF grant funds must comply with the US Department of Labor (DOL) Davis-Bacon Act (DBA), which requires payment of prevailing wage rates for cleanup activities. The budget and schedule will take this into account. More details regarding the Davis-Bacon Act can be found on the DOL's website: https://www.dol.gov/whd/regs/compliance/whdfs66.pdf.

Cardno, as the Qualified Environmental Professional (QEP) for the City of Atlanta under their EPA RLF grant, will be responsible for overseeing Davis-Bacon Act requirements on behalf of the City of Atlanta.

7 Brownfield Cleanup Alternatives

The following section presents a discussion of the cleanup objectives, alternative screening process and rationale, alternative analysis, and presents a likely budget for the proposed cleanup. The primary cleanup objectives are to mitigate the impacted soils and abate or encapsulate ACM on the Subject Site to protect public health and the environment.

7.1 Impacted Soil Corrective Action

7.1.1 Alternative 1 – No Action

The No Action alternative is included as a baseline comparison to other remedial alternatives. The No Action alternative assumes no action is taken and is not a valid option for the site, given the hazards to human health and the environment.

7.1.2 Alternative 2 – Engineering Controls: Capping

Engineering controls involve capping or placing a cover over contaminated materials. Caps do not cleanup the contaminated material, instead they isolate the contaminated media and keep it in place so it will not come into contact with people or the environment. Capping is considered an engineering control for impacts that remain on-site; therefore, some form of institutional control (deed restriction) is required to document and record this engineering technology. With this approach, additional costs would be incurred to implement a long-term maintenance plan to assure the public and regulatory authority of the effectiveness, integrity, and compliance of the engineering control.

Effectiveness

If designed appropriately, engineering controls can be effective in 1) stopping rainwater from seeping through contaminated material and preventing contamination migration into the groundwater or surface water features, and 2) keeping people and animals from direct contact with the impacted material.

Either two feet of clean soil cover, or additional impermeable pavement would be considered as an engineering control to prevent direct exposure. Once the additional cap and cover is implemented, an Engineering Control Maintenance Plan (ECMP) would be developed and institutional controls would be implemented to document the engineering controls and ECMP process.

Implementability

This alternative is generally effective in controlling the potential exposure to impacted soils, as long as the environmental control is adequately maintained. However, the resulting uneven land surface in soil cover areas may limit the integrity of a soil cap system. As a result, soil excavation or impermeable pavement may be required to ensure effectiveness in these areas. Additionally, this alternative will require ongoing maintenance and inspections for the life of the engineering control resulting in ongoing expenses.

Cost

A capping system and retaining wall in the soil impacted areas on-site would range from approximately $20,000 to $75,000, depending on the design. Additional funds would be needed to implement the engineering and institutional controls for the subject site and perform the annual inspections.

While only limited portions of the subject site would be subject to capping, the overall effectiveness, the redevelopment plan, and the long-term maintenance required to assure integrity of the cap render further considerations of capping impracticable.

7.1.3 Alternative 3 – Excavation, Disposal, and Backfill (Removal)

This alternative includes the excavation, stockpiling, disposal of impacted soils, and backfilling with clean soils. In this alternative, additional sampling may be required to confirm the lateral and vertical depths of impacted soil has been reached.

Effectiveness

Removal of contaminated materials from the Subject Site is typically the most effective type of remediation, regardless of contaminant type.

Implementability

Many factors affect the implementability of a soil excavation project. Generally, excavation is limited to materials that are unconsolidated and can be removed using backhoes, excavators, and similar equipment. Source removal of the impacted soils is proposed by excavating vertically and horizontally based with extents defined by sidewall and excavation floor soil sampling and laboratory analysis. Access must be available to bench, remove, and stockpile the impacted soils. Once removed, the impacted soils will be properly disposed of and the excavation will be backfilled with clean soil.

Given the limited area, depths of impact, and accessibility, soil removal would be readily implementable.

