United States Government Accountability Office

Report to Congressional Requesters

March 2024

FEDERAL REAL PROPERTY

More Consistent Monitoring of Asbestos Could Improve Oversight

GAO-24-106324

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More Consistent Monitoring of Asbestos Could Improve Oversight

GAO Highlights

Highlights of GAO 24-106324, a report to congressional requesters

Why GAO Did This Study

GSA's cleanup of environmental liabilities on federal properties represents a fiscal exposure for the federal government. The federal government's growing environmental liabilities and federal real property management are on GAO's High-Risk list, partly due to these challenges.

GAO was asked to review how GSA estimates and manages its environmental liabilities. This report examines, among other objectives: (1) how GSA estimates environmental liabilities and (2) how GSA manages environmental contaminants and the extent to which GSA follows its asbestos management policy.

GAO reviewed GSA's asbestos management policy, annual financial reports, cost estimation formulas, budget and expenditure information, real property data, and conducted three site visits. GAO also interviewed GSA officials, contractors, and subject matter experts.

What GAO Recommends

GAO is recommending that GSA implement a plan to ensure asbestos inspections are conducted in accordance with its policy or revise its policy to incorporate a risk-based approach. GSA agreed with the recommendation and stated that it is developing a plan to address it.

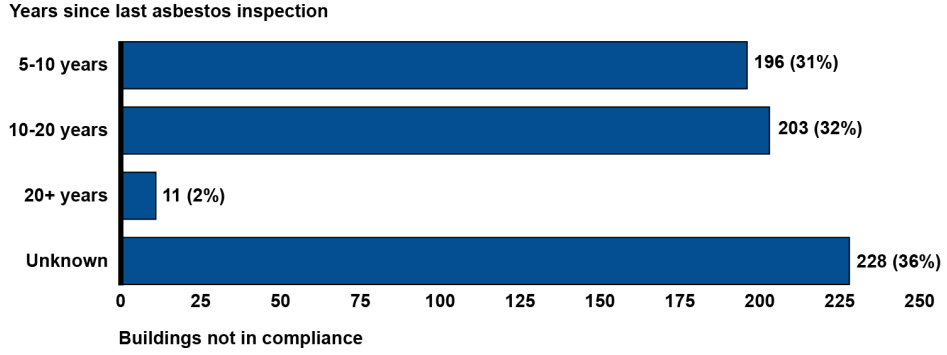
View GAO 24-106324. For more information, contact David Marroni at (202) 512-2834 or MarroniD@gao.gov.

What GAO Found

The General Services Administration (GSA) may be legally responsible for the cleanup of environmental contaminants on federal properties it manages before it disposes of those properties via sale or other means. GSA annually reports its environmental liabilities across three categories: asbestos, non-asbestos (e.g., lead paint), and hazardous releases (e.g., petroleum). GSA uses a formula to estimate the costs to address asbestos and non-asbestos contamination, which together account for 95 percent of its annually reported liabilities. GSA bases its liability estimates for hazardous releases on site-specific information gathered by GSA's regional environmental managers. GSA's estimated environmental liabilities were largely stable between fiscal years 2018 and 2022, ranging from $1.8 to $2.0 billion.

GSA manages asbestos and non-asbestos contamination in place—as these materials pose little health risk when not damaged or disturbed—and GSA officials said they take immediate action on hazardous releases. To manage asbestos in place, GSA policy requires buildings that could contain asbestos materials be inspected every 5 years. However, according to GSA data, approximately two-thirds of buildings (638 of 955) were out of compliance with this inspection policy. Buildings out of compliance include hundreds in which GSA has not conducted an inspection in more than a decade or does not know when the most recent inspection occurred.

Buildings Out of Compliance with General Services Administration's 5-Year Asbestos Inspection Policy, as of September 2023



Source: GAO analysis of General Services Administration data. | GAO-24-106324

GSA officials provided several reasons these buildings are out of compliance with GSA's asbestos inspection policy, including funding and staffing challenges, incomplete records, and limitations with the database used to track asbestos inspections. GSA officials said they are developing a comprehensive plan for completing required inspections and considering changes to the asbestos policy to follow a more risk-based approach. These officials said they have not yet identified specifics of this plan, including timelines for completing required inspections or for modifying the policy. As a result, GSA does not have key data needed to monitor asbestos and protect health and safety.

