DRAFT Analysis of Brownfield Cleanup Alternatives

Paul Avenue
0 Paul Avenue NW, Atlanta, Fulton County, Georgia

May 1, 2020

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

Cardno
Shaping the Future

DRAFT Analysis of Brownfields Cleanup Alternatives

Prepared for: City of Atlanta
68 Mitchell Street SW
Atlanta, Georgia 30303
EPA Cooperative Agreement BF-95445109-4

and

The Conservation Fund
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Project Name: **DRAFT Analysis of Brownfields Cleanup Alternatives**
Paul Avenue
0 Paul Avenue NW
Atlanta, Fulton County, Georgia

Submission Date: May 1, 2020

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1 Introduction

This Analysis of Brownfield Cleanup Alternatives (ABCA) has been prepared for property located at 0 Paul Avenue in Atlanta, Fulton County, Georgia, as The Conservation Fund (TCF) 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 site, further referred to as the "Subject Site" or "Subject Property", and consists of one parcel totaling approximately 0.2009 acres. The Fulton County parcel ID # is 17 025300100717.

The Subject Site is located within the Northwest Atlanta, Georgia Topographic Quadrangle of the US Geological Survey (USGS) 7.5-minute series map as shown in **Figure 1.** The Subject Site is currently vacant and undeveloped. A site boundary map is included as **Figure 2.** According to Fulton County Tax records, the subject site is currently owned by Lucille Dianne Buckman; however, according to the Georgia Environmental Protection Division (EPD) Prospective Purchaser Corrective Action Plan (PPCAP), the property was acquired by TCF in December 2019. A Tax Map is included as **Figure 3.**

The intended reuse of the Subject Site by TCF is to develop an approximately 10-acre park for the City of Atlanta Department of Parks and Recreation. This park will provide greenspace and allow park amenities for access to the nearby Chattahoochee River multi-use trail along the Chattahoochee River.

Multiple environmental investigations, including previous soil removal activities, have occurred on the Subject Site as early as 1995. 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 abatement of hazardous buildings materials 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 0 Paul Avenue property, as required by the Grant. In addition to meeting EPA requirements for an ABCA, this document is also designed to meet the requirements for the management of contaminated soil as outlined by the Georgia Environmental Protection Division (EPD) Brownfield Cleanup Program approved corrective action plan documents.

Further, this document has been prepared to programmatically ready the site for cleanup and future redevelopment. Cleanup activities will be funded in part through a 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 the 0 Paul Avenue site during a City of Atlanta Neighborhood Planning Unit (NPU) D virtual community engagement meeting on April 28, 2020. Further, a more detailed community engagement meeting is scheduled to occur May 12, 2020, 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 (https://www.atlantaga.gov/government/departments/city-planning/office-of-zoning-development/brownfield-program) 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.
    - No action
    - Implementation of institutional controls such as capping or covering, fencing, or barring access to contaminated soil
    - Excavation and removal of contaminated soil

2 Background

2.1 Site Description

The Subject Site consists of one parcel totaling approximately 0.2009 acres that are classified in Fulton County records as “R3 – Residential Vacant.” The Subject Site is vacant, undeveloped, partially wooded land. A railroad borders the Subject Property to the northwest, and Paul Avenue to the southeast, with undeveloped land to the northeast and southwest. A Site Boundary Map is included as **Figure 2.**

2.2 Site History

The Subject Site has been undeveloped since as early as the 1930s. Paul Avenue was developed to the adjoining southeast in the early 1940s, and the railroad to the adjoining northwest was developed in the 1960s. Surrounding property along Paul Avenue has been primarily residential as early as the 1940s. The Georgia Power Company (Georgia Power) owns the property to the adjoining northeast, northwest, and southwest; however, according to historical records and previous environmental reports, Georgia Power has only used this land as a power line easement, and has never operated on these properties.

2.3 Environmental Impact

In 1995, a complaint was issued to the Georgia Environmental Protection Division (EPD) Hazardous Waste Management Branch due to the presence of suspect fill material at the adjoining 2386 Paul Avenue property. It was suspected that this fill material originated from a nearby former Bernath Barrel and Drum facility. This fill material was sampled and investigated by the Georgia EPD, and metal impacts, including lead, arsenic, barium, and silver, were noted above Georgia EPD Notification Concentrations (NCs). Due to access restrictions, this fill material was not formally investigated until 2002 when it was determined to be located on three adjoining parcels (0 Paul Avenue - 17 025300100808; 2386 Paul Avenue – 17 025300100725; and 0 Paul Avenue – 17 025300100717 [Subject Site]).

The referenced soil impacts were addressed by Georgia Power to the satisfaction of the Georgia EPD in 2006; however, recent investigations conducted in 2018 by Environmental Technology Resources, Inc. (ETRI) on behalf of The Conservation Fund identified lead impacts above the NCs on the Subject Site.

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 generally flows to the south toward an unnamed tributary of Sugar Creek. The subject site 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). Groundwater flow is unknown, but based on topography would likely flow to the northwest towards the Chattahoochee River. During previous investigations, groundwater was encountered around 18 feet below ground surface (bgs).

4 Previous Assessment Activities

Numerous investigations, soil and groundwater investigations, a Georgia Environmental Protection Division (EPD) corrective action plans and soil removal reports, and other assessment have been completed on the Subject Site since 1995. The following summarizes relevant previous assessment reports.

4.1 Compliance Status Report, MACTEC, August 2006

MACTEC Engineering and Consulting, Inc. (MACTEC) completed a Compliance Status Report (CSR) on behalf of Georgia Power in August 2006. The purpose of this report was to summarize heavy metal impacted soil removal activities conducted on the Subject Site and two adjoining properties to the southwest (0 Paul Avenue and 2386 Paul Avenue).

The report summarized the history of heavy metal impacts, noting that it originated from a 1995 complaint of suspect fill material associated with the former Bernath Barrel and Drum, Inc. facility at 2386 Paul Avenue. It should be noted that this complaint was for illegal dumping, and historical records and previous reports provide no indication that Bernath Barrel and Drum, Inc. ever operated on the Subject Site or surrounding properties. This complaint resulted in Georgia EPD collecting of four shallow soil samples which identified heavy metals (arsenic, barium, lead, and silver) above NCs. Due to access restrictions, these metal impacts were not further investigated until 2002.

