

**PHASE I ENVIRONMENTAL  
SITE ASSESSMENT REPORT**

**PROPOSED CHELSEA AVENUE GREENLINE  
ABANDONED UNION PACIFIC RAILROAD CORRIDOR  
TAX PARCELS 021051 00001, 039046 00013, 039046 00027,  
039045 00011, 039043 00012, 039043 00016, 039007 00001C,  
and 039005 00002C  
MEMPHIS, TENNESSEE 38107 and 38108**

**EnSafe Project Number  
0888810687/PH07, PH08, and PH09**

**Prepared for:**

**Wolf River Brownfield Assessment Project  
Shelby County Division of Planning and Development  
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## EXECUTIVE SUMMARY

EnSafe Inc. conducted a Phase I Environmental Site Assessment (ESA) of a 2.4-mile corridor (subject property) comprised largely of an abandoned stretch of Union Pacific (UP) railroad in Memphis, Shelby County, Tennessee. The Phase I ESA was conducted in support of the Wolf River Brownfields Assessment Project for the Shelby County Division of Planning and Development and Greater Memphis Greenline, Inc., a potential purchaser who plans to redevelop the subject property into a recreational multi-use trail. A Phase I ESA is an integral part of all appropriate inquiry (AAI), as codified in Title 40 Code of Federal Regulations Part 312, into the previous ownership and uses of the property consistent with good commercial or customary practice. The ASTM International (ASTM) Standard E 1527-05 is the industry standard used to comply with the AAI requirements. The purpose of an ASTM Phase I ESA is to identify evidence of *recognized environmental conditions*<sup>1</sup> and *business environmental risks*<sup>2</sup>.

### SIGNIFICANT FINDINGS

#### Site Location, Description, History, and Current Uses

The subject property is in northwest Memphis and comprises a 2.4-mile corridor that extends east to west from near the intersection of North Evergreen Street and Chelsea Avenue to Washington Park. The majority of the subject property was formerly developed as the UP railroad but is now an abandoned right-of-way. UP used the subject property for at least 100 years as a railway but has not used the railway in approximately 4 years. The railroad tracks and cross ties were removed from the subject property in 2010 or 2011. The cobble- and gravel-covered railbed and footprint of the former railroad are still visible. Low-lying grass and vegetation have grown in and along the railbed throughout the subject property corridor. The subject property crosses eight private parcels (primarily in the west section of the subject property); six owned by UP and two owned by Lazarov Brothers Tin Compress Company (Lazarov). The two Lazarov parcels appear to have been undeveloped or residential until the 1960s; some equipment storage was visible in aerial photographs on the Lazarov parcels from the 1970s to the 1990s. During the site visit, EnSafe observed stained soil and stressed vegetation on and adjoining the subject property, solid waste discarded throughout the entire subject property corridor, and an abandoned railroad tanker car on the subject property.

#### Surrounding Area Properties

The subject property is in a portion of northwest Memphis that has been developed since at least 1907<sup>3</sup>. Adjoining properties have been used as industrial, commercial, residential, and for churches. Adjoining industrial/commercial properties along the entire 2.4-mile corridor have been formerly or are currently occupied by businesses that have used and stored (including underground) hazardous substances and petroleum products. Industrial property uses have included a steel mill, wood product facilities/lumber yards, an acetylene gas plant, a neon sign

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<sup>1</sup> ASTM defines a *recognized environmental condition* as "the presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products into structures on the property or into the ground, groundwater, or surface water of the property. The term includes hazardous substances or petroleum products even under conditions in compliance with laws.

<sup>2</sup> *Business environmental risks* are those that may have a material environmental or environmentally driven impact on the business associated with the current or planned use of a parcel or commercial real estate.

<sup>3</sup> The date of EnSafe's earliest historical source (Sanborn fire insurance map) obtained for this Phase I ESA.

manufacturer, a box factory, chemical and petroleum processing/manufacturing companies, coal companies, and furniture factories. Commercial property uses have included gas stations, auto repair shops, salvage yards, scrap metal recyclers, roofing contractors, dry-cleaning facilities, transportation warehouses, a demolition company, and a bus maintenance facility.