Contents

Abbreviations

CERCLA	the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended
COVID-19	coronavirus disease 2019
GSA	General Services Administration
EPA	Environmental Protection Agency
IRIS	Inventory Reporting Information System
OSHA	Occupational Health and Safety Administration
PCB	polychlorinated biphenyl
PBS	Public Buildings Service
TCE	trichloroethylene

U.S. GOVERNMENT ACCOUNTABILITY OFFICE
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March 4, 2024

The Honorable Gary C. Peters
Chairman
Committee on Homeland Security and Governmental Affairs
United States Senate

The Honorable James Lankford
Ranking Member
Subcommittee on Government Operations and Border Management
Committee on Homeland Security and Governmental Affairs
United States Senate

The General Services Administration (GSA) is responsible for managing more than 1,000 federally owned properties that were built when hazardous materials like asbestos, lead-based paint, and other hazardous materials were commonly used. If improperly managed or released, these contaminants may damage the environment and harm human health, including the potential for internal organ damage, cancers, and childhood development issues.[1] The presence of these contaminants represents a fiscal exposure for the federal government, as GSA may have the legal obligation to address their cleanup before the property can be disposed of via sale or other means. For fiscal year 2023, GSA estimated it had over $2 billion in unfunded environmental liabilities. These liabilities include $1.6 billion for asbestos-related cleanup, $359 million for non-asbestos materials (e.g., lead-based paint), and $96 million for hazardous releases (e.g., soil contaminated with petroleum or other hazardous substances).[2]

The federal government's environmental liabilities have been growing for more than 20 years, and this growth is likely to continue even as the

[1]In this report, we use the terms "contaminants" and "contamination" in a general sense to describe the various types of hazardous and potentially hazardous substances that GSA manages. Unless otherwise noted, these terms are not intended to suggest that substances entered the environment or represent a health or safety risk.

[2]These estimates were reported as part of GSA's fiscal year 2023 annual financial statement and include reference to three types of liabilities: (1) asbestos; (2) Plant, Property, and Equipment: non-asbestos; and (3) external releases to the environment. For the purposes of this report, we refer to these categories as (1) asbestos; (2) non-asbestos; and (3) hazardous releases. U.S. General Services Administration, *2023 Agency Financial Report: GSA Delivers Implementation, Impact & Value,* (Washington, D.C.: Nov. 14, 2023).

federal government spends billions each year on cleanup efforts. In 2017, GAO added the federal government's environmental liabilities to its High-Risk List, in part because they represent one of the largest liabilities on the federal government's financial statements and because of their continued growth.[3] In fiscal year 2019, the federal government's estimated environmental liabilities were $595 billion and increased to $626 billion by fiscal year 2022. As the federal government's overall environmental liabilities continue to increase, it is important for federal agencies, including GSA, to develop approaches for how to best manage their environmental liabilities.

In addition, we have previously reported that addressing environmental issues can increase the time and costs required to dispose of federal properties.[4] Difficulties disposing of unneeded and underutilized real property is one reason federal real property management has been on GAO's High Risk List since 2003.[5] We also recently reported that in the aftermath of the COVID-19 pandemic, federal agencies, including GSA, expect to decrease the amount of leased and owned space across the federal portfolio because of personnel who will continue to telework.[6] This may result in a greater need to dispose of unneeded federal real estate, making it even more important to find ways to efficiently dispose of federal real property.

You asked us to review how GSA estimates and manages environmental liabilities and how these environmental liabilities affect real property disposals. This report examines:

[3]GAO, *High Risk Series: Progress on Many High-Risk Areas, While Substantial Efforts Needed on Others*, GAO-17-317 (Washington, D.C.: Feb. 15, 2017). GAO's High-Risk Series identifies federal programs and operations that are high risk due to their vulnerabilities to fraud, waste, abuse, and mismanagement or that need transformation. In fiscal year 2022, environmental liabilities represented the third-largest liability on the U.S. government's financial balance sheet. We updated the High-Risk Series in April 2023. See GAO, *High-Risk Series: Efforts Made to Achieve Progress Need to Be Maintained and Expanded to Fully Address All Areas*, GAO-23-106203 (Washington, D.C.: Apr. 20, 2023).

