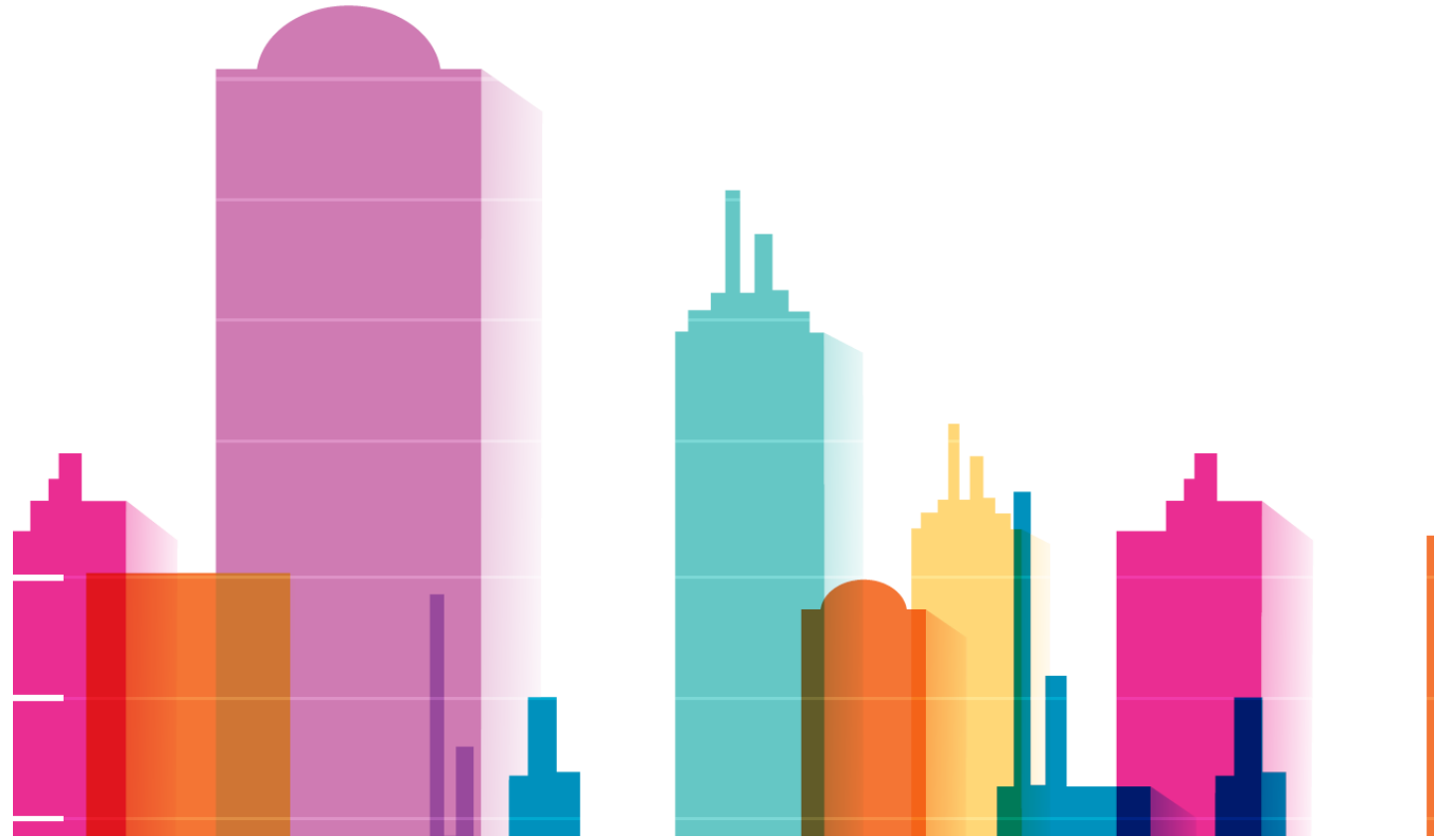
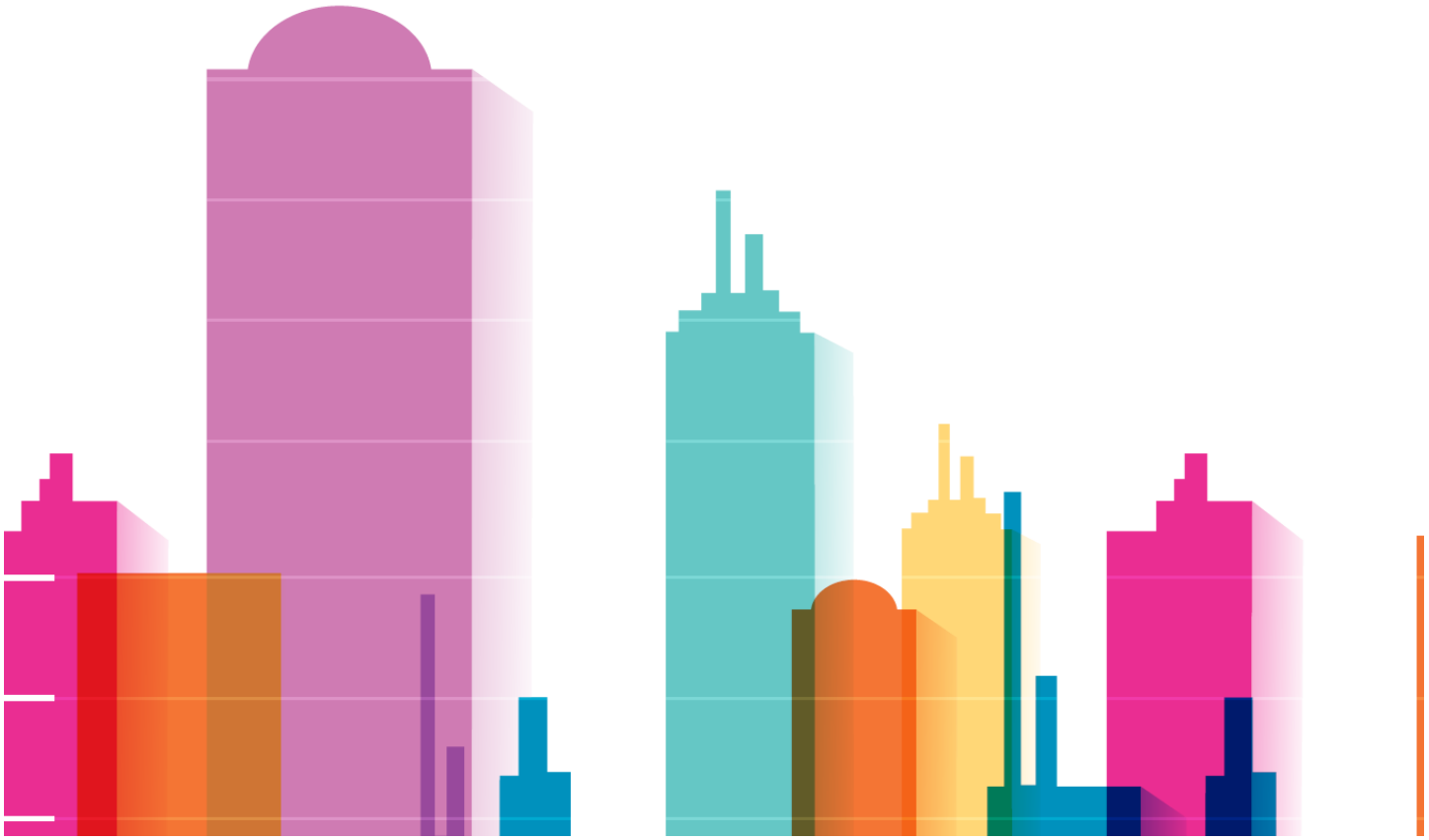
ACC DOCKET
INFORMED. INDISPENSABLE. IN-HOUSE.

