

Executive Summary

The subject property is a 0.07-acre rectangular parcel improved with a 14,900-square-foot three-story building with a basement at 26 South Main Street, Memphis, Shelby County, Tennessee. The property is accessible from the northwest through a main entrance along South Main Street and from the southeast through the basement along South November 6th Street.

Site History

The subject property is currently vacant and has not been occupied since the mid-2000s. The last use was as a comedy club and karaoke café (mid-2000s). The subject property is in a portion of downtown Memphis that has been developed commercially and residentially since at least 1888. Historical uses of the subject property included retail shops, restaurants, and, in the 1920s, a hotel on the second and third floors.

Historically, adjoining properties have been retail stores, furniture sales and upholstery, hotels, restaurants, gaming halls, and offices. Four adjoining properties were listed in historical sources as printing facilities (19 and 21 South Second Street housed printing operations between approximately 1950 and 1980, and 122 and 124 Monroe Avenue housed printing operations in the 1890s and early 1900s).

Previous Investigations

EnSafe conducted a Phase I Environmental Site Assessment (ESA) of the subject property in 2012; no previous environmental investigations were identified. The Phase I ESA identified the following *recognized environmental conditions* and *business environmental risks*.

Recognized Environmental Conditions

- Stained areas on the floor and walls in the basement are evidence of a release of hazardous substances and/or petroleum products into structures on the property, which is considered a *recognized environmental condition*.
- The printing facilities that historically adjoined and/or surrounded the subject property are an environmental concern due to their typical usage of hazardous substances such as inks, solvents, and adhesives. Waste disposal practices by printing facilities operating before the early 1980s are suspect, because environmental regulatory controls were not fully developed, enforced, or recognized. No reported releases were found from these former printing operations. However, based on the number of printing operations in proximity to the subject property and the years those operations spanned (late 1800s to 1980s and later), the potential for releases from these operations to have caused regional soil and/or

groundwater contamination in the site area is considered a *recognized environmental condition*.

Business Environmental Risks

- Based on its age, the building likely contains asbestos containing materials (ACM) and lead-based paint (LBP). The proposed future use of the subject property includes commercial and residential redevelopment; therefore, the presence of ACM and LBP is a *business environmental risk* due to the capital costs and potential liability associated with its identification, abatement, encapsulation/removal, and disposal.

Phase II Environmental Site Assessment

The Phase I ESA identified historical and current printing operations on the adjoining and surrounding properties as *recognized environmental conditions* due to the use of solvents and other cleaning agents in the printing process. A subsurface investigation was designed to focus on the potential impact from historical onsite and offsite operations, and was conducted in stages. Constituents of concern are petroleum hydrocarbons and volatile organic compounds (VOCs).

The objectives for the Phase II ESA were as follows:

- Determine the purpose of piping observed in the basement through a forensic utility survey and evaluate if additional soil or groundwater sampling and analysis were warranted.
- Evaluate potential impacts to the subject property from the surrounding properties by conducting a subsurface investigation including:
 - Collecting three sub-slab soil-gas samples from beneath the foundation of the basement of the subject property to evaluate the potential risk by soil-gas vapors that may require mitigation action.
 - Collecting soil samples from beneath the stained areas in the basement for laboratory analysis to evaluate potential past releases onsite of petroleum and/or hazardous substances.
- Evaluating the presence of ACM by conducting an asbestos survey and sample suspected ACM for laboratory analysis.
- Evaluating the presence of LBP by conducting a survey utilizing field testing methods.

Phase II ESA Results and Recommendations

The Phase II ESA was conducted through three 1-day site visits over a 3-week period between June 26 and July 13, 2012.

Utility Evaluation Basement

Based on visual observation and a general knowledge of building utilities, and considering known historical uses, the basement sub-floor piping was determined to be connected to the sanitary sewer line and likely served the kitchen during site use as a restaurant and/or laundry during site use as a hotel. Based on the evaluation and identification of the piping in the basement as being part of the sanitary sewer system of the building, no additional soil sampling was deemed necessary.

Sub-Slab Soil-Gas Sample Results

Naphthalene was the only compound detected in sub-slab soil gas at concentrations that exceeded residential adjusted ambient air regional screening levels. The naphthalene concentrations are within the site target lifetime cancer risk range of 1×10^{-4} to 1×10^{-6} . No further action is recommended regarding vapor assessment at the subject property.

Soil Sampling Results

VOCs and extractable petroleum hydrocarbons concentrations detected in soil samples collected beneath the petroleum-stained area in the basement were below screening levels protective of an excavation worker. No further action is recommended regarding soil sampling beneath the basement floor.

Asbestos Containing Materials Survey Results

Chrysotile was identified as being associated with three different types of floor tile present on the first floor. EnSafe recommends that ACMs be handled and maintained in accordance with applicable local, state, and federal regulations. This discrete survey was limited to suspect materials that were visually and physically accessible and did not include the exterior roof. If additional suspect materials are identified — such as those behind walls or not identified because of other limitations during this survey — they should be sampled by a certified building inspector prior to disturbance.

EnSafe recommends if any renovations occur, that ACMs be removed in accordance with applicable local, state, and federal regulations from all areas that will be subject to renovation or demolition activities. ACMs observed in the building were non-friable and in good condition; therefore, if ACMs are to remain in the building following renovation/demolition activities, EnSafe

recommends that a site-specific Operations and Maintenance Plan be developed for management and control of all remaining ACMs.

Lead-Based Paint Survey Results

LBP was identified on every floor of the subject property. The following are recommendations from Environmental Technical Services (ETS)/National Econ Corporation report of the LBP survey. Due to the potential hazards of exposure, a Lead Management Program should, at minimum, be prepared, and implemented, to avoid incidental, and/or accidental disturbance of lead containing material, found at the subject property. The program should set forth operational and maintenance guidelines to minimize lead consumption or exposure that may be caused by age, normal wear and tear, delamination, building maintenance, repairs, renovation and other activities that may impact lead-containing material.

Prior to demolition, or major construction, specifications should be properly modified to incorporate the removal of lead containing material. According to the Tennessee Department of Environment and Conservation, any detectable level of lead can result in occupational exposure. ETS recommends that personal and random area air monitoring be conducted during lead removal and/or demolition.

Note that under Section 302 of the Lead-Based Paint Poisoning Prevention Act, lead containing material hazards equal to or greater than 0.5% by weight (5,000 parts per million) or 1.0 milligrams per square centimeter must be abated. Lead containing material that is intact and is not delaminating can be disposed of as construction debris as long as it is attached to its original substrate and is within waste characterization protocols. However, appropriate work practices and worker protection must be utilized.