

Publications

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PFAS Risk in the Development Lifecycle

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From initial property acquisitions to construction, financing and eventual disposition, per- and polyfluoroalkyl substances (PFAS) are no longer just considered an “emerging issue” — they are at the forefront of almost every real estate and development transaction and among the most rapidly evolving environmental considerations facing real estate developers today.

At the federal level, the U.S. Environmental Protection Agency (EPA) is moving to regulate and seek information regarding PFAS and their usage. Meanwhile, state regulators have started regulating PFAS in soil, groundwater, drinking water, manufacturing processes and even consumer products, often more aggressively than their federal counterparts. But while the federal and state regulations vary significantly, the goal is the same: to create liability that attaches to not only historic PFAS users or producers, but also buyers, sellers, lenders and developers.

This rapidly evolving landscape, combined with increasing cleanup costs and heightened public scrutiny, places PFAS at the heart of many environmental investigations and business decisions involving real estate and construction.

In this article, we will:

1. Examine recent federal and state regulatory developments;
2. Explore how PFAS concerns can impact property acquisitions and deal structuring;
3. Discuss contractual and risk allocation strategies to effectively mitigate PFAS exposure; and
4. Outline how developers can prepare for the PFAS-related challenges that separate successful projects from regulatory nightmares.

1. The Regulatory Landscape: Federal and State PFAS Developments

Today, federal rulemakings have been promulgated under several major pieces of environmental legislation: the Comprehensive Environmental Response, Compensation,

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and Liability Act (CERCLA), the Toxic Substances Control Act (TSCA), the Emergency Planning and Community Right-to-Know Act (EPCRA) and the Safe Drinking Water Act (SDWA).

Federal Reporting, Disclosure Requirements, Drinking Water Standards and Hazardous Substance Designation

The EPA released its “PFAS Strategic Roadmap” in October 2021, essentially committing the agency to begin regulating PFAS.¹ Two years later, the EPA issued a rulemaking under TSCA Section 8(a)(7) mandating reporting and recordkeeping obligations for certain PFAS.² This rule requires any person that manufactures (including imports) or has manufactured (including imported) PFAS or PFAS-containing articles in any year since January 1, 2011, to electronically report information regarding PFAS uses, production volumes, disposal, and exposures and hazards. These reporting obligations aim to provide EPA with a broad dataset, which will likely drive future enforcement and remediation initiatives. Although the rule was finalized in October 2023, compliance deadlines have now been pushed twice: **October 13, 2026**, for manufacturers/importers and **April 13, 2027**, for small manufacturers.

Also in late 2021, the EPA finalized a rulemaking under EPCRA that revised the Toxic Release Inventory (TRI) to include certain types of PFAS — which, as of 2025, now includes 205 different PFAS. This means that facilities must now annually report to the EPA if they manufacture, process or otherwise use more than 100 pounds of any of the 205 PFAS identified, as well as provide business-to-business downstream notification of the presence of PFAS in certain products. Significantly, the rulemaking also removed a prior *de minimis* exception that exempted products containing less than 1% of PFAS (or 0.1% for PFAS qualifying as carcinogens, such as PFOA). Now, **any quantity** of the 205 specified PFAS counts towards the 100-pound threshold and triggers the downstream notification obligation.

Under the SDWA, the EPA established national primary drinking water standards and maximum containment levels (MCLs) for six different types of PFAS: PFOA, PFOS, PFHxS, PFNA, HFPO-DA (also known as GenX) and PFBS. These standards require public water systems and utilities to test for these six substances and comply with relatively strict MCLs. Systems that exceed the MCLs must implement corrective measures, which may include treatment upgrades or sourcing alternative water supplies. Specifically, the final rule provides that initial monitoring must be completed by the end of April 2027, with MCL enforcement beginning in April 2029. In May 2025, the EPA proposed delaying this compliance deadline from 2029 to 2031, through the initial monitoring deadline remains in place for 2027. While the MCLs directly apply to public water systems, some states automatically incorporate MCLs as groundwater cleanup criteria. States like Virginia have taken it a step further and passed legislation to establish a program that widens the scope of MCL enforcement to reservoirs, specifically the Occoquan Reservoir, where manufacturing facilities commonly discharge.³ As such, sites in areas where water supplies exceed these PFAS limits can face indirect impacts. For developers, this means that permitting processes, regulatory approvals, financing and project timelines could be affected if on-site water is noncompliant, and it is possible the costs for treatment may be passed through to developers.

The EPA further designated PFOA and PFOS as hazardous substances in a first-of-its-kind rulemaking for the agency in April 2024, which leveraged (new) Section 102(a) of CERCLA to add the PFAS chemicals to the existing statutory list of hazardous substances. This rulemaking significantly expanded potential liability, as developers acquiring property with PFOA or PFOS contamination would now face cleanup obligations for legacy releases, regardless of when the release occurred or whether the buyer

contributed to it. In practice, this means that CERCLA's joint and several liability framework now applies to PFOA and PFOS — potentially capturing current owners, operators and even lenders in costly remediation actions. The designation also triggered new reporting requirements for releases exceeding the reportable quantity.

