Environment & Health

ASTM Update: E-1527-21
Phase I Environmental Site Assessment
Standard Practice

RAMBØLL Bright ideas. Sustainable change.

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Understanding Changes to the ASTM Phase I Environmental Site Assessment Standard

NEWMOA
NORTHEAST WASTE MANAGEMENT OFFICIALS' ASSOCIATION
Leading the Northeast to a sustainable, waste-free future

May 23, 2023

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Agenda

01 Why due diligence

02 Updates on ASTM E21237-21 standard

03 Emerging Contaminants

04 Discussion

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Why conduct due diligence?

Under CERCLA

- If any release of hazardous substances has impacted the property:
  - Upon acquisition, the owner becomes liable for response costs as the current owner.
  - Upon lease, the tenant may be liable as the current owner or operator.

Due diligence enables the User to:

- Understand potential risks and their potential scope;
- Potentially qualify for CERCLA's **Bona fide prospective purchaser (BFPP) defense**—innocent purchaser *knew* of contamination but acquired site after January 11, 2002, and meets all eight BFPP requirements.

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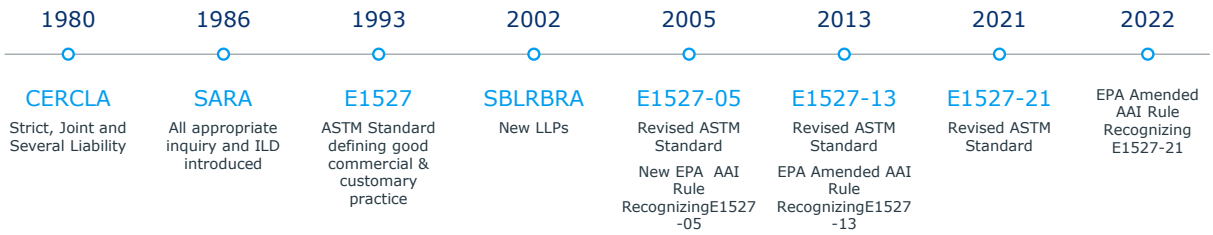
Timeline



1980 — CERCLA
Strict, Joint and Several Liability

1986 — SARA
All appropriate inquiry and ILD introduced

1993 — E1527
ASTM Standard defining good commercial & customary practice

2002 — SBLRBRA
New LLPs

2005 — E1527-05
Revised ASTM Standard
New EPA AAI Rule RecognizingE1527-05

2013 — E1527-13
Revised ASTM Standard
EPA Amended AAI Rule RecognizingE1527-13

2021 — E1527-21
Revised ASTM Standard

2022
EPA Amended AAI Rule Recognizing E1527-21

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CERCLA due diligence

The goal of CERCLA due diligence was to qualify for the Innocent Landowner Defense (ILD)

The flaw with the ILD is that no one knew what Congress meant by "all appropriate inquiry"

ASTM committee formed to define "good commercial and customary practice" for environmental due diligence

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Defining good commercial and customary practice today

- CERCLA and the All Appropriate Inquiries (AAI) rule require that assessments be conducted "consistent with good commercial and customary practice"
- ASTM uses a consensus-based method among Users and Producers to develop a consistent process that is expected to result in a consistent deliverable.
- ASTM International has been developing and publishing voluntary consensus-based technical standards for a wide range of materials, products, processes since 1898.
- Inconsistencies in process and quality revealed the areas where the standard could be improved.
- Review of recent litigation and claims also provided insight for revisions.

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ASTM revision process:

Clarify and improve existing language
Update to reflect current customary practice
Strengthen the deliverable

Users, Producers, General Interests

Technical Committees, Subcommittees, Task Groups

Multi Task Drafting Process

Unanimous Balloting

Periodic Review and Amendment

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Purpose of ASTM E1527-21

- Define good commercial and customary practice for conducting All Appropriate Inquiries (AAI)
- Help qualify a User for Landowner Liability Protections (LLP)
- Identify Recognized Environmental Conditions (1.1.1)
- Provide Environmental Professional (EP) opinion regarding impact (12.6)
- Reflect general national practice, incorporate local customary practice
- Evaluation of business environmental risk may necessitate investigation beyond a Phase I ESA

Section 1.1 of the Standard

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Phase I Environmental Site Assessments

Intended for commercial real estate transactions	Includes Petroleum Products and CERCLA Hazardous Substances
Relies on existing information sources	Requires EP discretion and judgement