[4]GAO, *Federal Real Property: Additional Documentation of Decision Making Could Improve Transparency of New Disposal Process*, GAO-21-233 (Washington, D.C.: Jan. 29, 2021).

[5]GAO-23-106203.

[6]GAO, *Federal Real Property: GSA Could Further Support Agencies' Post-Pandemic Planning for Office Space Use*, GAO-22-105105 (Washington, D.C.: Sept. 7, 2022).

- how GSA estimates environmental liabilities and how the estimates have changed from fiscal years 2018 through 2022,
- how GSA manages environmental contaminants and the extent to which GSA follows its asbestos management policy, and
- how environmental contaminants affect GSA's real property disposal process.

To address all three objectives, we conducted site visits to three GSA properties with environmental liabilities where we toured environmental contamination sites and interviewed GSA regional staff. We selected the three sites based on the diversity of the contamination present at the sites and for having among the largest GSA environmental liability estimates. We conducted a literature search to identify scholarly articles on environmental liabilities and relevant subject matter experts. We interviewed officials from GSA's Office of the Chief Financial Officer, GSA's Public Buildings Service (PBS), and all 11 GSA regional offices. We also interviewed third-party asbestos contractors who conduct building surveys for GSA and representatives from the independent auditor that reviews GSA's annual financial reports which contain environmental liabilities estimates.

To describe how GSA estimates its environmental liabilities and changes in those estimates, we reviewed information from relevant GSA databases and documents, including GSA's annual financial reports from fiscal years 2018 through 2023. We also reviewed GSA's cost estimates of its environmental liabilities, and third-party cost estimates for remediating environmental liabilities for GSA properties.

To assess how GSA manages environmental contaminants, we reviewed information related to GSA's processes and funding sources, including budget and expenditure information for funds used to address contaminants during fiscal years 2018 through 2022. After reviewing this information, we compared the processes GSA uses to manage environmental contamination to GSA's policy on asbestos management and leading practices regarding risk-informed decision-making.[7]

To describe how environmental liabilities affect GSA's real property disposal process, we reviewed real property data, environmental liability

[7]Gen. Servs. Admin., *Asbestos Management,* GSA Order PBS 1000.1A, (2022). GAO, *Environmental Liabilities: DOE Would Benefit from Incorporating Risk-Informed Decision-Making into Its Cleanup Policy*, GAO-19-339 (Washington, D.C.: Sept. 18, 2019).

data, and property disposal data provided by GSA. We also reviewed scholarly articles regarding how environmental contamination can affect real estate value. To learn more about how environmental contaminants can affect the sale of property during the property disposal process, we compared the sale prices of GSA properties that had environmental liabilities and were sold from fiscal years 2018 through 2022 with commercial market values from the same geographical areas.[8] We also spoke to property developers who bought GSA surplus property between fiscal years 2018 through 2022.

To verify the reliability of the data provided by GSA for all our objectives, we conducted spot checks of the data to verify accuracy and had GSA answer a standard set of data reliability questions. We reviewed the steps GSA takes to ensure the accuracy of its data and asked GSA officials follow-up questions on these data reliability processes. We determined that the data provided were sufficiently reliable for the purposes of reporting GSA's estimates of its environmental liabilities, as well as how GSA has expended funds to address environmental contaminants, and how many properties GSA disposed of that had environmental liabilities from fiscal years 2018 through 2022.

We conducted this performance audit from October 2022 to March 2024 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

Background

[8]To compare the price of GSA properties to commercial market values, we used market and transaction data from Real Capital Analytics and Moody's Analytics. We accessed this data through the Bloomberg Terminal, a computer software system provided by the financial data vendor, Bloomberg L.P., which contains real-time financial market data. Our analysis evaluated the surplus GSA properties on the basis of price per square foot. Surplus property is property that GSA has determined is not required to meet the needs or responsibilities of *all* federal agencies. 40 U.S.C. § 102(10) (emphasis added). Price per square foot is affected by several factors to include building condition, building age, remaining useful life, and environmental contamination. We did not have the information to determine the extent to which each of those factors affected the value.