## **ENVIRONMENTAL PROFESSIONAL OPINION**

This Phase I ESA has identified *recognized environmental conditions* and *business environmental risks* associated with the subject property, as follows.

Activities associated with the subject property's historical use as a rail line (including loading, unloading, and railcar maintenance) have the potential to have used hazardous substances and petroleum products, including those containing polychlorinated biphenyls (PCBs), heavy metals, solvents, and other chemicals for maintaining the railway access and vicinity, and creosote to maintain wood rail ties. Discarded debris and waste was observed throughout the subject property corridor. The potential impacts from contaminants typically associated with railroads and the debris represent *recognized environmental conditions*.

Stained soil on the subject property adjacent to Chandler Demolition appeared to be hydraulic oil or motor oil originating from demolition equipment staged on the right-of-way. The staining is considered a *recognized environmental condition*. Unused Chandler Demolition equipment staged on the subject property is considered a *business environmental risk* due to the potential capital costs and liability associated with removing the equipment.

Contaminated sediment remaining along the banks of Cypress Creek is considered a *historical recognized environmental condition* that remains a *recognized environmental condition*. Contaminants include pesticides, metals, PAHs, and VOCs.

Stained soil and stressed vegetation on the subject property south of Preserve International is considered a *recognized environmental condition*. The gold/yellow/orange staining appeared to be caused by a sweet-smelling liquid originating from two bay doors on the south of Preserve International's building. Preserve International apparently produces farm chemicals (including cleaners, sanitizers, disinfectants, and mold inhibitor) using acids, bases, and solvents.

Black stained soil and stressed vegetation from the former Powell Brothers Roofing Contractor facility is considered a *recognized environmental condition*. No petroleum or other odors were detected in the stained area. Additionally, this facility is registered on the UST database.

The Ben J Malone site is an active LUST site with a Corrective Action System constructed at the site. According to regulatory documents, groundwater at the site flows west (cross-gradient to the subject property). During the site visit, approximately 15 55-gallon drums were observed staged adjacent to the subject property and a hole was observed in the vacant facility's fence. The material threat of release to the subject property from this facility is considered a *recognized environmental condition*.

Documented soil contamination at the New Chicago site is considered a *recognized environmental condition*. According to regulatory information, approximately 800 feet of the New Chicago/subject property boundary is contaminated with lead and petroleum. This former steel mill has a black ash layer (suspected to be slag, kiln dust, and ash) buried up to 36 inches deep across at least approximately 3 acres adjoining the subject property.

The subject property is within the EPIC #64 site, which includes the Osmose and Sharvania sites. Arsenic, lead, chromium, TCE, cis-DCE, and trans-DCE were detected in soil or groundwater at the Osmose site, and arsenic and lead were detected in soil at the Sharvania site. The detections in soil and groundwater at the Osmose and Sharvania sites are considered *recognized environmental conditions* in connection with the subject property. Osmose's proposed remediation plan includes excavating 1 to 8 feet of soil on the subject property along its entire border with the Osmose property. The associated feasibility study states the responsible parties intend to acquire the portion of the subject property that borders the Osmose property. The pile of concrete rubble, asphalt, and dirt on the subject property between Tully Street and Thomas Street appeared to be construction debris from the Sharvania site, where a new concrete pad was recently poured. The likelihood that the debris pile contains contaminated soil from the Sharvania site is considered a *recognized environmental condition*. However, according to paperwork submitted in February 2012, Sharvania will remove the debris pile and properly dispose of the material in an offsite, permitted landfill.

An oil release on the subject property in 1996 from a tanker car (Tully Road Rail Car Spill) is considered a *historical recognized environmental condition* that remains a *recognized environmental condition*. USEPA supervised cleanup of approximately 150 tons of contaminated soil from the subject property and stated that the immediate threat to human health and the environment had been mitigated; however, subsurface soil and/or groundwater contamination may be present.