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Outline of E1527-21

Sec 1	Scope	Sec 13	Non-Scope Considerations
Sec 2	Referenced Documents	Appendix 1	Legal Appendix
Sec 3	Terminology	Appendix 2	Definition of Environmental Professional
Sec 4	Significance and Use	Appendix 3	User Questionnaire
Sec 5	Significance of Activity and Use Limitations	Appendix 4	Examination of REC Definition, Logic, and Examples
Sec 6	User's Responsibilities	Appendix 5	Suggested Table of Contents and Report Format
Sec 7-12	Phase I Practice	Appendix 6	Common Non-Scope Considerations

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Key Changes to ASTM E1527-21

Published November 2021

Available through www.astm.org (redline also available)

- E1527-13 now an "historical standard"
- USEPA reference E1527-21 as compliant with All Appropriate Inquiries

- New and Revised Definitions (stronger, clearer)
- Guidance Language ("Discussion" and notes)
- Historical Research (strengthened)
- Site Reconnaissance (more guidance)
- Report (photographs!)
- Appendices
  - 1: Legal Appendix
  - 4: REC Definition, Logic, & Examples
  - 6: Common Non-Scope Considerations

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Recognized Environmental Condition (REC) definition reworded

"Likely" is that which is neither certain nor proved; but can be expected or believed by a reasonable observer based on the logic and/or experience of the environmental professional, and/or available evidence, as stated in the report to support the opinion given therein.

The presence of hazardous substances or petroleum products in, on, or at the subject property due to a release to the environment;

The likely presence of hazardous substances or petroleum products in, on, or at the subject property due to a release or likely release to the environment; or

The presence of hazardous substances or petroleum products in, on, or at the subject property under conditions that pose a material threat of a future release to the environment.

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Historical recognized environmental condition (HREC)

- A previous release of hazardous substances (HS) and/or Petroleum Products (PP) affecting the subject property
- Addressed to satisfaction of regulatory authority meeting unrestricted use criteria - must review relevant data
- No controls (i.e. AULs or other property use limitations)
- A past release may not be an HREC if change in regulatory criteria, or if a previously unknown/unevaluated pathway is identified

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Controlled recognized environmental condition (CREC)

A recognized environmental condition resulting from a past release of hazardous substances or petroleum products affecting the subject property

- Release addressed to satisfaction of regulatory authority
- Hazardous Substances or Petroleum Products left in place subject to the implementation of controls (AULs or other property use limitations)
- CREC is a subset of a REC and must be included in the report conclusions
- The EP is not required to evaluate or confirm the adequacy, implementation, or continued effectiveness of the control

Ramboll Section 3.2.17 of the Standard

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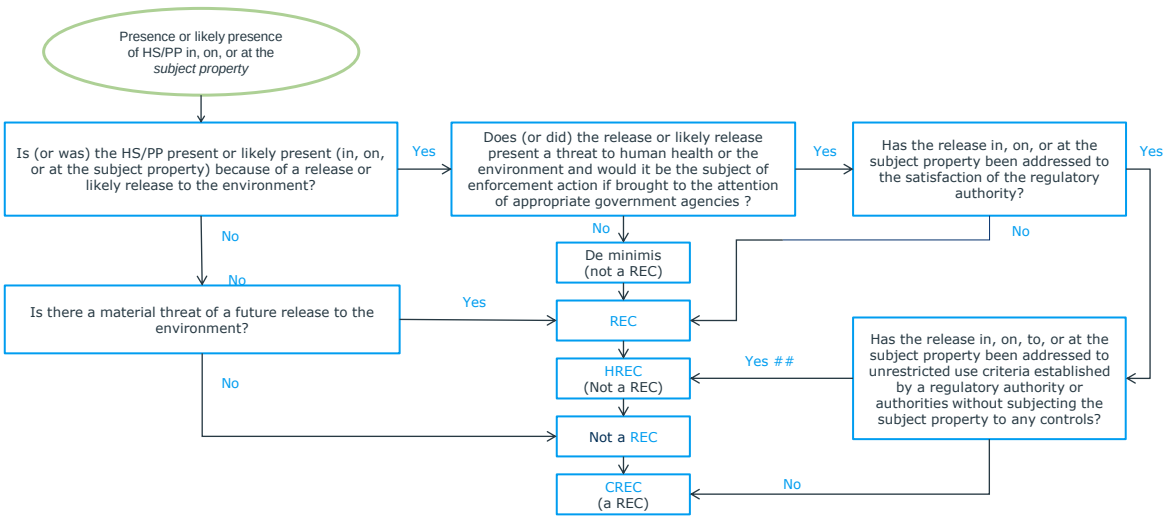
Phase I ESA Process - X4: REC Definition, Logic, & Examples