Real Estate Transactions are Fraught with Peril: Don’t Let Environmental Concerns Spoil the Deal

Environmental

Real Estate





CHEAT SHEET

- ***PCA.*** Property Condition Assessments (PCAs) are most often required by lenders for approval of commercial real estate loans, but they are not intended to provide in-depth analysis.
- ***APCA.*** Acquisition Property Condition Assessments (APCAs) offer a greater level of analysis than PCAs and are entirely customizable, which can help stakeholders in both the negotiation and budgeting processes.
- ***ESA.*** Phase I Environmental Site Assessments (ESAs) identify or rule out the presence of recognized environmental conditions that can cause major liability and cost concerns.
- ***SRA.*** Seismic Risk Assessments (SRAs) quantify the likely extent of potential damage by earthquakes, helping stakeholders take action to mitigate risks and associated costs.

Purchasing a commercial property involves managing several risks related to the market, from financing and tenants to even the physical property itself. Due diligence can be especially daunting to navigate as report types, services, and standards vary greatly between consulting firms. Understanding the differences between available due diligence options can help you determine the level of investigation that best fits your business goals.

The information lenders, investors, and owners need to complete a successful real estate transaction comes from three key assessments: a Property Condition Assessment (PCA), an Environmental Site Assessment (ESA) and, where applicable, a Seismic Risk Assessment (SRA). We will dive into each of these assessments and the benefits they provide.

Property condition assessments

PCAs are most often required by lenders for approval of commercial real estate loans. Typically, a building generalist gathers data by visually inspecting the property — usually spending less than half a day collecting the data — and writes a Property Condition Report (PCR) that meets the American Society for Testing and Materials (ASTM) standards.

Since buyers, investors, and other stakeholders take on substantial risks in commercial real estate transactions, there are specialized due diligence services tailored to support acquisitions. Considering what could be at stake when purchasing a property without thoroughly understanding its condition, it makes sense to invest in high quality due diligence reporting up front. One such service is an Acquisition Property Condition Assessment (APCA), which goes beyond the ASTM standard PCA, which is intended solely for lender financing purposes.

While the PCA is entirely appropriate for lenders, it is not intended to provide in-depth analysis and the more thorough information that investors acquiring property can leverage most. Lenders want to see that certain liability standards are met, while acquisition stakeholders need to understand the unique challenges and opportunities of a potential investment. There are a host of concerns primarily affecting stakeholders that do not come into consideration in a standard PCA.

In contrast, an APCA offers an entirely customizable property analysis and expands the standard

scope to provide extra detail on all building components, roof conditions, façades, systems such as heating, cooling, electrical, and/or plumbing, and structural components, to name a few. The greater level of analysis provided by an APCA gives stakeholders more comprehensive insights into a property's needs, and can help in both the price negotiation and capital expenditure budgeting process. A team of senior staff specialists collaborates early with clients to develop and implement a project scope and fine-tune recommendations, focusing on specific areas of interest or concern.

While standard PCAs are geared more toward lenders and utilize underwriting models structuring the items and costs of recommended repairs or replacements, APCAs provide insight into the real-world costs of ownership or management of a property. They help the purchaser understand the property condition and what to expect in terms of repairs and maintenance, enabling them to plan and budget for those costs. Additionally, this can be invaluable to prospective owners of new buildings with warranties about to expire.

Depending on your needs and situation, you may need only an ASTM standard PCA, or you may be looking for the additional insight provided by an APCA.

Environmental site assessment

Another common transaction risk is environmental contaminants, which can be costly to clean up and can carry serious penalties if not properly remediated. While certain activities, such as chemical manufacturing, raise obvious red flags regarding possible contamination, numerous nonstandard conditions can indicate possible contamination.

Laws, liability, and due diligence

In 1980, US Congress passed the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) as a measure to clean up abandoned or uncontrolled hazardous waste sites in addition to accidents or other releases of contaminants. This established a program commonly known as Superfund to fund the cleanup of contaminated sites. The law also established classes of liable parties, or potentially responsible parties (PRPs), required to clean up contaminated sites. Four classes of PRPs may be liable for contamination at a Superfund site:

- The current owner or operator of the site;
- The owner or operator of a site at the time that disposal of a hazardous substance, pollutant, or contaminant occurred;
- A person who arranged for the disposal of a hazardous substance, pollutant, or contaminant at a site; and
- A person who transported a hazardous substance, pollutant, or contaminant to a site, who also has selected that site for the disposal of the hazardous substances, pollutants, or contaminants.