In 2002, MACTEC under order by the Georgia EPD delineated the contamination to three parcels, which include the Subject Site (at the time owned by Ms. Buckman) and the two parcels to the adjoining southwest (0 Paul Avenue - 17 025300100808, owned by Georgia Power and 2386 Paul Avenue – 17 025300100725, owned by Mr. and Mrs. Hall). Georgia Power was included on the initial Georgia EPD Hazardous Site Inventory (HSI) listing, however it is noted in the CSR that Georgia Power never operated on the Subject Site and surrounding properties and did not contribute to the release. Georgia Power took responsibility of the corrective action, and were ordered by Georgia EPD in 2005 to cleanup the metal impacted soil on all parcels.

In July 2006, MACTEC completed soil removal operations at the Subject Site and adjoining southwest parcels. Soil was reportedly screened and soil above the Georgia EPD Type 1 (residential) Reduction Standard (RRS) were removed.

As part of their investigation, one groundwater sample was collected from one temporary monitoring well (TW-1) and analyzed for lead, arsenic, and chromium. None of the metals were identified above the laboratory detection limit. Based on the removal of impacted soil and no evidence of groundwater impacts, the Georgia EPD removed the site from the HSI.

An excerpt of this CSR is included as **Appendix A.**

4.2 Prospective Purchaser Corrective Action Plan, ETRI, September 2019

ETRI completed a Prospective Purchaser Corrective Action Plan (PPCAP) on behalf of The Conservation Fund in September 2019. The purpose of this report is to get the Subject Site into the Georgia EPD Brownfields Cleanup Program (BCP).

The report outlined sampling completed by ETRI in September 2018 to verify the previous soil removal activities by Georgia Power and MACTEC. ETRI advanced five soil borings (B-1 through B-5) utilizing a stainless steel hand auger, and soil samples were collected at 0-3 inches and at 1.5 feet bgs at each

boring. Samples were analyzed for lead, and ETRI identified multiple samples with lead ranging from 12.7 milligrams per kilogram (mg/kg) to 2,320 mg/kg. Specifically, two samples (B-1 @ 1.5' and B-4 @ 1.5') of which were above the Georgia EPD Type 1 Residential RRS of 270 mg/kg.

Based on these findings, ETRI completed additional sampling in November 2018 to further delineate the lead impacts. ETRI advanced ten soil borings (B-6 through B-15) via direct push technology (DPT) each to a depth of 10 feet bgs. Soil samples were collected at 0-3 inches, 2 feet, and 4 feet bgs. Samples at 5 and 10 feet bgs were placed on hold pending analytical results, and only samples at B-14 were analyzed at that depth.

In summary, two samples (B-14 @ 2' and B-15 @ 2') contained concentrations of lead above the Georgia EPD Type 1 RRS. No other samples contained lead concentrations above the RRS or NCs. Based on the findings of the initial and additional ETRI investigation, the PPCAP was submitted to the Georgia EPD BCP in September 2019.

On September 30, 2020, Georgia EPD has requested revisions to the PPCAP, which include the following provisions:

- Sampling of additional metals of concern besides lead, including arsenic, barium, chromium, and silver;
- Groundwater sampling to indicate baseline conditions and to obtain groundwater flow direction; and
- General updates to the PPCAP figures, text, and tables.

These revisions are currently being evaluated by The Conservation Fund and ETRI, and will be addressed prior to the implementation of cleanup activities. The Subject Site was provided a provisional limitation of liability by the BCP in October 2, 2019.

An excerpt of this PPCAP and subsequent comments from EPD is included in **Appendix A.**

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 Conservation Fund 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 throughout 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.

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 residential Type 1 RRS, 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 greenspace or a public park.

Additionally, the Georgia Brownfield Program affords a prospective purchaser liability protection for groundwater impacts. While no dissolved groundwater impacts have been identified at the Subject Site in previous assessment, if encountered they will not be the direct responsibility of the prospective purchaser.

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.

6.3 Historic Preservation

No historic structures or features are noted on the Subject Site. In order to verify no historic structure or features will be impacted, the City of Atlanta has submitted a Section 106 National Historic Preservation Act (NHPA) form to the Georgia Historic Preservation Division (HPD) for their review and determination. A response from HPD is still pending.

6.4 Davis-Bacon Act

All soil 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, alternatives 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 throughout the Subject Site to protect public health and the environment.

7.1 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.

7.2 Alternative 2 – Engineering Controls: Capping

7.2.1 Technological Description

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.

7.2.2 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.

7.2.3 Implementability

Currently, the Subject Site is undeveloped. A cap design can range from the simple placement of two feet of clean soil cover over the impacted media to the construction of a multi-layer / multi-component cap system. For un-paved areas, the cap typically consists of a top layer that is comprised of soil and vegetation to stabilize the subject site, absorb moisture, and prevent erosion. Additionally, engineering controls (storm water drainage) would need to be implemented to direct surface water away from the impacted areas.

7.2.4 Cost

A multi-layer capping system in the soil impacted areas on-site would range from approximately $50,000 to $100,000, depending on the design. Additional funds would be needed to implement the engineering and institutional controls for the subject site.

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.

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

7.3.1 Technological Description

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.

7.3.2 Effectiveness

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

7.3.3 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 on the extended delineation sampling conducted by ETRI. Access must be available to bench, remove, and stock pile 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 areas and depths of impact, undeveloped nature of the Subject Site, and accessibility, soil removal would be readily implementable.

7.3.4 Cost

The estimated volume for removal is approximately, but potentially greater than 630 cubic yards (CY). Costs are typically separated based on the following:

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

Based on the size and amount of materials (~630 CY), the cost ranges from $60,000 to $80,000. This range is based the soil sampling conducted by ETRI, which indicates all soils will be characterized as non-hazardous waste and can be disposed of at a non-hazardous Subtitle D landfill, and receipt of multiple quotes from reliable remediation contractors.

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: Removal is the recommended approach.

9 Schedule

It is anticipated that all work will be started in July 2020, with completion by the end of 2020.

10 Certification

I, Douglas Strait, Professional Engineer (PE) #041500, certify that I currently hold an active license in the State of Georgia and am competent through education and experience to provide the geologic services contained in this report. I further certify that this report was prepared by me or under my direct supervision.