GSA's Reporting and Management of Environmental Liabilities

Federal accounting standards require agencies responsible for environmental contamination to estimate future environmental cleanup costs and to report such costs as environmental liabilities in their annual financial statements.[9] GSA reports its environmental liabilities across three categories: asbestos, non-asbestos, and hazardous releases. GSA also follows certain processes and legal requirements when managing each type of environmental liability.[10]

- **Asbestos.** Asbestos is the name given to a group of naturally occurring mineral fibers that were commonly used in construction materials until they were linked to serious illness and fell out of widespread use in the United States beginning in the 1970s. GSA created its national asbestos management policy to conform with and supplement Occupational Safety and Health Administration (OSHA) and Environmental Protection Agency (EPA) regulations on managing asbestos, as well as applicable State and local asbestos regulations for federally owned facilities.[11] The policy requires a baseline asbestos inspection for each building built before 1998, along with re-inspection surveys every 5 years, unless a previous inspection indicates no asbestos in the building. The policy also requires annual surveillance of buildings with asbestos, which is the process of walking through a facility and visually noting any changes in asbestos condition. GSA must upload the data collected from inspections, re-

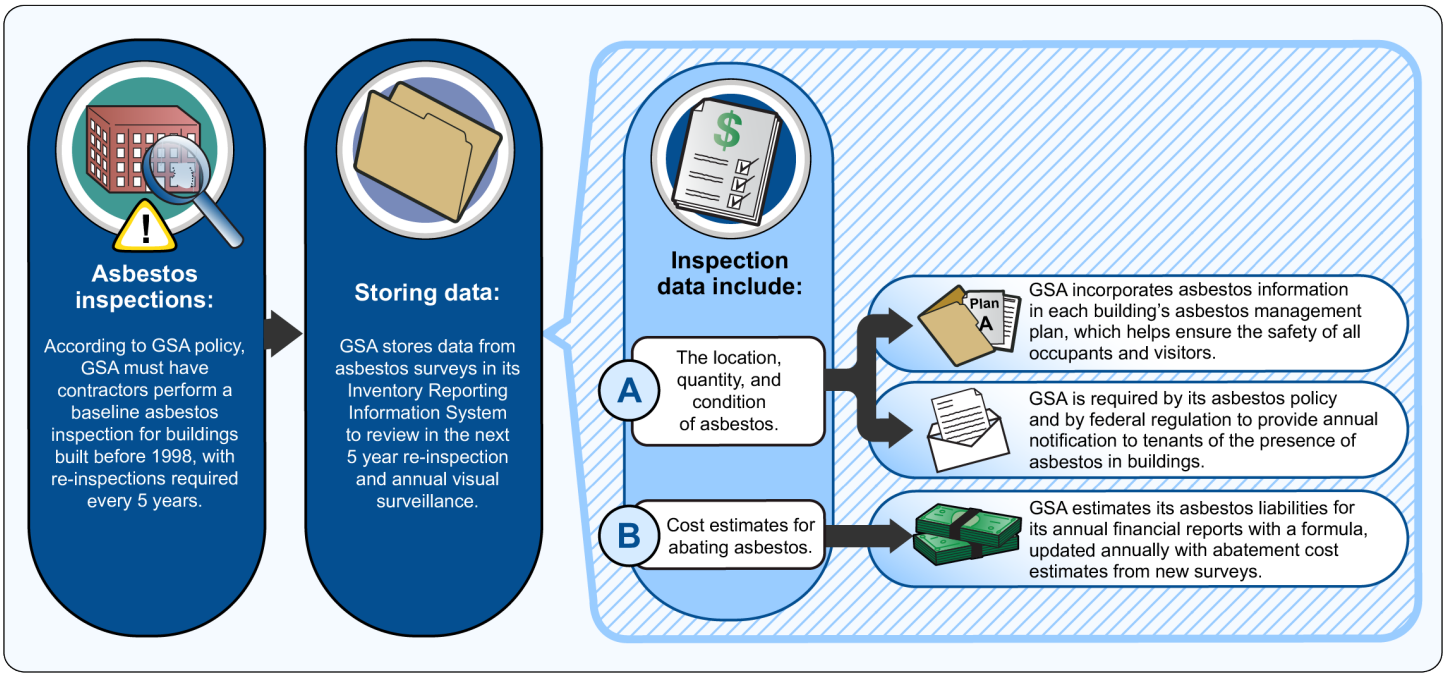
[9]Federal Accounting Standards Advisory Board, *FASAB Handbook of Federal Accounting Standards and Other Pronouncements, as Amended* (Washington, D.C.: June 30, 2021). According to these standards, environmental liabilities estimates must include costs for cleanup work when they are both probable and reasonably estimable. "Probable" relates to whether a future outflow of resources will be required—specifically, that it is "more likely than not" that the agency will incur a financial liability. "Reasonably estimable" relates to the ability to reliably quantify in monetary terms the outflow of resources that will be required. Environmental liabilities estimates and related supporting documentation are evaluated as part of GSA's annual financial statements audit.

