

Issue No. 16 | Fall 2020 Is It a REC? – Mind Your Business Environmental Risk (BER)

The Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process (ASTM E1527-13) includes in its Terminology section “business environmental risk”, defined as follows:

“a risk which can have a material environmental or environmentally-driven impact on the business associated with the current or planned use of a parcel of commercial real estate, not necessarily limited to those environmental issues required to be investigated in this practice. Consideration of business environmental risk issues may involve addressing one or more non-scope considerations, some of which are identified in Section 13.”

This definition clearly implies that evaluating BER issues when conducting a Phase I ESA is not really required under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (“CERCLA” or “Superfund”) or the “All Appropriate Inquiries” Final Rule, 40 C.F.R. Part 312, and that not all BER is necessarily addressed in the Standard.

E1527-13 does devote an entire Appendix to the subject (X5. Summary of Common Non-Scope Issues). Does this make BER important to the user of the Phase I ESA, or simply a “back of the report” issue? In many cases the answer will lie in how the BER issue will affect the cost of transaction or subsequent use, and the liability or risk tolerance of the user.

The ASTM Standard identifies BER issues as “non-scope considerations” and lists nine particular categories, as follows:

Asbestos-Containing Building Materials - EPA defines asbestos-containing material (ACM) as containing more than 1% asbestos. Undamaged ACM in a building (ACBM) is generally not considered a health hazard and is not regulated specifically under CERCLA. However, a building owner may still be liable for exposure to asbestos fibers under other federal and state regulations including the National Emission Standard for Hazardous Air Pollutants ([NESHAP](#)) for asbestos. Furthermore states and localities often require an asbestos survey for structures built before a certain date before issuing a building permit for renovation or demolition. The Phase I process becomes a good time to evaluate such potential cost and liability issues.

Lead Paint – similar to asbestos, lead paint in a building above a certain level will trigger response actions. The EPA has defined paint with greater than 0.5% lead by weight as “lead-based paint” (LBP), and the Consumer Product Safety Commission (CPSC) prohibited use of lead in paint for residential use in 1978 in concentrations greater than 0.06% lead by weight, sometimes called “lead-containing paint.” These numbers and dates often cause confusion in determining if a building has lead paint, so a lead paint survey is the only way to know for sure. In addition, concentrated lead waste, often produced when stripping LBP and/or accumulating paint chips for disposal, can be considered hazardous waste if the waste leaches lead above 5 parts per million (PPM) as determined by a laboratory TCLP test. Cost and liability for LBP will increase if a renovation project generates lead hazardous waste, and further escalates if the LBP has contaminated other surfaces or the surrounding soils. As with asbestos, the Occupational Safety and Health Administration (OSHA) will regulate worker exposure to lead when conducting renovation, repair or painting.

Lead in Drinking Water - lead in a building’s drinking water is usually caused by leaching of lead from the plumbing materials or from the service lines or distribution system that supply the building. The 1986 Safe Drinking Water Act called for lead free materials to be used in residential and non-residential plumbing systems that supply water for human consumption. However “lead free” does not mean “no lead”, and the ability for leaching into drinking water is a complex consequence of not only the building’s plumbing but also the quality and source of the water coming into the building. The common theme here – testing is important. To consider lead in drinking water when conducting an ESA, plan to test all taps, water fountains, etc. where water is used for drinking. Also collect a “first draw” sample from a tap that has not been recently used and a then a second sample from this same tap after the water has run for up to 10 minutes. This sampling method will allow you to compare lead concentration in the stagnant water inside the piping (an indicator that high lead may be coming from the solder or other lead sources in the building’s plumbing system) to the actual source water that is entering the building. The results will help you decide if the building plumbing needs to be replaced, or if the incoming water already has high lead and therefore an alternate control or treatment method will be needed.



Radon – this natural radioactive gas finds its way into buildings via unfinished or cracked floors or walls and other entry points like drains and sumps. ESAs often will consider these entry points but, you guessed it, testing is necessary to confirm if radon has become trapped indoors. And it stands to reason that radon levels will fluctuate according to daily temperature changes, opening and closing of doors and windows, HVAC systems, and general construction quality. EPA has established predicted average indoor radon screening levels for all counties in the U.S. These radon zones are divided as Zone 1, having a predicted indoor average radon greater than 4 pico Curies per Liter (pCi/L); Zone 2 between 2 and 4 pCi/L, and Zone 3, the lowest, with less than 2 pCi/L. If testing is an option, long term testing over 3 to 7 days provide a more accurate result considering the fluctuations. Where uncertainty remains, the property transaction should factor in the need and cost for radon mitigation such as impermeable barriers in floors, or a sub floor ventilation system that removes radon before entry.

Wetlands – The presence of wetlands on or near a property can increase the cost of, or significantly alter and even eliminate, potential for development. These ecologically sensitive areas are regulated under the Clean Water Act and are evaluated according to three primary factors: 1) Hydrology, 2) occurrence of water-loving (hydrophytic) vegetation, and 3) soil type. Regulated wetlands are considered *jurisdictional*, with the U.S. Army Corps of Engineers having the primary responsibility for determining if a wetland is jurisdictional and what use or activities are authorized according to available permits. Wetland occurrence can be predicted as a desktop exercise through the use of existing floodplain maps and the National Wetland Inventory (NWI) mapping program. However if any project has the potential to disturb a jurisdictional wetland, a wetland delineation and subsequent confirmation (aka *determination*) is a must.