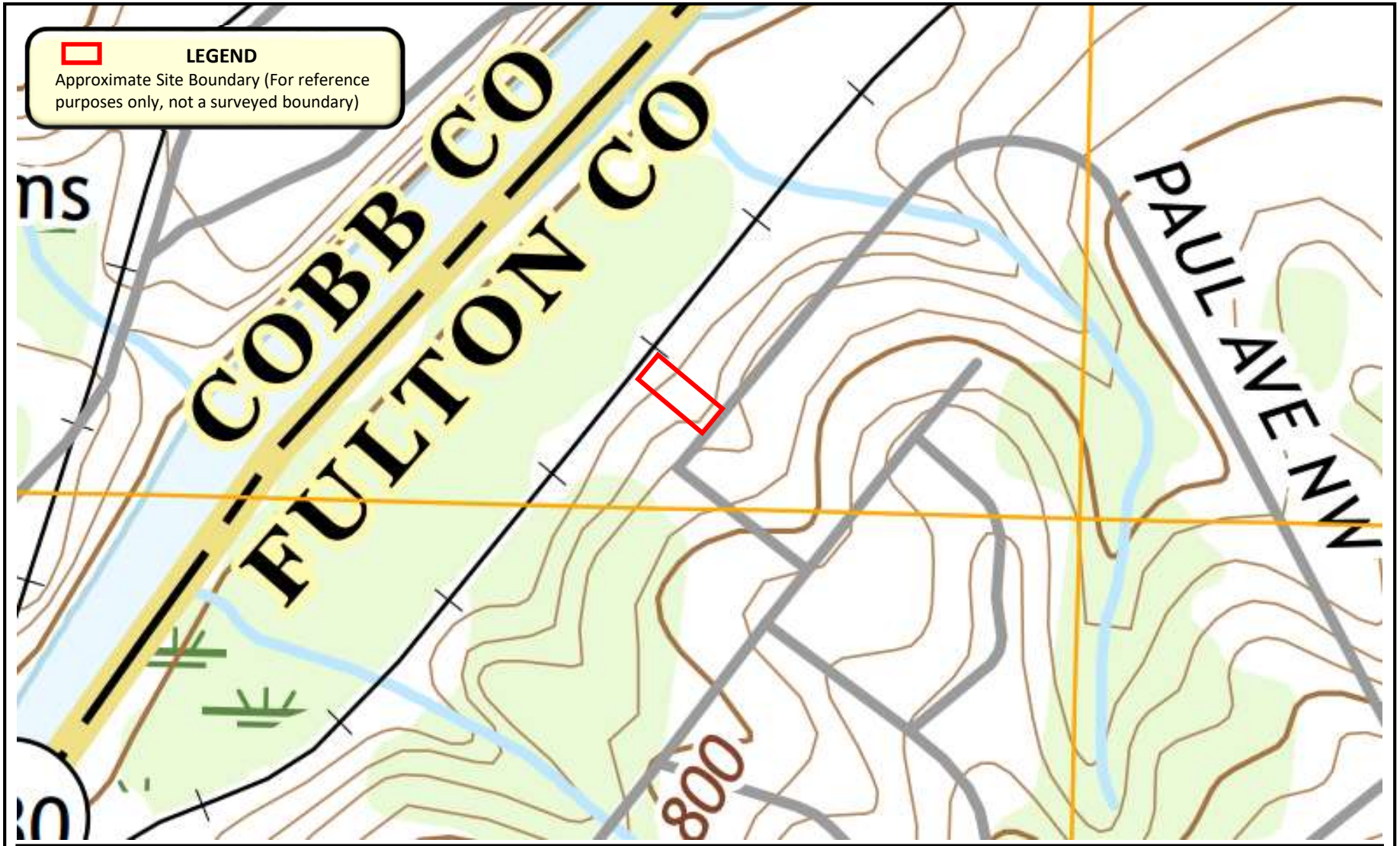
Prepared by:

Douglas Strait, PE
Georgia Professional Engineer # 041500

11 References

- *Compliance Status Report* – Paul Avenue Site, 2386 Paul Avenue, Atlanta, GA, dated August 28, 2006, MACTEC
- *Prospective Purchaser Corrective Action Plan* – 0 Paul Avenue, Atlanta, GA, dated September 9, 2019, ETRI
- Fulton County Board of Tax Assessors GIS, https://iaspublicaccess.fultoncountyga.gov/maps/mapadv.aspx

Figures



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ABCA
0 Paul Avenue
Fulton County, Atlanta, GA
Cardno Project: 0002421001

Figure 1
USGS/Site Vicinity Map
Source: USGS 2017

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"This is not a map of survey."

ABCA
0 Paul Avenue
Fulton County, Atlanta, GA
Cardno Project: 0002421001

Figure 2
Site Boundary Map
Source: GoogleEarth

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"This is not a map of survey."

ABCA
0 Paul Avenue
Fulton County, Atlanta, GA
Cardno Project: 0002421001

Figure 3
Tax Map
Source: Fulton County GIS

Appendix A

Excerpts from Previous Environmental Reports

PROSPECTIVE PURCHASER CORRECTIVE ACTION PLAN

0 Paul Avenue, NW

Atlanta, Fulton County, Georgia

Submitted To:

Georgia Department of Natural Resources
Environmental Protection Division
Brownfield Program
2 Martin Luther King Jr. Drive
Floyd Towers East, Suite 1054
Atlanta, Georgia 30334

Prepared By:

Environmental Technology Resources, Inc.
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Telephone # (770) 888-8181

September 9, 2019

PROSPECTIVE PURCHASER CORRECTIVE ACTION PLAN
0 Paul Avenue, NW
Atlanta, Fulton County, Georgia

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PROSPECTIVE PURCHASER CORRECTIVE ACTION PLAN
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1.0 INTRODUCTION

1.1 GENERAL

This Prospective Purchaser Corrective Action Plan (PPCAP) has been prepared for The Conservation Fund (TCF) for the property located at 0 Paul Avenue, NW in Atlanta, Fulton County, Georgia ("subject property" or "Site"). The subject property is located in Land Lot 253 of the 17th Land District of Fulton County, Georgia. The property is located on the northwest side of Paul Avenue, NW. A Norfolk Southern rail line forms the northwestern boundary of the property. A Site Location Map depicting the location of the subject property and its surrounding topography is included as **Figure 1**.

The approximate latitude and longitude coordinates of the property are 33º 49' 12.29" north and -84º 28' 29.88" west, respectively. The site is located within the Northwest Atlanta, Georgia Topographic Quadrangle, (United States Geologic Survey, 7.5-minute series topographic quadrangle map dated 1997).