[10]GSA's categories do not align with the legal framework for governing the cleanup of environmental contamination. For example, GSA includes some types of hazardous substances, which are subject to the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended, in all three categories for accounting purposes. Because the focus of this report is GSA's processes for determining its financial liabilities, we do not discuss the legal framework in depth. A summary of some key relevant environmental statutes may be found in Appendix I.

[11]GSA's asbestos management policy is found in GSA's Order PBS 1000.1A. According to the EPA, asbestos that is in good condition and left undisturbed is unlikely to present a health risk. Therefore, managing asbestos in place and maintaining it in good repair is considered a best practice. However, asbestos fibers that are disturbed and released into the air may be inhaled by building occupants, which can lead to long-term illnesses, such as lung cancer.

inspections, and annual surveillance into its Inventory Reporting Information System (IRIS). GSA uses information collected through asbestos inspections to provide annual notification of the presence of asbestos to all occupants in each affected building, and to inform the liabilities reported in its annual financial statements (see fig. 1).

Figure 1: General Services Administration's (GSA) Asbestos Inspection and Oversight Process



Source: GAO analysis of General Services Administration information and GAO (Icons). | GAO-24-106324

- **Non-asbestos.** GSA's "non-asbestos liabilities" category refers to potential future costs associated with cleanup of certain hazardous waste from a site when an asset is retired or disposed of.[12] These cleanup costs include disposal of hazardous substances that include irritants, corrosives, sensitizers, combustible materials, explosives,

[12]This includes costs associated with removing and disposing of (1) hazardous waste from property, or (2) material that consists of hazardous waste at a site that is being disposed. For example, according to GSA officials costs may include those to remove hazardous waste barrels from a property during that property's disposal, or safely dispose waste generated during a lead-based paint abatement project. They also include costs related to the disposal of certain equipment, such as obsolete machinery stored in a warehouse, when that warehouse is retired.

polychlorinated biphenyl (PCB) containing material, and lead.[13] According to GSA officials, the majority of non-asbestos liability expenditures are related to lead-based paint and the removal of hazardous waste generated during renovation, repair, and alteration projects. GSA's facilities standards follow Occupational Safety and Health Administration (OSHA) and EPA regulations regarding the disturbance and disposal of paint that contains any detectable concentration of lead. GSA's standards require that for buildings constructed prior to 1978, paint must be tested for lead content whenever alterations or demolitions require disturbance of painted surfaces.[14]

- **Hazardous releases.** "Hazardous releases" refers to releases or threatened releases of hazardous substances into the surrounding environment that require cleanup under federal law.[15] GSA officials stated that common hazardous releases they are responsible for include petroleum releases or past releases of transformer fluids containing PCBs, as well as legacy contamination in soil or groundwater from past uses, such as military operations.[16] For the management and cleanup of hazardous releases, GSA follows federal laws and their implementing regulations, including the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), as amended, unless the cleanup of the hazardous

[13]PCBs are a group of man-made organic chemicals that can cause a variety of adverse health effects. GSA officials told us that a common PCB-containing item they dispose of is fluorescent light ballasts, which are devices that regulate the amount of electric current that goes into the light bulb.

[14]According to GSA standards, lead-based paint that is intact and in good condition need not be abated, unless required for alteration or demolition, or if it is in a childcare center. GSA facilities standards require that construction waste containing lead be considered hazardous waste, unless testing proves otherwise.