The risk of CERCLA liability is why environmental due diligence and Phase I ESAs have become an essential part of the acquisition process. As part of CERCLA regulation, if someone purchases a property without conducting an investigation in accordance with CERCLA standards and later discovers it is contaminated, they are potentially responsible for the cleanup and the effects of the contamination. A Phase I ESA performed to ASTM standards can offer certain protections to the purchaser if contamination is discovered to be associated with a property.

Phase I Environmental Site Assessments

The main goal of a Phase I ESA is to identify or rule out the presence of recognized environmental conditions (RECs). A REC is defined by ASTM as “the presence or likely presence of any hazardous substances or petroleum products in, on, or at a property:

- Due to any release to the environment;
- Under conditions indicative of a release to the environment; or
- Under conditions that pose a material threat of a future release to the environment.”

A site assessor will take several different approaches to determine the presence of an REC, including historical research into the property use; interviews with the property owner, onsite manager, neighbors, former owners/operators of subject property or adjacent sites; regulatory database review of properties within one-half or one mile radii for regulatory concerns (spills, leaking tanks, landfills, etc.); municipal data/agency research through the building, fire, and environmental health departments; and physical site inspection.

Several conditions may indicate the presence of hazardous substances. These are some of the nonstandard conditions that should raise red flags:

Underground storage tanks (USTs)

USTs (tanks with at least 10 percent of their combined volume underground) are typically found in filling stations, mobile home parks, and industrial sites. USTs are used to store petroleum products or other flammable materials underground. They are usually a recognized environmental issue and are typically required to be registered with the applicable state agency, but they can also easily be missed and are often only discovered when included in historical reports or during the excavation phase of construction projects. It’s not unusual to find multiple smaller tanks scattered around a property, particularly in apartment complexes, retirement homes, older healthcare facilities, and mobile home parks.

UST regulations vary from state to state, but many require removing a leaking UST or one unused within the last year, among other remedial actions. Contamination risk associated with a UST will likely be evaluated every time the property is bought, sold, or refinanced, which could be an issue for a potential buyer or lender.

Soil and water testing in the area of the UST can help identify potential leaks, and any leaking UST is an environmental encumbrance. In addition, USTs often contain volatile organic compounds (VOCs), which can present indoor air quality or vapor concerns. USTs may also impact soil, groundwater, and adjacent properties, especially if the UST is near sensitive receptors (surface water, drinking water supplies, or wetlands). Property owners could be liable for remediation of soil and groundwater contamination caused by leaking USTs. It is advisable to register the tanks in compliance with state and local laws and to conduct regular tightness tests.

Cemeteries

Cemeteries are not often considered sources of environmental contamination, but research concludes that over time minerals and chemicals used in burials — especially those in coffins and embalmed bodies — can contaminate surrounding soils and groundwater and become a potential health risk.

During the embalming process, formaldehyde and other chemicals are pumped throughout the body. Formaldehyde is a known carcinogen, and while the EPA regulates it as hazardous waste, each embalmed body contains roughly three gallons of the chemical. These chemicals are then eventually introduced into the soil through decomposition of the coffin and body. Until 1910, arsenic was used in the embalming process, a chemical that is potentially fatal if ingested. Due to its composition, arsenic does not break down as the body decomposes, and is likely to remain in the soil indefinitely.

> Cemeteries are not often considered sources of environmental contamination, but research concludes that over time minerals and chemicals used in burials — especially those in coffins and embalmed bodies — can contaminate surrounding soils and groundwater and become a potential health risk.

Coffins themselves can pose potential environmental threats; steel coffins eventually corrode, and wooden ones likely contain the preservative CCA, which also contains arsenic. Many ornamental finishes or paints contain heavy metals such as lead, copper, arsenic, and chromium. OSHA lists all of these as toxic metals hazardous to humans. One study found cemetery soil contained eight times the metal concentrations compared to soil offsite, specifically minerals used in the manufacturing of coffins.