This rulemaking is currently being challenged in the U.S. Court of Appeals for the District of Columbia, but the rule remains in effect while the litigation is ongoing.

State-Level Regulations and the Compliance Challenge

State regulations primarily fall into one of four categories: 1) drinking water regulations; 2) consumer product restrictions; 3) remediation standards and 4) aqueous film-forming foam (AFFF). Many states have not waited for the EPA to act, with some enacting regulations that far outpace federal standards. However, the states lack uniformity in how they are regulating PFAS, both among one another and in reference to the federal regulations.

For example, several states, including New Jersey, Michigan and Massachusetts, have established MCLs lower than those set by EPA. Others have begun adopting enforceable numeric soil and groundwater standards, directly shaping site remediation obligations and in some cases, rendering projects economically infeasible without significant investment. Still, other states, such as Maine, California, Colorado, Washington, Minnesota and Illinois have enacted bans or restrictions on PFAS in products such as textiles, food packaging, building materials, beauty products, camping and outdoor gear, life sciences devices and other consumer products like diapers. As the examples above illustrate, PFAS-related regulations vary widely across jurisdictions and make it increasingly difficult to stay compliant. A project in Massachusetts, for instance, may face far more stringent cleanup standards than one just across the border in Connecticut. Developers working across multiple jurisdictions must tailor their diligence and compliance strategies accordingly and stay closely attuned to current PFAS regulatory trends at both the state and federal levels.

2. Managing PFAS Risk in Acquisitions, from Due Diligence to Deal Structuring

PFAS concerns are now reshaping how buyers, sellers and lenders approach real estate transactions, with PFAS at the center of environmental due diligence, deal valuation and risk allocation. As such, it is increasingly important to take steps during the due diligence process to understand potential PFAS risks.

Environmental Site Assessments and PFAS Risk Indicators

A Phase I Environmental Site Assessment remains the critical starting point. Since PFOA and PFOS are now classified as hazardous substances under CERCLA, they should be captured in Phase I Environmental Site Assessments. Other PFAS, though not listed under CERCLA, may also be evaluated as best practice, and noted as Non-Scope Considerations. Common red flags identified during a Phase I include historical industrial operations, the use of AFFF and proximity to airports, military bases, landfills or wastewater treatment plants. If PFAS concerns are identified, targeted sampling is increasingly recommended to understand the extent of potential contamination. A follow-up Phase II assessment can confirm whether PFAS impacts are present and help inform cost estimates for potential remediation.

Agency Coordination and Evolving Cleanup Obligations

The results of environmental diligence and investigations are also now directly influencing deal structuring. Buyers and sellers are increasingly engaging with local and state

agencies and attempting to allocate liability and adjust deal value accordingly. State agencies can help determine applicable cleanup standards and remedial obligations, although developers should be prepared for occasional friction and ambiguity. This is due in large part to state agencies not having clear guidance on how to proceed either, making the agencies hesitant to approve, reject or offer feedback on approaches to managing PFAS-impacted materials. In some cases, agencies have attempted to impose costly cleanup standards that are difficult to achieve with existing technologies. That said, some agencies have taken a collaborative approach and cooperated with developers to establish site-specific remedial goals. Despite ongoing concerns around potential future remediation, certain states have shown a willingness to work with developers to remediate sites impacted by PFAS.

Allocating PFAS Risk in Purchase Agreements

Purchase agreements are also evolving in response to increasing regulation. Because PFAS liability can stretch back decades and standards continue to tighten, contracts must clearly assign responsibility for both known and future PFAS contamination. Parties are starting to include PFAS-specific indemnities, cost-sharing provisions and carve-outs, and incorporating PFAS into key defined terms like “Hazardous Substances” or “Hazardous Materials.” These changes directly impact the environmental representations and warranties using these terms. In parallel, definitions like “Environmental Laws” are being revised to anticipate future updates by adding language that incorporates future revisions to statutes like CERCLA so that newly designated PFAS are automatically captured under the agreement.

Many deals now also use escrows or holdbacks when contamination is known but not yet fully quantified. Without clear contract language, buyers risk assuming liabilities that could significantly diminish property value due to potential costs of investigations and remediation. When available and carefully negotiated to avoid PFAS exclusions, environmental insurance can offer another layer of possible protection. Good contracts also account for surprises. Buyers should retain the ability to walk away or renegotiate the contract if PFAS contamination is discovered before closing, which becomes particularly valuable when sampling occurs late in the due diligence process. Contracts should also address ongoing compliance obligations, like periodic monitoring and reporting of PFAS, to prevent unexpected, long-term burdens on the developer.