[15]The Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), as amended, defines the term "hazardous substance" as any substance designated as hazardous under the Clean Water Act; any element, compound, mixture, solution, or substance designated under CERCLA; any hazardous waste pursuant to the Solid Waste Disposal Act; any toxic pollutant listed under the Clean Water Act; any hazardous air pollutant listed under the Clean Air Act; and any imminently hazardous chemical substance or mixture with respect to which EPA has taken action pursuant to the Toxic Substances Control Act, with certain exceptions such as petroleum. 42 U.S.C. § 9601(14).

[16]According to officials, GSA conducts cleanup of PCB transformer fluid at the time of release. However, the agency includes PCB releases in its hazardous release cost estimate in the event of future cleanup costs associated with potential subsurface impact.

substance has been deferred to states to oversee pursuant to state law and regulations.[17]

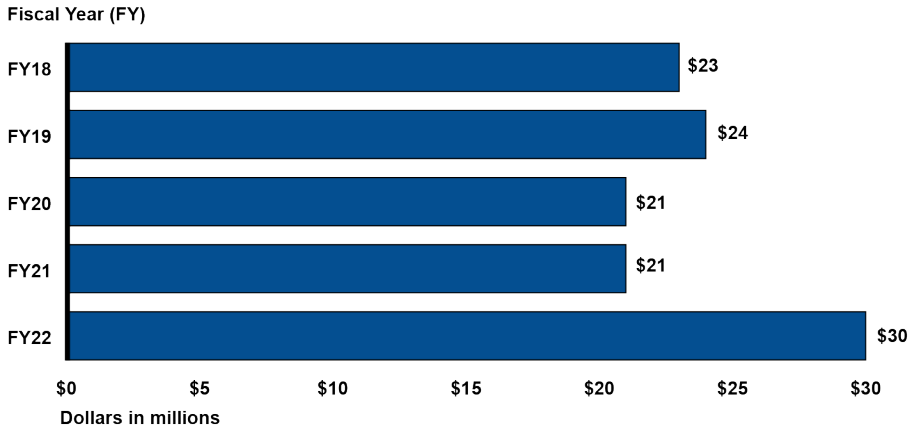
To implement these management activities and meet legal requirements, GSA funds the cleanup of environmental contamination through multiple sources, including minor repair and alterations funds and operations funds. Additionally, in certain cases involving high-cost repair and alteration projects, GSA will request "prospectus" funds from Congress that include funds to pay for environmental remediation.[18] Environmental cleanup expenditures include costs for remediation, managing contamination in place, long-term monitoring of contamination, and funding environmental studies, for example. From fiscal years 2018 through 2022, GSA expended between $21 million to $30 million per year to address environmental issues (see fig. 2).[19] During this time frame, GSA requested prospectus funding several times to address environmental contamination. For example, from fiscal years 2019 through 2022, GSA made three requests for approximately $27-29 million to address remediation at the Hardesty Federal Complex in Kansas City, Missouri, and received $3 million in fiscal year 2019. GSA officials said they have used funds to meet groundwater monitoring requirements but are awaiting congressional approval to fully remediate the site.

[17]42 U.S.C. § 9601, et seq. 40 C.F.R. pt. 300. CERCLA defines the term "release" as "any spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping, or disposing into the environment (including the abandonment or discarding of barrels, containers, and other closed receptacles containing any hazardous substance or pollutant or contaminant)" with certain exceptions. 42 U.S.C. § 9601(22).

[18]For capital and lease projects with an estimated cost above a certain dollar threshold ($3.613 million in fiscal year 2023), GSA must submit a proposal known as a prospectus to its congressional-authorizing committees—the House Committee on Transportation and Infrastructure and the Senate Committee on Environment and Public Works.

[19]According to GSA officials, these year-to-year amounts represent an approximation of funds spent on projects that include environmental expenditures that typically span multiple years. Spending each year may vary significantly depending on the project schedule.