The subject property is an undeveloped, approximate 0.2009-acre tract of land and is identified by Fulton County Tax Assessor's as Parcel No. 17 025300100717. According to the Fulton County Tax Map, the subject property is a rectangular shaped tract of land with 50 feet of frontage along Paul Avenue. The northeastern and southwestern sides of the property are approximately 175 feet. The northwestern side of the property is approximately 50 feet. The approximate boundaries of the property are shown in the Tax Map, **Figure 2**. A copy of the legal description of the property is included in **Appendix A**.

The subject property is currently mostly cleared and undeveloped tract of land. The property has not specific use at this time. A Site Plan is included as **Figure 3** which shows features of the subject and surrounding properties.

The current owner of the property is:
Sean O'Keefe for Equity Trust Company, Custodian FBO #029776

1.2 PROSPECTIVE PURCHASER INFORMATION

The Prospective Purchaser of the subject property is:

The Conservation Fund
100 Peachtree Street, NW
Suite 230
Atlanta, Georgia 30303

The contact person for The Conservation Fund is:
Mr. Stacy Funderburke
Assistant Regional Counsel & Conservation Acquisition Associate
(404) 221-0405

The Conservation Fund is acquiring the property for the City of Atlanta for inclusion in a future City of Atlanta Park on Paul Avenue.

1.3 SITE HISTORY

The history of the subject property was determined by reviewing aerial photographs, topographic maps, tax assessor records and City directories. The subject property was cleared and undeveloped land in 1938. By 1943, Paul Avenue had been constructed and formed the southeastern boundary of the Site. By the late 1960's, a rail line had been constructed which bordered the property to the northwest. The subject property has remained undeveloped land since at least the late 1930's. Surrounding property use was primarily farmland in the late 1930's. Dwellings were constructed along Paul Avenue when it was constructed in the early 1940's. The Georgia Power - Atkinson Plant, which is located north of the adjacent rail line and on the west side of the Chattahoochee River dates back to at least the 1940's. Expansion of the power plant continued through the early 1970's. A cement plant, currently operated at Argos Cement, was constructed at 2520 Paul Avenue, NW to the northeast in the late 1960's. The locations of the Paul Avenue properties, Plant Atkinson and cement plant are shown in Figure 3.

According to information obtained from a Compliance Status Report, suspected fill material which originated from the former Bernath Barrel & Drum facility (1835 Dickerson Drive, Mableton, Georgia) was deposited on the subject property and two adjoining two tracts of land. Georgia Power property - Paul Avenue, NW and 2386 Paul Avenue, NW). Sampling of the fill material in 1995 determined that it contained elevated concentrations of Arsenic, Barium Silver and Lead.

1.4 PREVIOUS ENVIRONMENTAL INVESTIGATIONS

In October 1995, the Georgia EPD collected four soil samples from suspected fill materials at the 2386 Paul Avenue property in response to a complaint made to the Hazardous Waste Management Branch concerning the placement of suspected fill materials from the former Bernath Barrel & Drum facility. Metals including Arsenic, Barium, Lead and Silver were found in the fill material above notification concentrations. It is not known if other parameters were tested during the initial investigations to identify the contaminants of concern.

In 1996, the Georgia EPD Hazardous Site Response Program assigned a State contractor the task of delineating the extent of metals contamination. The contractor was not given access to the property and the additional investigations were not performed.

In 2002, additional investigations were conducted by Harding ESE (a State contractor) and fill material was found on three parcels of land owned by Mr. & Ms. Hall, Georgia Power and Ms. Buckman (subject property). Georgia Power was notified of the fill material on their property in 2004 and that their parcel was part of the initial Hazardous Site Inventory listing. As a result, the Georgia Power parcel became part of the Paul Avenue site (HSI No. 10416). The Georgia Power parcel is located adjacent to and southwest of the subject property (see Figure 3).

Although Georgia Power never operated on the property and did not place any material on the property, they agreed to take responsibility for corrective actions. Administrative Order EPD-HSR-446 was issued to Georgia Power on October 11, 2005 which ordered Georgia Power to implement removal actions on their parcel. EPD would manage the removal actions and take any actions reasonably necessary to perform the work. The EPD also requested that Georgia Power submit a Compliance Status Report certifying that both soil and groundwater conditions meet applicable residential risk reduction standards.

In July 2006, Georgia Power completed soil removal activities under the direction of the Georgia EPD. A Soil Removal Report dated July 3, 2006 was prepared and submitted to the Georgia EPD. **Figure 4** shows the limits of the excavation on the subject property, adjoining Georgia Power Company parcel and 2386 Paul Avenue property.

Georgia Power also installed a temporary monitoring well on their property. A sample collected from the temporary well determined that Arsenic, Chromium and Lead were not detected above the laboratory's method detection limits.

After completing the soil removal activities, Georgia Power certified that the soils on their property, 2386 Paul Avenue and the subject property met Type 2 (Residential) Risk Reduction Standards. A Compliance Status Report (CSR) was prepared for Georgia Power and dated August 28, 2006. The CSR was prepared by MACTEC Engineering and Consulting, Inc. for Georgia Power. On September 28, 2006, the Georgia EPD de-listed the Paul Avenue site (HSI # 10416) from the Hazardous Site Inventory. A copy of the de-listing letter is included in **Appendix B**.

2.0 INVESTIGATIONS COMPLETED FOR THE PROSPECTIVE PURCHASER

In 2018, The Conservation Fund entered into a purchase contract for the subject property. Given the historical environmental conditions of the subject and adjoining properties, ETRI recommended collecting and analyzing soil samples from the subject property. Lead was used as a target contaminant of concern for these investigations.

On September 19. 2018, soil samples were collected using a stainless steel hand auger from five soil borings. Soil samples were collected at depths of 0-3 inches and two feet to determine lead concentrations in soils on the subject property. **Table 1** summarizes the results of the sample analyses. The soil boring locations are shown in **Figure 5**.