Environmental due diligence results are also directly impacting property valuation. While this has always been the case, the “wild west” feeling surrounding PFAS and PFAS regulations means buyers are frequently negotiating price reductions to offset anticipated cleanup costs, as well as costs associated with delays in development. Sellers are trying to resist these concessions by setting specific liability parameters to try to keep property valuation at their target. Insurance companies are also increasingly entering the space and offering policies covering PFAS, although these remain fairly limited and pricey. But where indemnities fall short, PFAS-specific insurance can provide valuable supplemental protection.

By approaching contracts with these safeguards in mind, stakeholders can allocate PFAS risk more effectively and reduce the likelihood of future disputes.

How Lenders Are Responding to PFAS

Lenders, too, are paying closer attention. Some are now refusing to finance transactions involving sites contaminated with PFAS, citing regulatory uncertainty, potential joint and several CERCLA liability and the risk that property values could fall below loan amounts. Even sites deemed “clean” today might become subject to more stringent cleanup

standards in the future, making long-term lending a risk that some lenders are unwilling to bear.

In short, stakeholders cannot afford to overlook PFAS diligence. Buyers who fail to account for PFAS may inherit liabilities that diminish property values. A proactive approach—starting with a robust Phase I, followed by a Phase II where warranted, and early engagement with regulators—lays the groundwork for effective risk allocation, better deal terms and more predictable lender participation.

3. Building a PFAS-Ready Property Development Strategy

Beyond initial diligence, PFAS contamination can arise in multiple stages of a project. For example, in a recent case, a utility crew encountered groundwater in a roadside right-of-way that required dewatering. Due to known PFAS impacts in the area, the state regulator mandated sampling and treatment before discharge despite the utility only discovering, and not causing, the contamination.

While a Phase I or Phase II assessment may identify existing contamination, developers may discover unanticipated contamination during soil excavation or when encountering groundwater. As discussed earlier, regulatory obligations can attach even if the developer did not cause the contamination.

Clarifying Responsibilities Across Project Teams

Given the complexity and jurisdictional variation in PFAS-related obligations, developers must coordinate closely across legal, technical and construction teams. Contracts must clearly state who owns PFAS-impacted waste or PFAS-impacted materials such as soil, groundwater or construction debris, and make these assignments clear to each team member. Dewatering and disposal permits may require pre-approval, especially where PFAS restrictions are written into water quality standards or National Pollutant Discharge Elimination System (NPDES) permits.

Developers should also ensure that contractors have clear instructions for managing contaminated materials, covering everything from the proper handling of these materials to sampling and documentation standards. Sampling procedures should be carefully developed to preserve data integrity and minimize potential for cross-contamination, with analyte lists and action levels agreed upon ahead of time. Finally, results must be interpreted in context and factor in background PFAS levels, site-specific characteristics and local regulatory thresholds to avoid missteps in reporting or managing impacted materials.

Minimizing Disruption with Proactive Planning

As such, a proactive PFAS strategy is essential to minimize disruption to project timelines. Developers should consider incorporating PFAS screening into preconstruction site investigations, particularly in areas with known or suspected contamination. Developing a Contaminated Material Management Plan (CMMP) that outlines procedures for sampling, storing, treating and disposing impacted media can streamline real-time decision-making in the field. This plan should be approved by regulators and stakeholders early — ideally before shovels hit the ground — as this can help to avoid costly delays in the field. Lastly, stakeholders should work closely with environmental counsel to ensure investigations are properly scoped and that remedial strategies align with applicable legal standards.

By embedding PFAS considerations into early planning, developers can keep construction on track while minimizing legal, financial and operational risks.

4. Conclusion: PFAS Present a Core Business Risk

PFAS regulations are evolving faster than nearly any previous environmental challenge, including asbestos and underground storage tanks. For developers, property owners and lenders, PFAS is no longer a speculative risk — it is a central factor in virtually all acquisitions, developments and financings.

The good news? These risks are manageable. With enhanced due diligence, proactive engagement with regulators, careful contract drafting and strategic insurance use, PFAS can be treated like every other key business risk: thoughtfully navigated and factored into every stage of development. PFAS can't be an afterthought; rather, it's essential to proactively infuse these considerations into environmental risk management. With that mindset, stakeholders can navigate PFAS issues and keep projects moving forward with confidence.

[1] https://www.epa.gov/system/files/documents/2021-10/pfas-roadmap_final-508.pdf

[2] For purposes of this rule, EPA defined "PFAS" as a chemical substance that contains at least one of the following three structures:

1. $R-(CF_2)-CF(R')R''$, where both the CF_2 and CF moieties are saturated carbons.
2. $R-CF_2OCF_2-R'$, where R and R' can either be F , O , or saturated carbons.
3. $CF_3C(CF_3)R'R''$, where R' and R'' can either be F or saturated carbons.

[3] <https://lis.virginia.gov/bill-details/20251/HB2050>