Cost

The estimated volume for removal is approximately, but potentially greater than, 30 cubic yards (CY). Costs are typically separated based on the following:

- Excavation and stockpiling;
- Transportation and disposal; and
- Backfilling and compaction.

Based on the size and amount of materials (~ 30 CY), the cost ranges from $15,000 to $30,000. This range is based on the assumption that the soils will be characterized as non-hazardous waste and can be disposed of at a non-hazardous Subtitle D landfill.

7.2 Asbestos

7.2.1 Alternative 1 – No Action

The No Action alternative is included as a baseline comparison and involves leaving the site in its current state. The No Action alternative assumes that future exposure to public health and the environment is possible and does not meet the objectives of this project. This alternative requires no implementation and there is no associated cost.

7.2.2 Alternative 2 – Encapsulation

The encapsulation alternative of the asbestos would entail the complete enclosure of the ACM to prevent access. The implementation of any encapsulation would require the use of an Operations and Maintenance (O&M) plan to assess the encapsulated materials effectiveness.

This option would ultimately leave regulated carcinogenic material on site and is therefore not a valid option for the site, given the hazards to human health.

7.2.3 Alternative 3 – Full Abatement

Full abatement would include the removal of ACM in accordance with applicable regulations.

Feasibility

This alternative is considered feasible given the site conditions.

Implementability

Removal of ACM from a site is typically the most effective type of remedial action for this type of regulated material.

Cost

The following ACM is located on the Subject Site:

Material	Location	Estimated Quantity
• Roof flashing	Roof	200 sf
• Cementitious siding	Exterior siding	3,000 sf (presumed)

The estimated cost to abate the ACM ranges from approximately $5,000 - $20,000. Actual costs will be based on final contractor cost estimates if selected as the preferred alternative.

8 Recommended Cleanup Alternative

Based on the desired outcome of the Subject Site, effectiveness of removal strategies, ease of implementability, and overall cleanup goals and objectives, remedial Alternative 3: Excavation, Disposal, and Backfill (Removal) for soil and Full Abatement for ACM is the recommended approach.