Ramboll ## Before calling the past release a historical recognized environmental condition, the EP must confirm that the past release is not a REC or CREC at the time of the Phase I ESA 16

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REC vs HREC vs CREC

Recognized Environmental Conditions:

- Presence or likely presence of a release . . . to the environment

Historical Recognized Environmental Condition (revised in 2013)

- Past releases affecting the subject property, addressed to unrestricted use
- Must consider current regulatory framework (rules change)
- HRECs are not RECs

Controlled Recognized Environmental Condition (introduced in 2013)

- Past releases affecting the subject property, addressed to anything above unrestricted use
- CRECs are a subset of RECs (meets the "presence" test), must be included in the conclusions of the report
- If there is residual contamination present at concentrations above unrestricted use criteria, that condition, by definition, will be either a REC (not yet fully addressed) or a CREC (fully addressed and controls understood).
- If there is residual contamination present at concentrations above unrestricted use criteria, that condition cannot by definition, be an HREC.

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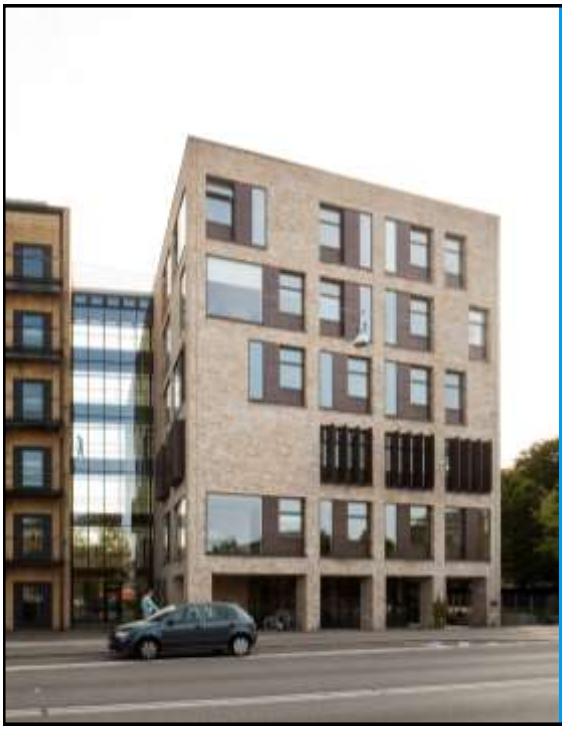

New Definition: Property Use Limitation

- Not a new concept - E1527-13 states:
- ". . . controls (for example, property use restrictions, activity and use limitations, institutional controls, or engineering controls)
- Task Group replaced "property use restrictions" (not previously defined) with "property use limitations" (now defined)"
- E1527-21: PUL defined broadly to capture a wide variety of risk-based mitigation end points:
- "limitation or restriction on current or future use of a property in connection with a response to a release, in accordance with the applicable regulatory authority or authorities that allows hazardous substances or petroleum products to remain in place at concentrations exceeding unrestricted use criteria."

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Historical use information

Users and producers agreed that additional, consistent rigor needed

- Identify prior uses
- Identify general type of use unless retail, industrial, or manufacturing
- Identify to original development or 1940 (whichever earlier)
- Data failure (limitations)
- 5-year search intervals
- Must review surrounding uses
- Specific research requirements for adjoining properties
- Properties may be different in use, size, configuration than in the past

Note: Merely identifying that a building is present may not satisfy the historical research objective. Tenant operations in a retail building may have included past dry cleaning or other activities of concern.

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Standard historical resources: ”The Big Four”

- Aerial photographs
- Fire insurance maps
- Local street directories
- Topographic maps
- Building department records
- Interviews
- Property tax files
- Zoning/land use records

During research of the subject property, past uses of the adjoining properties that are obvious shall be identified to evaluate if those uses may have led to RECs

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New Definition: Significant Data Gap

3.2.84 —a data gap that affects the ability of the environmental professional to identify a recognized environmental condition.

