



Brownfields Resources

Phase I Environmental Site Assessments

Terrie K. Boguski, P.E.
Sabine E. Martin, Ph.D., P.G.
Beth A. Grigsby, L.P.G.
Debi Morey

What are Phase I Environmental Site Assessments?

Phase I Environmental Site Assessments (ESA) are an important tool for property owners, investors, borrowers, and lenders to meet legal, financial, and ethical obligations for **due diligence** on properties before purchase, sale, development, refinancing, or foreclosure.

Potential buyers use a Phase I ESA to

- avoid taking ownership of contaminated property;
- be eligible to use the “innocent landowner, contiguous property owner, or a bona fide prospective purchaser,” defenses and avoid responsibility for cleanup under the federal Superfund law (**CERCLA**); and
- evaluate whether environmental risks are worth accepting in a case where contamination is discovered.

The purpose of a Phase I ESA is to learn about a property's past use, environmental conditions at the site and adjoining sites, and possible presence of hazardous substances and petroleum products. A Phase I ESA is typically conducted prior to entering into a purchase, refinancing, or option agreement, and is ultimately used to assist property owners in managing environmental risks.

Results of the Phase I ESA may remove barriers to redevelopment. A Phase I ESA may be the first step to demonstrate a property is not as contaminated as commonly believed or not contaminated at all.

Are there standards for Phase I ESAs?

A Phase I ESA must be conducted in compliance with EPA's **All Appropriate Inquiries (AAI)** Final Rule, or follow the standards set forth in the **ASTM E1527-13** Phase I ESA

Process, to be eligible for liability protections under CERCLA.

Who conducts Phase I ESAs?

Phase I ESAs must be conducted by an **environmental professional** to comply with the AAI Final rule. A person who is not an environmental professional (as defined by AAI) may assist in conducting a Phase I ESA if the individual is under the supervision of a person meeting the definition of an environmental professional.

What is included in a Phase I ESA?

A Phase I ESA involves the review of federal, state, local and historical records; review of commonly known or reasonable ascertainable property information; a visual inspection of the property; identification of any significant data gaps in information collected which would affect the ability of the environmental professional to identify conditions indicative of releases or potential releases of contaminants; and interviews with current and/or past owners, occupants, operators, and local government officials. (In the case of abandoned properties, it may also include an interview of one or more neighboring property owners.) A Phase I ESA does not involve sampling or laboratory analysis.

What is not included in a Phase I ESA?

No soil, groundwater, surface water, air, building materials, or any other substances associated with the site are sampled, tested or analyzed. This may be done later if a Phase II is indicated.

Based on the past uses, the person or entity requesting the Phase I ESA may wish to acquire additional, non-scope, information at the same time that a Phase I ESA is conducted.

Typical non-scope considerations may include investigation of asbestos-containing materials, radon, lead-based paint, lead in drinking water, or wetlands status.

What does a Phase I ESA report look like?

There is no required format for the Phase I ESA report, but a good report provides the client with relevant information in a format that is accurate, concise, and easy to read.

A typical report may contain these parts:

- Executive Summary – summarizes potential environmental concerns identified on the property, or on adjacent or nearby properties.
- Introduction
 - Purpose – why was the work was conducted.
 - Methodology – how was the work conducted.
 - Scope of Services – what work was done. Generally includes a statement that the work complies with AAI or ASTM standards.
 - Warranty and Limitations – Generally explains that the work was conducted in a manner consistent with acceptable practices for conducting Phase I ESAs.
- Qualifications Statements and Signature – certain statements of credentials and qualifications, and the signature of the environmental professional conducting the Phase I ESA are required to comply with the AAI final rule.
- Subject Property (Site) Description – gives location and legal description of the property. It typically include descriptions of immediate boundaries, property dimensions, current use, zoning, buildings and improvements, utilities and easements, topography and surface water drainage patterns, presumed or known direction of groundwater flow, general description of the geology, and soil characteristics of a subject property.
- Adjacent and Near Properties Description – describes current land use of properties immediately adjacent to and/or near the subject property. The goal is to look at properties to a distance at which potential environmental concerns on those properties would no longer represent a concern to the subject property.
- Records Research
 - Historical Records – includes reviews of historical information sources such as topographic maps, aerial photographs, city directories, fire insurance maps, and chain-of-title summaries in an effort to determine all past land uses of the site (since the site was developed) and adjacent properties.
 - Regulatory Agencies Records – this is typically a standard records search of regulatory agency databases of properties within 1/8 to 1 mile of the subject property. The report should summarize the sites that are potential environmental concerns to the subject property.
 - Physical Setting – review of sources of geology, hydrogeology, topography and drainage information pertinent to the site.
- Interviews – information about the site and adjacent properties disclosed through persons knowledgeable about those properties. These persons may include present or past property owners, operators, and occupants, as well as neighbors or local government officials.
- Potential Environmental Concerns – potential environmental concerns related to the subject property or adjacent/near properties are reported.
- Data Gaps – a required topic by the AAI final rule.
- Findings and Opinions
 - Recognized Environmental Conditions – presents significant environmental concerns associated with a subject property or adjacent/near properties.
 - Opinion of the Environmental Professional (EP) – the AAI final rule requires a written report documenting the results and includes an opinion of an environmental professional as to whether all appropriate inquiries conducted identified conditions indicative of releases or threatened releases of hazardous substances on, at, in, or to the subject property. Additionally, the report must include an opinion regarding additional appropriate investigation, if the environmental professional has such an opinion.
- Recommendations – the report may contain recommendations about what steps should be taken to address any concerns.
- Appendices – includes copies of reproducible information sources reviewed during the Phase I ESA, as well as an area vicinity map and site diagram detailing any potential environmental concerns.