Endangered Species – as with wetlands, the presence of certain plants and animals that are listed as threatened or endangered under the Endangered Species Act can restrict the use of a property even if just their habitats are present. An ESA for property with such concerns should include consultation with the local U.S Fish and Wildlife Service office, who will confirm what species are present, if more in depth surveys are required, or if restrictions apply. For example, presence of endangered species or their habitats may not stop a project, but may require a time of year restriction to prevent disturbance, such as land clearing or tree cutting, during breeding seasons.

Indoor Air Quality – IAQ is a broad category that addresses release of hazardous substances into indoor air. Investigating impacts of vapor intrusion from subsurface sources outside a particular building, like drycleaners and gas stations that may have caused a “release into the environment,” is addressed specifically in ASTM E2600 (see Is it a REC? Issue 7). Sources of indoor air contamination are numerous and are affected by activity as well as the condition of heating and ventilation systems. Industrial sites may use specific chemicals that have exposure limits and other requirements. IAQ studies are best performed by professionals trained in industrial hygiene, and who also are equipped to investigate other biological agents. Effects of coronavirus and the COVID-19 pandemic will also come into play here, whether it is to test for the virus, consider exposure risks and controls, or simply ensure that site access for the ESA is conducted according to applicable protocols.

Mold – Testing for mold is a common subset of IAQ investigations, employing similar skills determine sampling locations, HVAC operation, temperature, humidity, and water entry. An adage in the ESA industry is “solve the moisture problem and you will solve the mold problem”, so expertise in building envelope issues is helpful. A general approach to assessing mold issues is to determine if mold is “multiplying”, whereby commonly occurring mold in the outdoors takes advantage of favorable growing conditions inside the building and multiplies. However there are still no federal regulations or standards to compare to. Methods to investigate observable mold conditions relevant to commercial real estate transactions are offered in ASTM E2418-06 “Standard Guide for Readily Observable Mold and Conditions Conducive to Mold in Commercial Buildings: Baseline Survey Process”, however this standard was withdrawn in 2015 and no updates have been announced. This guidance was essentially replaced by ASTM E3026-15 “Standard Guide for Readily Available Moisture Affected Materials and Conditions Conducive to Elevated Moisture in Commercial Buildings: Visual Moisture Assessment Process,” which provides a practical means for identification of moisture in building materials and building deficiencies that can lead to elevated moisture. Ignoring mold issues can increase BER through higher repair and maintenance costs down the road, as well as liability for exposure to building occupants, system repair and replacement, and the negative publicity associated with mold issues.



Regulatory Compliance – Environmental compliance pertaining to commercial and industrial properties can entail too many laws and regulations to fully address in a typical ESA, and most fall outside the purview of CERCLA. These include management of hazardous materials and wastes regulated under the Resource Conservation and Recovery Act (RCRA) or Toxic Substances Control Act (TSCA); Clean Air Act compliance for air emissions; water and wastewater treatment; wastewater and storm water discharges; and others. Permits are often issued and enforced by state and local regulators, which can be stricter than federal rules. Non-compliance will undoubtedly result in higher costs whether from fines, enforcement proceedings, or the time and capital expense to bring the facility into compliance. Bottom line: don't consider a Phase I or Phase II ESA to be an environmental compliance audit. Rather, use the opportunity to identify applicability of broader environmental regulations to your site. If there is potential for non-compliance, then perform the appropriate audit as an added-scope item.

Cultural and Historic Resources – ASTM E-1527-13 does not elaborate on how to consider historic properties and other cultural resources in an ESA. Usually reserved for property transfers involving a federal action or funding from Department of Housing and Urban Development (HUD) or other federal agency, coordinating with the State Historic Preservation Office (SHPO) and affected Native American tribes is required to assess potential impacts. Even privately-funded projects in Opportunity Zones or which are eligible for historic tax credits will have requirements on redevelopment that force attention to other BERs. For example, if a building must preserve rather than replace its historic windows, it becomes more important to know if there is lead-based paint on the window casings, since the lead abatement would add additional time and cost as opposed to a less-regulated option such as replacement.

Speaking of HUD, the ASTM-listed BERs do not fully address all the items required in Phase I ESAs for HUD-funded projects. Note that a Phase I prepared for HUD environmental review must include many of the BER items listed above, as well as additional non-scope items such as proximity to airport runways; coastal zones; railroads; noise sources; and environmental justice issues. Where a purchaser or developer of property connected to HUD funding can still rely on an ASTM Phase I to qualify for CERCLA liability protection, the Phase I must also address the relevant BER issues to satisfy HUD.

Response Actions for Addressing Business Environmental Risk (BER) in an Environmental Site Assessment		
BER	Good	Better
Asbestos-containing building materials	Assess presence of suspect building materials & potential for disturbance	Perform asbestos survey by licensed inspector
Lead-containing paint	Assess presence & condition of painted surfaces, age of building & potential for disturbance	Perform lead paint survey by licensed inspector
Lead in drinking water	Assess source and review public test results	Sample drinking water sources for laboratory analysis of lead
Radon	Check EPA and State radon zones	Deploy testing devices for on-site radon testing
Wetlands	Review National Wetland Inventory (NWI) maps	Perform wetland delineation and Army Corps of Engineers confirmation
Endangered species	Review published federal and state species lists	Consult with USFWS and perform on-site surveys
Indoor Air Quality	Assess sources of indoor pollutants	Perform IAQ survey by industrial hygienist
Mold	Visual mold and moisture assessment	Perform mold survey by industrial hygienist
Regulatory Compliance	List broad compliance categories that may be applicable	Perform environmental compliance audit
Cultural and Historic Resources	Desktop review, historic tax credit requirements	Consult with State Historic Preservation Office
Other potential BER issues for Federally-funded projects		
Airport hazards; coastal zones; railroads; noise sources; Environmental Justice		

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