- Data gap by itself is not inherently significant; Only significant if other information and/or professional experience raises reasonable concerns involving the data gap
- Identify and comment on significant data gaps that affect the ability of the EP to identify RECs
- Identify the sources of information that were consulted
- Subject to 'law of diminishing returns'

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E1527 Task Group & Industry Input Regarding Dry Cleaners

- EPA: Dry cleaners are currently the primary source of new superfund sites
- Illinois Drycleaner Fund: As of 2016, 88% of dry cleaner investigations for active dry cleaners exceeded action levels
- Consultant input: for older dry cleaners, that percentage is higher
- Small Business Administration: If a dry cleaner has ever been present, multi-media investigation is required
- North Carolina DEQ Dry Cleaning Solvent Cleanup Act Program: PCE continues to be the most prominent cleaning agent used at dry cleaners
- Many dry cleaner operators have not upgraded to newer machines

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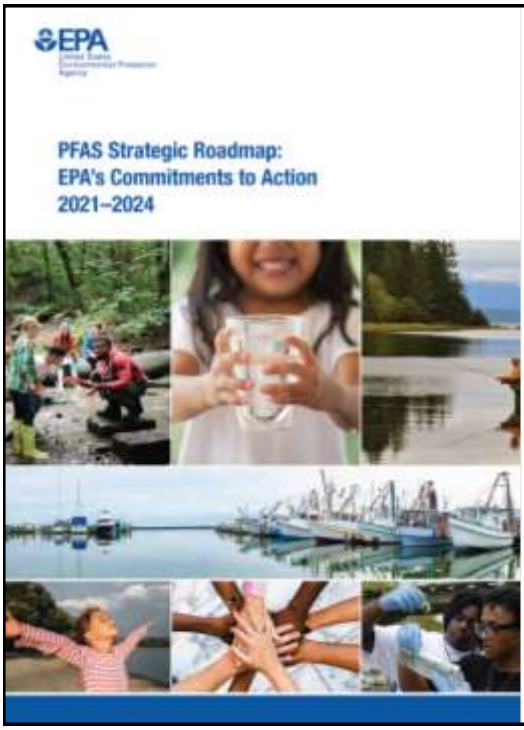
Non-scope considerations

- Matters outside of the scope of CERCLA Hazardous Substances and Petroleum Products
- Often related to business environmental risk (BER) concerns (X6).

- ACBM, Pb Paint, and IAQ unrelated to releases to the environment
- Biological agents
- Cultural and historic resources
- Ecological resources
- Endangered species
- Health and safety

- Industrial hygiene
- Lead in Drinking Water
- Mold or microbial growth conditions
- PCB-Containing Building Materials
- Naturally-Occurring Radon
- Regulatory compliance
- Substances not defined as CERCLA HS
- Wetlands



Emerging Contaminants in E1527-21

"Emerging Contaminants" added to list of Non-Scope Considerations in Section 13

- Additional discussion in Appendix X6 Summary of Common Non-Scope Issues
- X6.10: *If and when such emerging contaminants are defined to be a hazardous substance under CERCLA, as interpreted by EPA regulations and the courts, such substances shall be evaluated within the scope of this standard.*

USEPA Proposed Rule, 87 Fed. Reg. 54415, September 6, 2022

- Proposes to add Perfluorooctanesulfonic acid, & salts, & structural isomers (PFOS) and Perfluorooctanoic acid, & salts, & structural isomers (PFOA) to Table 302.4 of Hazardous Substances under CERCLA with Reportable Quantities
- 40 CFR Part 302
- eCFR :: 40 CFR 302.4 -- Hazardous substances and reportable quantities.

Other Requirements

(footnote 3 on page 2)

- Substances outside the scope of this practice (e.g., emerging contaminants) may be regulated under state law and may be federally regulated in the future.
- Users and Environmental Professionals are encouraged to consider any differing jurisdictional requirements/definitions.
- Although these substances are "non-scope considerations" under this practice, the User may wish to include such substances in the defined scope of work.

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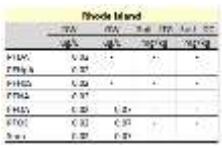
PFAS Standards in the Northeast USA



The values shown are generalized into criteria for drinking water, groundwater, impact-to-gw soil, and residential direct contact soil. Each State applies and enforces these values differently.

PFAS standards are complicated, and States manage the oversight of these compounds differently. Please refer directly to State guidance and regulations to ensure values are up-to-date and appropriate for case-specific use.

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Draft PFAS Prevention Model Legislation

The Northeast Waste Management Officials' Association, Inc. (NEWMOA) invites you to submit comments on the **NEWMOA Draft PFAS Prevention Model Legislation**, for advancing reduction of the use of per and polyfluoroalkyl substances, commonly known as PFAS.