Table 1
Summary of Soil Sample Analyses – September 19, 2018
0 Paul Avenue, NW, Atlanta, Georgia

Parameter	**B1-0-3”**	**B1-1.5’**	**B2-0-3”**	**B2-9”**	**B3-0-3”**
Lead	12.7 mg/Kg	2,320 mg/Kg	34.7 mg/Kg	23.3 mg/Kg	11.8 mg/Kg
	B3-2’	**B4-0-3”**	**B4-1.5’**	**B5-0-3”**	**B5-2’**
Lead	9.35 mg/Kg	53.4 mg/Kg	728 mg/Kg	44.7 mg/Kg	40.1 mg/Kg

Soil samples collected at depths of 0-3 inches were found to contain total Lead at concentrations up to 2,320 mg/Kg. Soil samples collected at 1.5 feet to two feet were found to contain total Lead at concentrations of up to 728 mg/Kg.

Additional investigations were conducted to further define the extent of soil contamination. On November 19, 2018, ETRI and its subcontractor, GeoLab Drilling mobilized to the site to install the soil borings. Ten addiional hree soil borings were installed on the property. The soil borings were installed using Geoprobe® direct push technology (DPT) drill rig. The soil borings were advanced to a depths of ten feet. Soil samples were collected at 0-3 inches, 2 feet and 4 feet. Additional samples were also collected at depths of 5 feet and 10 feet and were only analyzed if the 4 ft. sample had elevated concentrations of Lead. The 5 ft. and 10 ft. samples were analyzed in boring B14.

The results of the analyses of the soil samples are summarized in **Table 2** and are shown in **Figure 5**. The analytical report is included in **Appendix C**.

Table 2
Summary of Soil Sample Analyses – November 19, 2018
0 Paul Avenue, NW, Atlanta, Georgia

Parameter	**B6-0-3”**	**B6-2’**	**B6-4’**	**B7-0-3”**	**B7-2’**
Lead	18.4 mg//Kg	14.7 mg/Kg	9.71 mg/Kg	29.3 mg/Kg	17.4 mg/Kg
	B7-4’	**B8-0-3”**	**B8-2’**	**B8-4’**	**B9-0-3”**
Lead	10.1 mg/Kg	12.3 mg/Kg	43.0 mg/Kg	19.4 mg/Kg	12.3 mg/Kg
	B9-2’	**B9-4’**	**B10-0-3”**	**B10-2’**	**B10-4’**
Lead	30.4 mg/Kg	11.1 mg/Kg	17.8 mg/Kg	20.4 mg/Kg	12.6 mg/Kg
	B11-0-3”	**B11-2’**	**B11-4’**	**B12-0-3”**	**B12-2’**
Lead	77.7 mg/Kg	51.1 mg/Kg	10.4 mg/Kg	63.1 mg/Kg	249 mg/Kg
	B12-4’	**B13-0-3”**	**B13-2’**	**B13-4’**	**B14-0-3”**
Lead	10.1 mg/Kg	106 mg/Kg	89.6 mg/Kg	13.8 mg/Kg	28.9 mg/Kg
	B14-2’	**B14-4’**	**B14-5’**	**B14-10’**	**B15-0-3”**
Lead	287 mg/Kg	126 mg/Kg	15.8 mg/Kg	15.2 mg/Kg	39.5 mg/Kg
	B15-2’	**B15-4’**			
Lead	15.2 mg/Kg	16.6 mg/Kg			

Notes:
Results in mg/Kg, ppm

3.0 QUALIFICATION OF SITE AND PROSPECTIVE PURCHASER

The Hazardous Site Reuse and Redevelopment Act has set forth certain criteria in order to qualify for the Brownfield's Limitation of Liability. Based on our understanding of the site, we conclude that both the property and The Conservation Fund meet the Act's requirements as summarized below.

Subject Property

1. Has had a pre-existing release;
2. Does not have liens filed under subsection (e) of Code Section 12-8-96 against it;
3. Is not listed on the Federal National Priority List
4. Is not undergoing response activity by an order of the Environmental Protection Agency;
5. Is not a hazardous waste facility as defined in Code Section 12-8-62.

The Conservation Fund

1. Is not a current or former subsidiary, division, parent company or partner of any prior owners of the property;
2. Is not the former employer or current employer, nor otherwise affiliated with the current owners of the subject property or any person who has contributed or is contributing to a release on the property;
3. Has not found evidence of liens filed under subsection (e) of Code Section 12-8-96 against the property;
4. Is not in violation of any order, judgment, statute, rule or regulation subject to the enforcement authority of the director.

4.0 CORRECTIVE ACTION PLAN

4.1 SUMMARY OF SOIL AND GROUNDWATER CONDITIONS

The suspected source of heavy metals in soil on the subject property is believed to be from fill that was placed on the property and an unknown time. Additional soil investigations will be completed to define the depth and extent of Lead contamination that exists on the property.

Previous groundwater investigations included the installation of a monitoring well on the northwest side of the Georgia Power property. The depth to groundwater was determined to be approximately 18 feet below ground surface. The presumed groundwater flow direction is to the northwest and towards the Chattahoochee River. Groundwater sample analyses determined that none of the contaminants of concern were detected above laboratory detection limits.

A temporary groundwater monitoring well will be installed on the northwest side of the subject property at that completion of the soil removal. After properly purging the well, a groundwater sample will be collected and analyzed for total and dissolved RCRA Metals. The results of the groundwater sample analyses will be included in the PPCSR for the project.

4.2 CORRECTIVE ACTION COMPLETED OR IN PROGRESS

Georgia Power completed soil removal activities on the subject and two adjoining properties (2386 Paul Avenue and Georgia Power – Paul Avenue) in 2006. The CSR that was submitted to the Georgia EPD provided a figure outlining the areas of soil removal but did not provide soil quantities removed. Figure 4 shows the areas of soil removal on the three properties.

4.3 CORRECTIVE ACTION APPROACH AND SELECTED TECHNOLOGIES

Based on the investigations that have been completed, soils contaminated with the Lead have been identified on the property. These soils do not meet Type 1 or Type 2 Risk Reduction Standards for Lead. As noted, Lead was used as a Target contaminant of concern during investigations conducted on behalf of the prospective purchaser. During corrective actions, samples will also be analyzed for the presence of

Arsenic, Barium, Chromium Lead and Silver.

The soil investigations have defined the vertical and horizontal extent of Lead contamination in soil. The soils that have concentrations of Arsenic, Barium, Chromium, Lead and Silver above Type 1 or 2 Risk Reduction Standards will be remediated using excavation and off-site disposal.