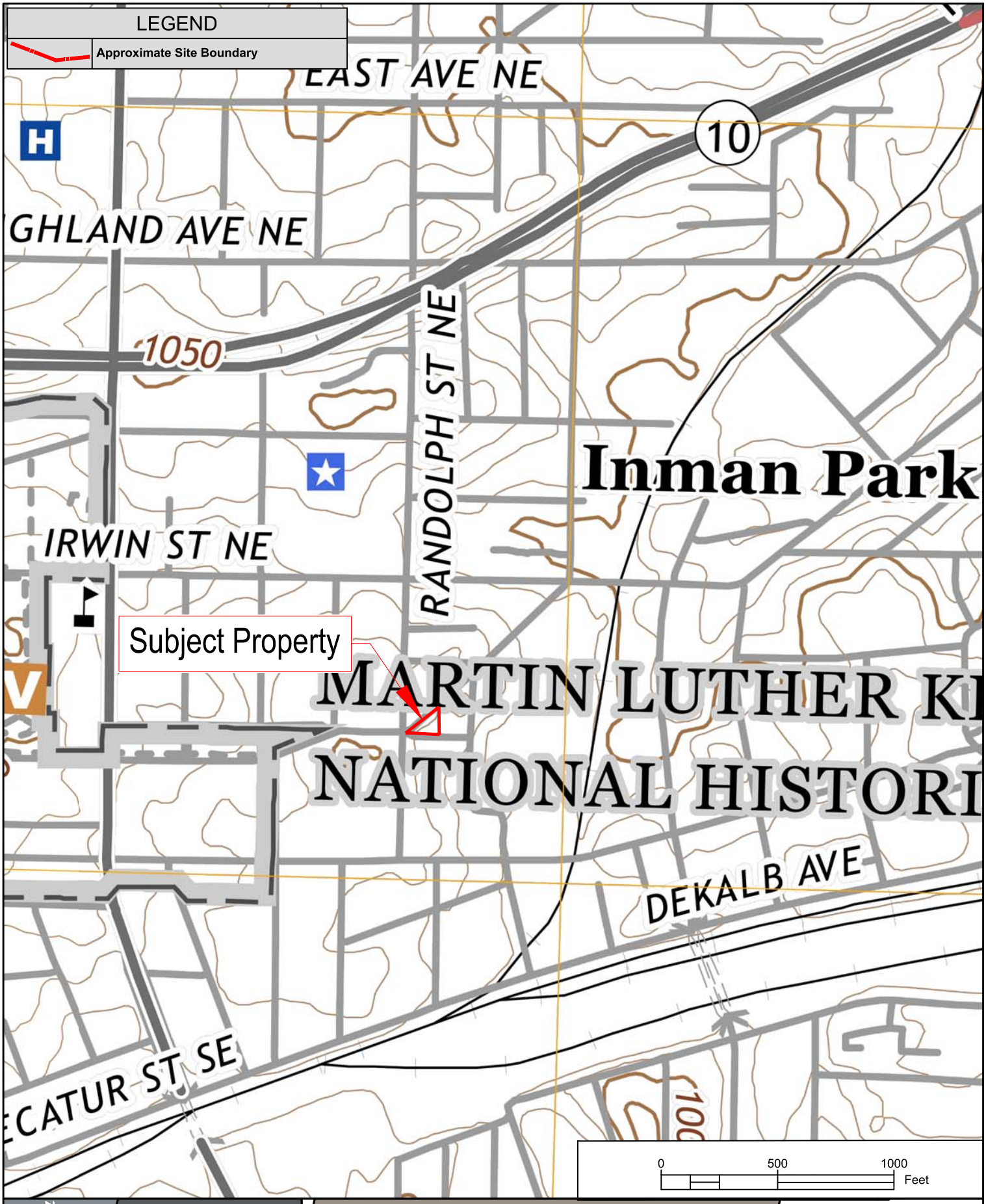
9 Schedule

It is anticipated that all work will be started in April 2023, with completion by the end of September 2023.

10 References

- *Phase I Environmental Site Assessment* – 597 Auburn Avenue, Atlanta, GA, dated December 23, 2021, Cardno, Inc.
- *Phase II Environmental Site Assessment* – 597 Auburn Avenue, Atlanta, GA, dated January 19, 2022, Cardno, Inc.
- *Asbestos-Containing Material and Lead-Based Paint Survey Report,* dated March 8, 2022, Cardno, Inc.
- Fulton County Board of Tax Assessors GIS,