- The goals of this draft Model Legislation are to:
- Reduce/eliminate the use of PFAS in consumer products to the extent feasible.
- Identify and implement source reduction programs.
- Ensure that the substitutes for PFAS in products are safer and that there are no regrettable substitutes.
- Coordinate product disclosure, labeling, bans, phase-outs, source reduction, and end-of-life collection on a multi-state basis.
- Help consumers identify products containing PFAS and learn how to properly handle them.
- Provide regulated entities with regulatory certainty.
- Draft PFAS Model Legislation - NEWMOA - Northeast Waste Management Officials' Association

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Key considerations for waste management facilities: Regulatory compliance

Waste acceptance criteria

As waste management licenses/permits are renewed or updated, expect changes focused on preventing treatment of wastes with emerging contaminants or measures to control emissions/discharges of such contaminants.

Additionally, anticipate difficulties in obtaining waste characterization data from customers as many have historically relied on generator knowledge or laboratory test data that did not include emerging contaminants.

Environmental permitting

As environmental permits are renewed, expect additional measures to control or prevent emissions/discharges of emerging contaminants.

This will result in increased operational costs and may require capex (e.g., for additional wastewater treatment equipment).

Treatment of wastewater and air emissions to meet future discharge limits could require significant upgrades to existing systems, not necessarily simple, low-cost solutions (e.g., granular activated carbon).

Increased costs

While regulation of emerging contaminants may create an opportunity for some waste management facilities (i.e., to treat a new category of waste), costs to treat and dispose of waste off site (e.g., wastewater sludge, leachate) could be significant.

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Key considerations for waste management facilities

Managing existing liabilities

Environmental impacts from years of processing waste containing emerging contaminants - soil, groundwater, sediments

Environmental impacts at locations where wastes from the waste management facilities were disposed or discharged (e.g., landfills, land farms, POTWs).

Potential for contamination claims from impacted parties and regulatory agencies (cleanup, toxic tort, NRD)

Risk management

For facilities with foam-based fire suppression systems, careful management of foam will be necessary – potential consideration to containment structures to prevent loss to environment during deployment

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Strengthen the Deliverable

- Consistent use of "Subject Property"
- More robust discussion about how significant data gaps affect the EP's opinion.
- Conclusions must include RECs, CRECs, and Significant Data Gaps
- Include Photos and Site Map
- Include physical setting source information obtained from agency file reviews

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Consider developing a PFAS Plan

- What is your risk profile? How do you define success?
- How does CERCLA address PFAS today? Which PFAS are relevant?
- What rules apply to PFAS-contaminated sites in relevant jurisdiction today? Which PFAS are relevant?
- Under what circumstances do you want the ASTM Phase I ESA to address PFAS?
- In relation to PFAS in the Phase I, collaborate with your legal counsel and environmental professional:
  - How will PFAS be address in the Phase I?
  - What data sources will be used to identify PFAS issues?
  - What are the data gaps? Are they significant?
- Understand the red flags: what kinds of PFAS sites are "significant"?
- When is invasive testing for PFAS appropriate?
- What is the future risk?
- Considerations when evaluating foreclosure.

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When Will E1527-21 Affect Me?

- EPA's updated reference to E1527-21 published December 15, 2022, effective February 13, 2023
- E1527-13 is recognized by EPA as conforming with AAI for 1 year transition period (~9 months remain)

Options

- Continue using/citing E1527-13 until EPA references E1527-21, until February 13, 2024
- Transition to E1527-21 now to reflect "good commercial and customary practice" today
- Use and cite E1527-13 (the standard referenced in the AAI Rule), and ensure that the assessment also satisfies the requirements in E1527-21

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Final Thoughts on Changes to E1527

- Latest revisions reflect input from across the country - from Users and Producers – representing current good commercial and customary practice and are expected to result in consistent, quality deliverables
- EPs producing quality deliverables will likely see little substantive change in their process
- Read the Standard for useful guidance for both Users and Producers
- Double check that reports conform with the current standard
- Consider joining ASTM E50.02 Committee