The excavation, handling, transportation and disposal of the Lead contaminated soils will be performed in a manner to prevent contamination of the surrounding, un-impacted areas and in accordance with applicable federal, State and local laws. Any soils containing contaminants of concern (COC's) which require off-site disposal will be placed on a liner or barrier before placement on the ground or pavement. The excavated contaminated soil will be transported in compliance with all applicable regulations for transporting such waste and disposal at a pre-approved disposal facility permitted to accept the designated waste.

All work will be performed in accordance with applicable regulations, and in accordance with a site specific Health and Safety Plan and OSHA Standards.

4.3.1 Effectiveness

If any soil removal or treatment is required, confirmation soil sampling will be conducted to determine the effectiveness of the removal or treatment activities. Confirmation samples will be collected every 25 feet along side walls of the excavation with a minimum of four per excavation. One confirmation soil sample will be collected for every 625 square feet of the excavation floor. The confirmation soil samples will be analyzed for contaminants of concern.

4.3.2 Other Regulatory or Permitting Requirements

If required, transporters and facilities licensed to handle the waste will be utilized during the removal project.

The prospective purchaser will work with the Georgia EPD, prior to collecting any additional samples, to determine the specific locations and number of samples to be collected for additional assessment.

4.4 SCHEDULE

The soil removal activities will be implemented within twelve (12) months of acquisition of the property. The prospective purchaser compliance status report will be submitted to the Georgia EPD on or prior to December 31, 2020.

5.0 PREPARATION OF CSR

An environmental consultant will prepare a Prospective Purchaser Compliance Status Report (PPCSR) on behalf of The Conservation Fund. The written report will consist of information in the format required for submission to the Georgia EPD. The PPCSR will include the following:

- A legal description of the property which comprises the Brownfield site,
- A description of each known source of release,
- A summary of all pertinent field and laboratory data,
- Definition of the horizontal and vertical extent of on-site soil contamination above HSRA notification concentrations,
- A baseline of groundwater conditions will be established,
- A description of geologic and hydrogeologic conditions at the site,
- Analytical results with chain of custody,
- A legal description and, if available, a survey plat,
- A description of the corrective actions used to bring the property into compliance with the RRS,
- A description of existing or potential human or environmental receptors and risk reduction standards,
- A summary of previous actions taken to eliminate, control, or minimize the potential risk at the site,
- An evaluation of the vapor intrusion pathway will be evaluated and addressed as necessary,
- Documentation of the proper characterization, transportation, and disposal of contaminated soils and/or hazardous wastes, if any, and,
- A concise statement of findings or the report including The Conservation Fund compliance with the appropriate soil risk reduction standards.
- Signature and seal of a Georgia Registered Professional Geologist and/or Professional Engineer.

6.0 CERTIFICATION STATEMENT

I certify that this report and all attachments were prepared under my direction in accordance with a system designed to assure that qualified personnel properly evaluated the information submitted. Based on my inquiry of the person or persons who prepared the information, the information submitted is, to the best of my knowledge, belief, true, accurate, and complete.

Mr. Stacy Funderburke
The Conservation Fund

8/26/19
Date

Thomas R. Harper, Technical Director
Environmental Technology Resources, Inc.

July 12, 2019
Date

6.0 CERTIFICATION STATEMENT

I certify that this report and all attachments were prepared under my direction in accordance with a system designed to assure that qualified personnel properly evaluated the information submitted. Based on my inquiry of the person or persons who prepared the information, the information submitted is, to the best of my knowledge, belief, true, accurate, and complete.

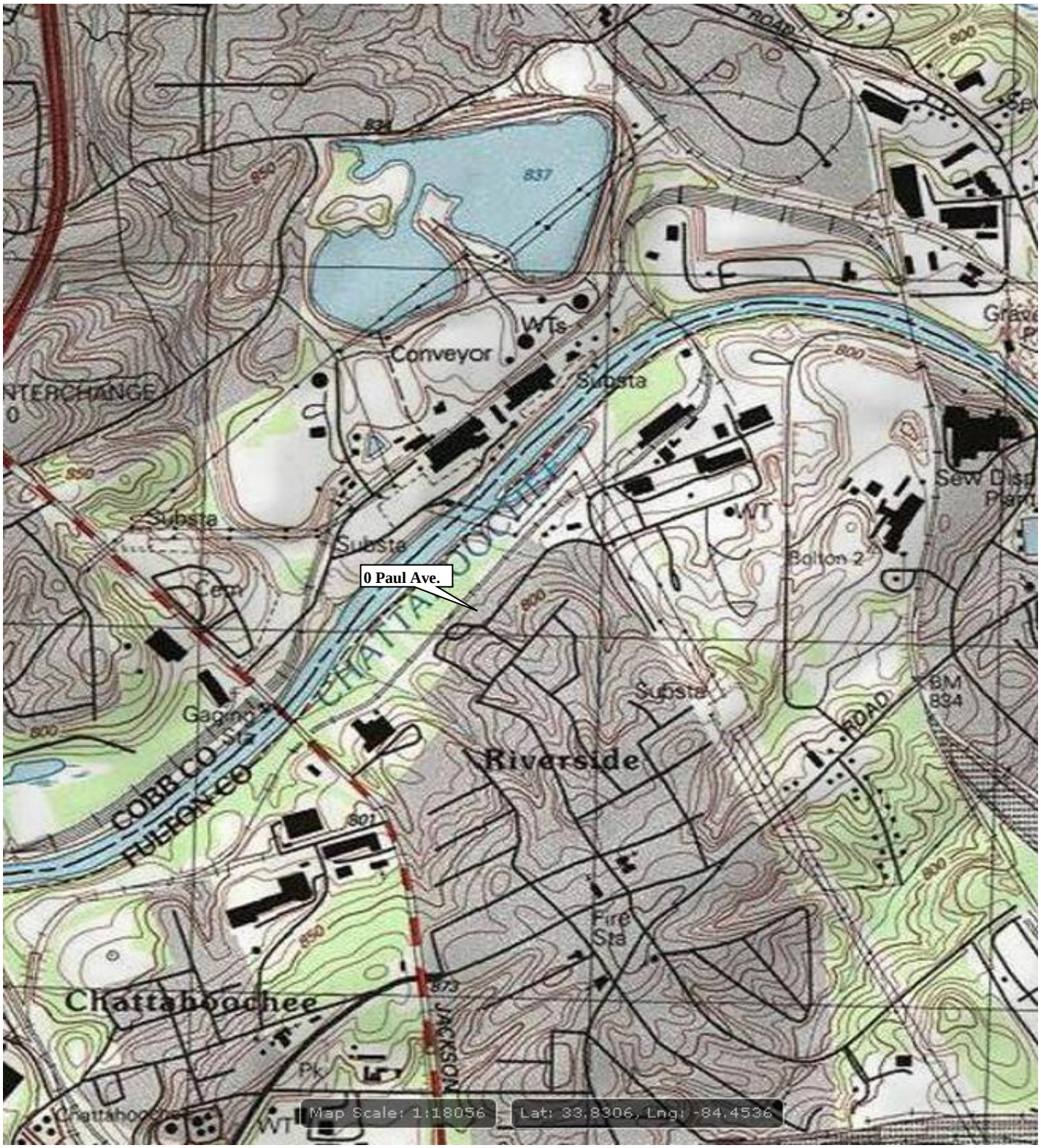
Mr. Stacy Funderburke
The Conservation Fund