Note: Those conducting a Phase I ESA as part of an EPA Brownfield grant will also be required to include specific language on the qualifications and signature of the environmental professional(s) conducting the Phase I ESA. See your grant terms and conditions for the specific language to include.

How long is the Phase I ESA valid?

For liability protection under CERCLA, a Phase I ESA is valid for one year. After one year, it becomes obsolete. Hence, a Phase I ESA must be conducted within one year prior to purchase of the property, with certain aspects conducted or updated within 180 days of the purchase date (i.e., site inspection, interviews, local records search, environmental professional's declaration).

What is new with the E1527-13 Standard?

The change from the E1527-05 to E1527-13 Standards brought some changes and clarification to the Phase I process. The most significant differences are as follows:

- The new standard clarified that migration of vapors onto a site or into structures on a site should be considered in the determination of recognized environmental conditions (RECs).
- The new standard clarified that reviews of regulatory files should be conducted for the site or nearby sites. However, the EP, can, with proper explanation, decide the review is not necessary to determine if an issue is a REC.
- Controlled REC (CREC)– the term CREC was added to the standard to describe RECS at sites that have institutional controls present to limit exposure to the impacts causing the RECs. For example, a site contains groundwater contamination over acceptable limits; however, a restrictive covenant preventing the use of groundwater is placed on the deed.

Additional Resources

- All Appropriate Inquiries – Fact sheets, the final rule, and other information: www.epa.gov/brownfields/brownfields-all-appropriate-inquiries
- Brownfields – EPA Website containing brownfields program information: <https://www.epa.gov/brownfields>
- To purchase a copy of the ASTM standards: <http://webstore.ansi.org>

ABOUT THE AUTHORS

Terrie K. Boguski, P.E., was the Assistant Technical Director of the CHSR at Kansas State University from 1998-2016. (tboguski@ksu.edu).

Sabine E. Martin, Ph.D., P.G., was the Technical Assistance to Brownfield communities (TAB) Coordinator for the CHSR at Kansas State University From 2002 - 2012 (smartin1@ksu.edu).

Beth A. Grigsby, L.P.G., is a Senior Project Consultant with SME, Inc., and a TAB Partner, with over 25 years of experience providing brownfields technical assistance (grigsby@sme-usa.com).

Debi A. Morey, is a TAB Partner who previously served in the US EPA Office of Brownfields and Land Revitalization from 2006-2017 and the EPA Region 7 Brownfield Program from 1998-2003.

Glossary of Terms

All Appropriate Inquiries (AAI) • A process of evaluating a property's environmental conditions and assessing potential liability for any contamination. All appropriate inquiries must be conducted to obtain certain protections from liability under the federal Superfund Law.

ASTM International Standard E1527-13 • The title for this standard is "Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process."

Due diligence • Due care, the effort made by an ordinarily prudent or reasonable party to avoid harm to another party.

Environmental Professional • Defined by the AAI rule as someone with
1) a current Professional Engineer's or Professional Geologist's license or registration from a state or U.S. territory with three years equivalent full-time experience; 2) a baccalaureate or higher degree from an accredited institution of higher education in a discipline of engineering or science and five years equivalent full-time experience; or 3) the equivalent of 10 years full-time experience.