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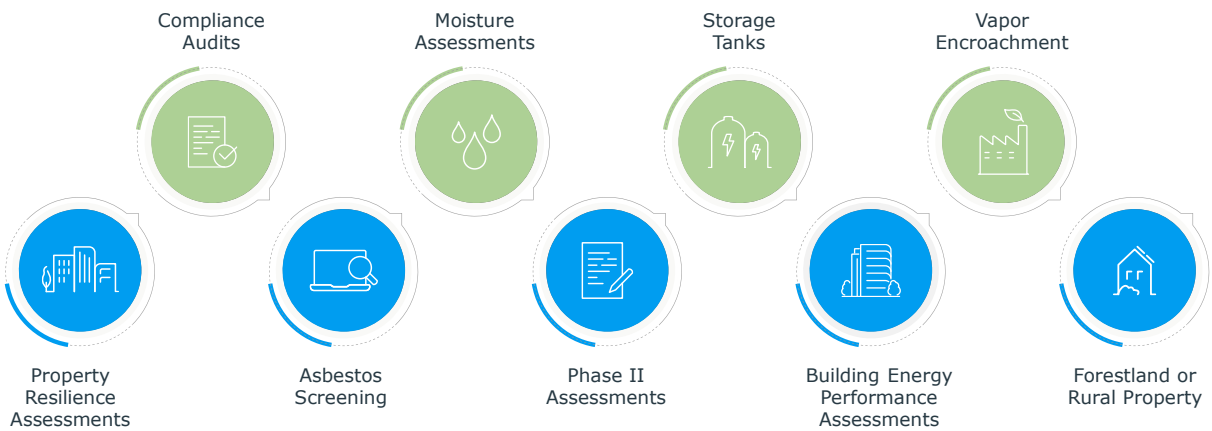
Other ASTM activities



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ASTM/AAI References

- ASTM International - Standards Worldwide
- Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process (astm.org)
- Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process for Forestland or Rural Property (astm.org)
- Standard Practice for Limited Environmental Due Diligence: Transaction Screen Process (astm.org)
- Standard Guide for Identifying and Complying With Continuing Obligations (astm.org)
- Standard Practice for Environmental Site Assessments: Phase II Environmental Site Assessment Process (astm.org)
- Standard Guide for Property Condition Assessments: Baseline Property Condition Assessment Process (astm.org)
- Standard Guide for Building Energy Performance and Improvement Evaluation in the Assessment of Property Condition (astm.org)
- Bona Fide Prospective Purchasers | US EPA
- Federal Register :: Standards and Practices for All Appropriate Inquiries
- EPA Recognizes ASTM E1527-21 as Satisfying All Appropriate Inquiries Rule | Insights | Holland & Knight (hklaw.com)
- CD Research White Paper 3.7.23.pdf (dropbox.com)

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Select emerging contaminant resources

- eCFR :: 40 CFR 302.4 -- Hazardous substances and reportable quantities
- Draft PFAS Model Legislation - NEWMOA - Northeast Waste Management Officials' Association
- EPA's Latest CERCLA Action on PFAS | Insights | Holland & Knight (hklaw.com)
- EPA Publishes Proposed PFAS Drinking Water Regulation | Insights | Holland & Knight (hklaw.com)
- Per- and Polyfluoroalkyl Substances (PFAS) | Mass.gov
- Emerging Contaminants | Mass.gov
- PFAS Contamination of Water: Department of Health (ri.gov)
- Per- and Polyfluoroalkyl Substances (PFAS) (ct.gov)

Recent Developments in Environmental Due Diligence, Boston Bar Association, October 6, 2022
- https://bostonbar.force.com/LightningMemberPortal/s/lt-event?id=a1Y4W000003DfHHUA0

Emerging Issues in Environmental Due Diligence, Connecticut Bar Association, June 13, 2022
- https://www.ctbar.org/events-education/upcoming-special-events/clc/2022-clc-seminar-tracks/real-property-environmental-law-track

Practical Approaches to PFAS for Environmental Risk Managers Consider a PFAS Plan for Successful Due Diligence, EBA
- https://www.envirobank.org/page/EBAJournals
- https://issuu.com/envirobank/docs/2022-eba_winter_journal_-_01.21.22

Practical Approaches to PFAS for Environmental Risk Managers, Environmental Bankers Association, October 28, 2021
- https://www.envirobank.org/events/EventDetails.aspx?id=1553048&group=
- file:///C:/Users/ekrol/Downloads/mUchyFiNRi2ihO1iHIHh_EBA%20Webinar%20Handout_PFAS%20Plan.pdf
- https://d1keuthy5s86c8.cloudfront.net/static/ems/upload/files/EBA_Webinar_Handout_PFAS_Plan.pdf

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