8/26/19
Date

Thomas R. Harper, Technical Director
Environmental Technology Resources, Inc.

July 12, 2019
Date

Figures



Source: U.S. Geologic Survey

ETRI
Environmental Technology Resources, Inc.
4780 Ashford Dunwoody Rd.
Suite A-456
Atlanta, Georgia 30338

Scale: noted

FIGURE 1
SITE LOCATION MAP
0 Paul Ave. NW
Atlanta, Georgia

Project Number 18-054

Source: Fulton County Tax Assessor

ETRI
Environmental Technology Resources, Inc.
4780 Ashford Dunwoody Rd.
Suite A-456
Atlanta, Georgia 30338

Scale: Not to Scale

FIGURE 2
TAX MAP
0 Paul Ave. NW
Atlanta, Georgia

Project Number 18-054

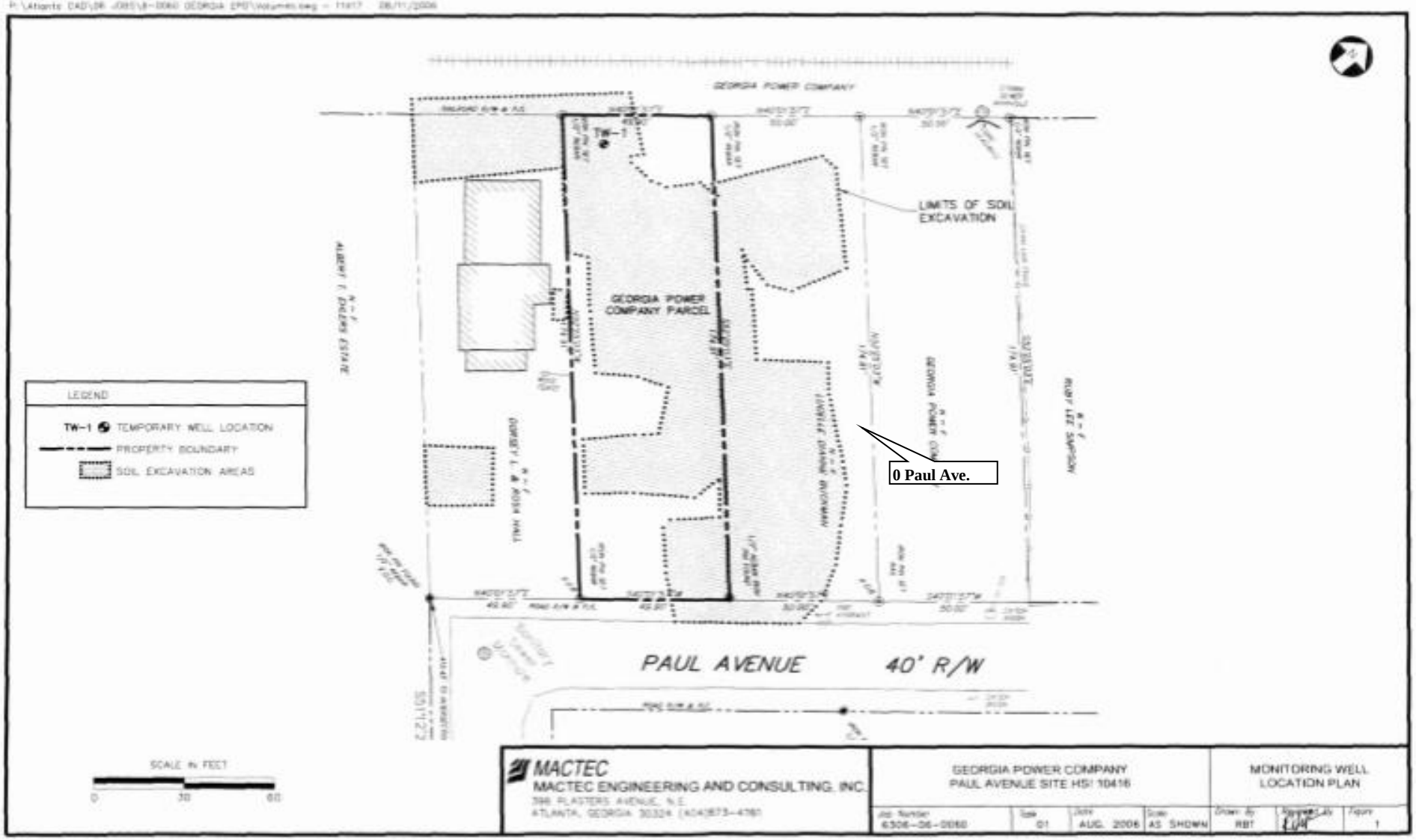
ETRI

Environmental Technology Resources, Inc.
4780 Ashford Dunwoody Rd.
Suite A-456
Atlanta, Georgia 30338

Source: Fulton County Tax Assessor

Project No.	Scale	Date
18-054	Noted	2018

FIGURE 3
SITE PLAN
0 Paul Avenue, NW
Atlanta, Georgia



ETRI Environmental Technology Resources, Inc. 4780 Ashford Dunwoody Rd. Suite A-456 Atlanta, Georgia 30338	Source: Mactec Engineering and Consulting		**FIGURE 4** **SOIL REMOVAL PLAN AND MONITORNIG WELL LOCATION** 0 Paul Avenue, NW Atlanta, Georgi a
	Project No. 18-054	Scale Noted	Date 8/1/2006

ETRI
Environmental Technology Resources, Inc.
4780 Ashford Dunwoody Rd.
Suite A-456
Atlanta, Georgia 30338

Sample Location

Project No.	Scale	Date
18-054	Not to Scale	2018

FIGURE 5
SOIL BORING LOCATIONS AND RESULTS
0 Paul Avenue, NW
Atlanta, Georgia

Appendix A – Legal Description

Legal Description
0 Paul Avenue, NW
Atlanta, Fulton County, Georgia

All that tract or parcel of land lying located in Land Lot 253 of the 17th District of Fulton County, Georgia, which property has the address of Paul Avenue, Atlanta, Georgia, according to the present system of numbering streets in that area, and has the Tax Parcel ID Number 17-0253-0010-071-7 per records of the Fulton County Tax Commissioner and plat maps of the Fulton County Tax Assessor's office.