The subject property is in an area of northwest Memphis that has been heavily industrialized and commercialized since the early 1900s. The length of the subject property corridor, history of the surrounding area, and number of adjoining/surrounding industrial, manufacturing, commercial, and landfill sites is considered a *recognized environmental condition*.

Additional *business environmental risks* associated with the subject property include capital costs and/or potential liability associated with subsurface investigations in areas that have not been fully investigated and/or characterization and proper disposal of material (such as the tanker car and 55-gallon drum) that remains on the subject property.

Several data gaps encountered while conducting this Phase I ESA may have limited EnSafe's ability to identify *recognized environmental conditions* associated with or resulting from historical uses of the subject property.

#### **DATA GAPS, LIMITATIONS, AND EXCEPTIONS**

EnSafe's earliest historical source obtained for this Phase I ESA is a 1907 Sanborn map that shows the subject property developed with the railroad and adjoining properties developed with industrial businesses. The city of Memphis was founded in 1819 and incorporated in 1826. The

subject property's close proximity to industrial and commercial operations suggests the potential for prior industrial or commercial development — therefore, a data failure has occurred. Although sufficient information was obtained to identify general past uses of the subject property, the data failure is considered a data gap that may have limited EnSafe's ability to identify *recognized environmental conditions*. The following limitations and exceptions encountered during EnSafe's Phase I ESA are also considered data gaps.

- The inability to interview a key site manager or former operators for the UP-owned property.
- EnSafe did not contact Lazarov regarding the two private parcels west of Thomas Street at the request of Mr. Syd Lerner, with Greater Memphis Greenline, Inc.
- The absence of documentation regarding operations associated with the subject property during the 100+ years that UP operated the railroad limited EnSafe's ability to identify specific hazardous substances and petroleum products transported, used, stored, handled, accumulated, and disposed of, and where specific operations occurred (such as spurs, switches, and rail yards).
- Two recessed concrete vaults, which appeared to be used as switch control boxes, were not viewed because their lids were locked. Prior EnSafe railroad corridor assessments have shown these vaults housed alkaline batteries, wiring, and/or other electrical components.
- Vegetation covering the footprint of the abandoned railroad.
- The lack of a comprehensive well search for the subject property.
- Regulatory information was not available for review for multiple adjoining and/or surrounding area properties with environmental records.

## **PHASE II ENVIRONMENTAL SITE ASSESSMENT**

The following summarize what specific activities a Phase II ESA of the subject property may entail based on the Phase I ESA findings; corresponding cost estimates and timeframes for conducting the Phase II ESA are included.

The subsurface investigation would be designed to focus on impact from historical onsite and offsite operations; constituents of concern are petroleum hydrocarbons, metals, VOCs, SVOCs, PCBs, pesticides, herbicides, and asbestos.

- Subsurface Investigation to include direct-push technology borings and hand augering for soil and groundwater (if encountered) along the subject property corridor to determine if historical railroad operations or operations on adjoining properties have impacted the subject property — \$34,000/90 days

- Waste Characterization to determine disposal options related to contents of the tanker car and a drum at the subject property — \$3,800/30 days

EnSafe recommends the Phase II ESA be conducted with the intention of entering into a Brownfields Agreement with the State of Tennessee, which may limit the liability of a party (and certain future parties) who is willing and able to conduct an investigation and remediation of a hazardous substances site or Brownfields Project and who did not generate, transport or release the contamination that is to be addressed at the subject property.

***Notes:***

This cost estimate has been prepared using rates and fees specific to EnSafe's contract with the Shelby County Division of Planning and Development for the Wolf River Brownfields Assessment Project.

This general cost estimate has been prepared for informational purposes only. An updated cost estimate should be prepared once a final scope of work is determined by all involved parties.

The cost estimate for waste characterization assumes all associated work will be performed in conjunction with the subsurface investigation.