Studies of the environmental threats posed by cemeteries are relatively new; there is still much to be learned about exactly how cemeteries play a role in environmental contamination. A Phase I ESA can help identify if a property is located near an existing or historical cemetery. If the Phase I ESA identifies potential hazards, a Phase II ESA and attendant investigation can identify the presence of any potential contaminants. Testing groundwater and wells may be recommended, especially if it appears contaminants may have spread.

Septic tanks in auto repair, wood manufacturing, and funeral homes

In rural areas, it’s common for commercial properties to have septic tanks, which can be a concern if harmful chemicals are used in the properties’ operations. For example, auto repair shops, wood manufacturers, and funeral homes are some industries that raise red flags when they have associated septic systems.

The chemicals used by these industries may drain into septic tanks, resulting in possible site contamination. This may be, for example, from the septic holding tank emptying into a drainage or leach field. Once in a drainage field, the chemicals are exposed to the soil and can migrate into groundwater. Even if the tank is pumped, contamination can occur if the tank becomes compromised, which is more likely since they are not meant to hold corrosive chemicals.

Auto repair shops and wood manufacturers generate a variety of hazardous wastes including petroleum products, degreasing solvents, battery electrolytes, heavy metals, paints, and thinners. It was once common practice to dump these hazardous wastes down drains, but even the systems designed to dispose of them (underground injection control wells or UICs) were determined potential sources of groundwater contamination and banned by the EPA as recently as 2000. Evidence also shows that just washing chemicals from hands or tools over the years can result in a buildup of contaminants.

Funeral homes use formaldehyde, methanol, ethylene glycol, and sometimes chlorinated solvents for embalming and disinfecting. These chemicals are allowed to be drained to sewage or septic tanks,

and until the EPA banned the practice in 2005, the septic tanks were also allowed to be emptied into drainage fields.

One common indicator that field assessors look for is large patches of browned out vegetation over the septic tank or drainage field, signaling the potential presence of chemicals. Assessors will also research a property's historic use in a Phase I ESA to identify prior uses that present possible red flags.

Shooting ranges

Very little attention has been given to the impact of shooting ranges on public health and the environment despite numerous scientific publications identifying their hazards. The primary concern is lead contamination; lead bullets are still used today, and the continued use of lead bullets or shot leads to shooting ranges containing thousands of pounds of discharged lead bullets and shot (25,000–50,000 pounds on average, and in some cases 250 tons).

Lead has long been known to be a toxic metal with major impacts on human health and wildlife. Besides being deposited in the soil, lead can be introduced to the environment through oxidation. Lead bullets, bullet particles, or dissolved lead can be moved by storm water runoff, and dissolved lead can migrate through soil to groundwater.

While the EPA published "Best Management Practices for Lead at Outdoor Shooting Ranges" in 2005 to reduce lead contamination, management practices of shooting ranges remain largely inconsistent and unregulated. When shooting ranges are in operation, lead contamination typically does not fall under regulation, but once closed or no longer in use, the shooting range becomes subject to regulation.

If there's any indication that a site may have been a shooting range (even a noncommercial one), potential purchasers and lenders should determine whether lead contaminants exist on the property. If uncertain, a Phase I ESA can help identify past land use.

Railfields

One hundred years after the first railroad was built in the United States in 1815, the rail network had grown to 254,000 miles across the country. Within 50 years, railways saw a 50 percent drop in maintained miles, leaving behind extensive former rail properties known as railfields.

The concern with railfields is residual contamination along rail corridors and contamination associated with industrial uses alongside it. Common contaminants include:

- Railroad ties treated with chemicals like creosote;
- Coal ash and cinder containing lead and arsenic;
- Spilled or leaked liquids such as oil, gasoline, and cleaning solvents;
- Herbicides;
- Fossil fuel combustion products; and
- Metals.

These contaminants can make their way to the immediate and surrounding grounds from a variety of activities. Spills from train engines, derailments, leaks of hazardous cargo (chemicals, fuel, and others), and herbicides (historically containing arsenic) used for weed control on railbeds are some

examples. Railroad ties can be found at active and inactive railfields and often contain creosote, a possible carcinogen, and chromated copper arsenate, a highly toxic metal alloy, both used as wood preservatives.

Many railroads have since been dismantled, but evidence collected from the physical site and research of municipal documents through a Phase I ESA can help identify their historic presence and may also reveal the type of cargo on the rail line and any known accidents or spills.