Appendix B – Georgia EPD De-Listing Letter

Georgia Department of Natural Resources

2 Martin Luther King, Jr. Drive, S.E., Suite 1462 East, Atlanta, Georgia 30334-9000
Noel Holcomb, Commissioner
Environmental Protection Division
Carol A. Couch, PhD., Director
404/657-8600

Brett

September 28, 2006

Mr. Darahyl Dennis
Remediation Projects Manager
Georgia Power Corporation
241 Ralph McGill Boulevard NE
Atlanta, Georgia 30308-3374

Re: Removal from Hazardous Site Inventory
Paul Avenue Site (HSI # 10416)
Georgia Power Parcel 17-0253-0010-080
Atlanta, Fulton County, Georgia

Dear Mr. Dennis:

The Georgia Environmental Protection Division (EPD) has completed its review of the Compliance Status Report (CSR) dated August 28, 2006 for the above referenced parcel. The CSR is complete and meets the requirements of Section 391-3-19-.06(3) of the Rules for Hazardous Site Response (Rules).

This letter is to inform you of EPD's concurrence with your certification that the above referenced parcel is in compliance with residential Type 2 Risk Reduction Standards of Section 391-3-19-.07 of the Rules. Therefore, pursuant to §391-3-19-.06(6)(b)(1) of the Rules, I am designating this parcel as not needing further action and I am removing this parcel from the Hazardous Site Inventory in accordance with §391-3-19-.05(4)(b) of the Rules as of the date of this letter.

As required by §391-3-19-.06(5)(f) of the Rules, EPD will publish a public notice announcing this determination in the *Atlanta Journal Constitution* and the *Fulton County Daily Report*. If you have any questions regarding this matter, please contact Mr. Bo Valli of EPD's Hazardous Sites Response Program at 404-657-8600.

Sincerely,

Carol A. Couch, Ph.D.
Director
Georgia Environmental Protection Division

File: HSI# 10416
S:\RDRIVE\BOVALLI\SITES\HSRA PROJECTS\10416 PAUL AVENUE\Concurrence Remove from HSI.FINAL.doc

Hazardous Sites Response Program
Document Submittal Format

All documents more than 25 pages in length shall be submitted as one paper copy and two compact disc (CD) copies with the documents in searchable (i.e., tagged) Portable Document Format (PDF). A signed certification page must be included in the CD copies. The certification page states that the electronic copy is complete, identical to the paper copy, and virus free.

All documents currently in electronic format should be converted into the searchable PDF format. All documents not available electronically and pages that contain signatures, initials, or other information not in the electronic copy should be scanned into a searchable PDF format including the signed certification page. Scanning should be at 200 dpi with any documents requiring color being scanned in color.

The document should be broken down into multiple searchable PDF files along the following guidelines with the file name referenced in the table of content.

Table of Contents
Signature / Certification pages
Main body of document
Each Attachment (Appendices, Tables, Figures, Reports, etc.)

The CDs shall be enclosed in a jewel case. The CD shall be labeled with the following information written on the CD in indelible ink or affixed to the CD with an adhesive CD label.

Site Name
Site Address
HSI Number
City
County
Document Name
Document Date

Appendix C – Laboratory Analytical Reports

0 Paul Avenue Brownfield Property
PPCAP Comments
September 30, 2019

1. Section 1.3 Site History
    a. This section discusses the history of some of the adjacent sites, but doesn't mention the drum facility until in the next section. Please include the drum facility here as well, and describe its location.
    b. Since no figure shows the location of the power plant, please state that it is located north of the RR track and north of the Chattahoochee River.
    c. Same with the concrete plant, that it is located south of the RR track and south of the river.
    d. We also request that you add a figure that labels the GA Power plant, the concrete plant, the specific 2386 Paul Ave parcel, the drum site, the other parcels owned by GA Power, and the 0 Paul Ave. subject property. Reference this added figure where appropriate in the text of the CAP.

2. Section 1.4 Previous Environmental Investigations

    a. Please rearrange this section to chronological order.
    b. This section mentions the "initial listing", but no details beyond that. Please elaborate to include more detail of the HSI initial listing (sites, parcels, dates, sub-listings, etc.) and reference the appropriate figure.
    c. In the paragraph talking about the groundwater well on GA Power's property, please give a general description where this well is physically located, since their property is expansive.
    d. This section should also give some indication what classes of contaminates (VOCs, PCBs, metals, etc.) were investigated. Lab reports only show "lead", but text indicates As, Ba, Cr, Ag were also found in soil/GW.
    e. The last paragraph should indicate what report demonstrated this conclusion (CSRs ?) and what parcels/sites/properties did the conclusion apply to (GA Power parcels, the subject property, the 2386 Paul parcel, etc.).
    f. This section should conclude with a statement about when the site was delisted and include a copy of the delisting letter in the appendix.

3. Section 4 Corrective Action Plan
    a. The section only mentioned "Lead" as a concern, but other contaminants were mentioned previously in the CAP, with no explanation why those are not part of the Corrective Action Plan. Please explain or expand analysis.
    b. Section 4.2 indicates that no corrective action has been completed, but Figure 4 shows that corrective action extended onto this parcel.
    c. We suggest adding groundwater evaluation to your scope in order to establish baseline conditions. Or provide additional details/explanation of current groundwater conditions that are based on recent sampling. It would also be good to mention somewhere in the text what the depth is of groundwater at the site and the direction of flow (assume toward the river).

Suggestions for the future CSR
The layout of Tables 1 and 2 in the text of the CAP are hard to follow and need to be revised for clarity in the CSR.