Figures

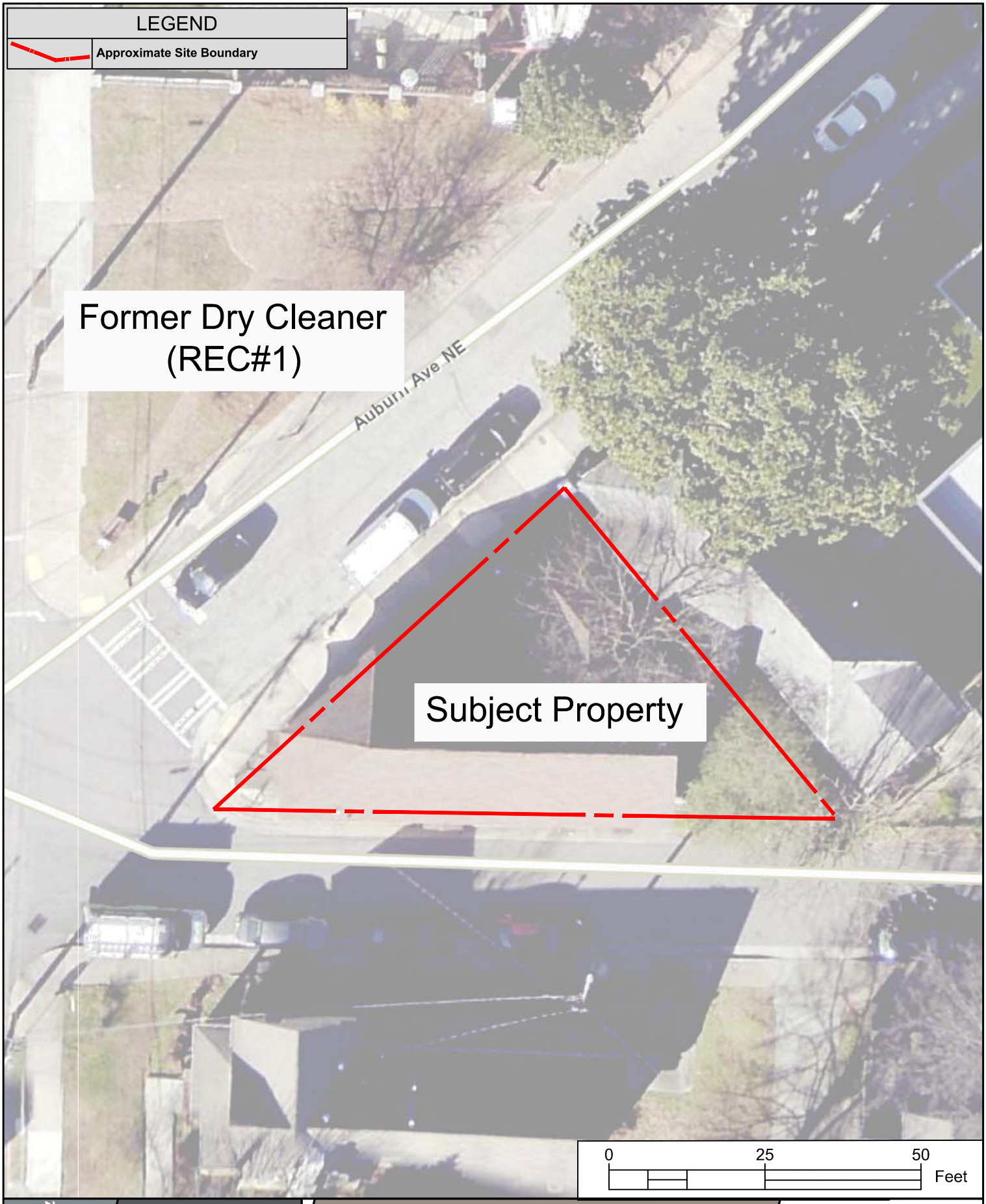


Notes: NE Atlanta, GA 2020 USGS 7.5 Quadrangle

FIGURE 1: USGS/Site Vicinity Map

Commercial Property
597 Auburn Avenue
Atlanta, Fulton County, Georgia

Cardno
6611 Bay Circle, Suite 220
Norcross, GA 30071
678-433-1196



Notes: Imagery obtained from https://fultonassessor.org/

FIGURE 2: Site Boundary Map

Commercial Property
597 Auburn Avenue
Atlanta, Fulton County, Georgia

Cardno
6611 Bay Circle, Suite 220
Norcross, GA 30071
678-433-1196

Notes: Imagery obtained from https://fultonassessor.org/

Concentrations compared to Georgia Environmental Protection Division Notification Concentrations (NC); Georgia Rules of Hazardous Site Response, Rule 391-3-19 (Appendix I)
Total remedial soil volume estimated at 30 cubic yards

FIGURE 3: Soil Remedial Extent

Commercial Property
597 Auburn Avenue
Atlanta, Fulton County, Georgia

Cardno
6611 Bay Circle, Suite 220
Norcross, GA 30071
678-433-1196