Dry cleaners, martinizing, laundries, and coin-operated laundromats

Dry cleaners are well known to have major environmental contamination issues, so they don't exactly fit the "nonstandard" theme. However, some "nonstandard" indicators of previous use as a dry cleaner can easily be overlooked.

When dry cleaning was first introduced to the United States, the solvents were extremely flammable. As a safety measure, dry cleaners had storefronts for customer drop-offs, and clothing would be sent to an offsite factory for cleaning. This adds a level of confusion regarding historic dry cleaners and whether cleaning was performed onsite. Furthermore, the offsite factories may be difficult to tie to the dry-cleaning process.

Dry cleaners typically also change ownership approximately every three to five years, and some sites listed in historic records as Martinizing (a brand name) laundries, laundromats, and even coin-operated laundromats may have had onsite dry cleaning.

To determine if a site has had dry cleaning, an assessor performs a Phase I ESA by looking for equipment (machine/drums) or staining, reviewing paperwork to determine if the past industries were a generator of hazardous waste, and performing in-depth reviews of historical records and city directories, among other methods.

Benefits of a Phase I ESA

For many businesses, a major concern is the potential liability for the effects of contamination — whether the current owner is the cause of the contamination or not — and the cleanup, which can be extremely costly. Spending on due diligence upfront can help you fully understand the issues, mitigate legal risk, and maximize value.

> Clients can often be key players in the Phase I process by engaging with previous owners and others who may have knowledge of the site not found in public records.

Engaging an environmental consulting firm to perform a Phase I ESA is the first step in determining potential site contamination. Clients can often be key players in the Phase I process by engaging with previous owners and others who may have knowledge of the site not found in public records. If a possible REC is found, consultants can work with the interested party (whether a lender, investor, buyer or owner) to determine the best course of action to fit their business needs, including further investigation through a Phase II ESA.

Seismic risk assessment

Earthquakes can cause devastation on a mass scale, damaging or completely destroying your real estate investment. Using statistical and historical data, it is possible to quantify the likely extent of potential damage by using an SRA. When performed in the due diligence process, SRAs help anticipate building damage incurred in the face of a building code level seismic event and the degree of related damage.

ASTM International produced standard E2026 in 1999 to establish industry nomenclature and provide a guide to seismic loss evaluations. This streamlined the assessment process and led to the concept of Scenario Expected Loss (SEL), a percentage that represents the 50 percent confidence level on building damage for a particular type of building at a particular location. The SEL has long been used as the primary determinant of seismic risk and estimated damage.

Site stability

Site stability focuses on external earthquake-induced threats to a site's stability — the most common being landsliding, soil liquefaction, or faulting. Landsliding happens when soil and rock rapidly move downslope. This is particularly concerning for properties built on or backing to steep slopes or hillsides. Soil liquefaction occurs in areas with loose, saturated, sandy soil, which transforms into a fluid-like state. It is more likely in areas with a high water table and where structures lack a deep foundation system (caissons or piles) or other forms of ground mitigation. Earthquake ground fault rupture refers to the risk of active fault movements breaking through to the ground surface, thereby creating site instability.

A site stability assessment consists of the review of published maps and databases from federal, state, or local government agencies identifying landsliding, liquefaction, or active fault zones. Where available, the assessment also includes the review of site-specific geotechnical investigation reports that address the potential for seismic induced hazards.

Building stability

Unlike site stability, which is concerned with external hazards, building stability looks at the construction type, configuration, and condition of the structural elements. Specifically, it determines whether a building will remain stable through an earthquake by assessing its structural integrity and load-carrying capacity during a seismic event. Similar to a building code review of a structure, a building stability assessment involves reviewing available construction documents (e.g., structural drawings), as well as onsite visual observations of the structural elements to assess the lateral load-resisting systems — the elements of the structural system, such as shear walls and moment-resisting frames, that provide support and stability to the building under seismic and wind forces. Certain conditions may determine if there is instability in all, or in part, of the building, creating the potential of total collapse or localized falling hazards during a code-level earthquake event.

Beyond the SEL

The updated ASTM requirements brought a new focus on the importance of building and site stability in understanding seismic risks beyond the SEL, and the CRE industry has been taking notice as more lenders require adherence to the current ASTM seismic standards (2026-16a and 2557-16a). Additionally, several cities have implemented ordinances requiring that structures not meeting building stability standards be retrofitted.

Having the data on building or site stability, in addition to the SEL, puts investors, owners, insurers, and lenders in a better position to protect their assets.

Before these ASTM updates, the primary concern with SRAs was the outcome of the SEL. The issue of building stability is somewhat independent of an actual loss percentage, so it is not unheard of for a vulnerable building to receive an SEL in an acceptable range, but have conditions of instability. The ASTM revision and city ordinances were created to ensure critical life safety deficiencies, such as whether a soft story is adequately documented in the SRA report and potentially mitigated through a retrofit. Having the data on building or site stability, in addition to the SEL, puts investors, owners, insurers, and lenders in a better position to protect their assets.

Expanded areas of risk

Most are aware of the need for SRAs for properties located along major fault lines in California, as well as other areas in the western United States with frequent seismic activity, such as Seattle, Salt Lake City, and Portland. However, updated models from the United States Geological Survey (USGS) point to often overlooked cities like Memphis and Charleston, which also have significant risk of major seismic activity.

The updated USGS map reflects peak ground acceleration (PGA) data effective 2014. In comparison to the 1997 UBC seismic map (the standard map used to assess seismic risk), this represents a significantly more recent compilation of data and research. PGA data provides a more accurate representation of risk as it is mapped in higher detail, incorporates local effects such as fault proximity, and is updated regularly by USGS. Areas demonstrating seismic risk under the 2014 USGS include, but are not limited to: an expanded area around western Tennessee (including Mississippi, Arkansas, and Missouri), eastern Tennessee near Knoxville, and Charleston, SC.

Best practices

If a property of interest falls within these hazard zones, hiring an engineering consultant is the best measure to determine the structure’s stability. SRAs should be customized to meet the client’s specific needs, whether they are a lender, an insurance company, owner, or prospective owner. A project management approach is often most effective, considering the client’s business needs and risk tolerance in conjunction with the site’s seismic zone, local ordinances, and seismic standards (client scope of work) to which an investment is held.

Following the highest standards outlined by ASTM, those preparing reports and field assessors should be registered as Professional Structural Engineers for a Level I investigation or higher. At a minimum, each report should contain the following:

- Property information and description of buildings;
- Review of site seismic hazards and site stability;
- A list of documents reviewed;
- Level of review provided by the report;
- Estimation and definition of building loss and the analysis and methods used to determine loss;
- Determination of building stability and methods used to reach opinion; and
- Qualifications of the reviewer and those conducting the site visit.

It is especially crucial to hire a firm that adheres to the latest ASTM standards in its SRA, addresses site and building stability concerns, and interprets findings when necessary.

Conclusion

With these three components — the PCA, ESA, and SRA — you can be confident that you have the information you need to make informed business decisions. Each contains critical information, and is often required in lender transactions. With proper vetting, you can hire an environmental firm with the right experience and familiarity with your transaction's property type, area, and specific requirements for financing.

ACC EXTRAS ON… Commercial real estate

ACC Docket

Commercial Leasing: 7 Pitfalls to Avoid (Oct. 2016).

Articles

Global Legal Insights — Commercial Real Estate 2018, 4th Edition (Oct. 2017).

Lex Mundi World Ready, Global Practice Guide: Issues Relating to Commercial Licensing (Jan. 2017).

Maura McCaffrey

General Counsel

EBI Consulting

McCaffery focuses on all legal aspects of due diligence services for all three of EBI’s business units. Her responsibilities also include advising and managing corporate strategic initiatives, managing real estate and corporate best practices, as well as corporate permitting, client and subcontractor contract

management, and insurance. She received her JD from Boston University School of Law and a Bachelor of Arts in Neuropsychology from the University of Pennsylvania. She is a member of the Women’s Bar Association of Massachusetts and the New England Corporate Counsel Association (NECCA). She is also a former member of the City of Cambridge Conservation Commission.