Figure 2: General Services Administration's (GSA) Environmental Expenditures Funded with Building Operations Funds and Repair & Alterations Funds, Fiscal Years 2018-2022



Source: GAO analysis of General Services Administration data. | GAO-24-106324

Federal Real Property Disposal Process

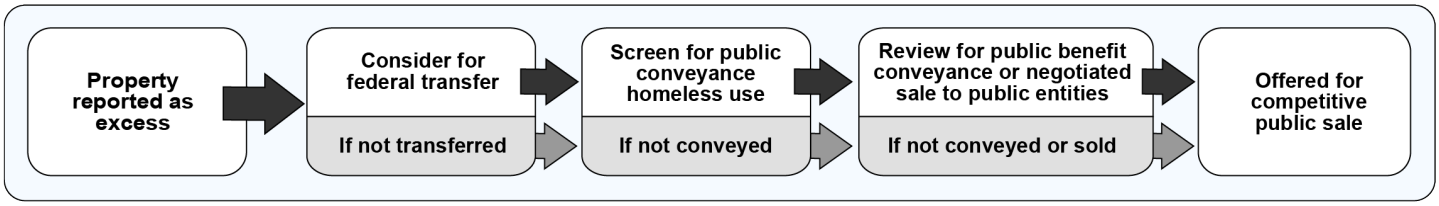
Federal law gives GSA authority to dispose of or repurpose excess real property.[20] GSA initiates its disposal process under this authority when the landholding federal agency determines it no longer needs its real property and notifies GSA of the excess property (see fig. 3).[21] As part of reporting the property as excess to GSA, the agency must notify GSA of certain environmental contaminants, so that the contamination can either be properly cleaned up before disposal or disclosed to the next owner. If GSA determines that the property is surplus to federal needs, GSA then screens the property for public use, a process known as "public benefit

[20]40 U.S.C. § 1303(b)(1). We have previously reported that while GSA has the authority to dispose of real property for most federal entities, 20 federal agencies reported they have at least one statutory authority that allows them to dispose of federally owned buildings under their control. See GAO, *Federal Building Management: Building Disposal Authorities Provide Varying Degrees of Flexibility and Opportunities for Use*, GAO-17-123 (Washington, D.C.: Dec. 8, 2016).

[21]The term "excess property" means property under the control of a federal agency that the agency head determines is not required to meet the agency's needs or responsibilities. 40 U.S.C. § 102(3). Excess property is different than surplus property, which is property that GSA has determined is not required to meet the needs or responsibilities of *all* federal agencies. 40 U.S.C. § 102(10) (emphasis added).

conveyance."[22] If a state or local government, or eligible nonprofit organization, does not acquire the surplus property and it is not conveyed for public benefit conveyance or a negotiated sale, then GSA can dispose of the property via a competitive sale to the public, generally through a sealed bid or public auction.[23] According to GSA officials, surplus properties are often disposed of in this manner. Figure 3 shows the federal disposal process and the multiple steps that GSA takes to dispose of federal real property.

Figure 3: General Services Administration's (GSA) Process for Disposing of Real Property



Source: GAO analysis of General Services Administration information. | GAO-24-106324

GSA's Estimation Methods Vary by Liability Type and Reported Estimates Have Remained Relatively Stable

[22]Such public benefit use may include educational facilities or fire and police training centers. If the Department of Housing and Urban Development determines that excess or surplus property is suitable for use to assist the homeless, that use is given priority before other potential uses. *See* 41 C.F.R. part 102-75, subpart H.

[23]Negotiated sales are only allowed in limited instances, such as when the fair market value of the property is less than $15,000 or the disposal is to a state or local government or eligible non-profit. *See* 41 C.F.R. § 102-75.880. A competitive public sale occurs when state and local governments or other eligible non-profits do not wish to acquire the property, and GSA disposes of the surplus property via a competitive sale to the public. *See* 41 C.F.R. § 102-75.935. GSA officials told us these are also done generally through a sealed bid or auction.

GSA Uses a Formula to Estimate Most Environmental Liabilities While Using Site-Specific Estimates for Hazardous Releases

GSA uses a cost estimation formula to determine liabilities for asbestos and non-asbestos materials, which combined make up most (95 percent) of the environmental liabilities GSA reported in its annual financial statement in fiscal year 2023.[24] Specifically, these liabilities made up $1.6 billion (78 percent) and $359 million (18 percent), respectively, of GSA's $2 billion in reported environmental liabilities in fiscal year 2023.[25]

- For asbestos liabilities, GSA annually updates its estimate based on a cost estimation formula that uses information from building asbestos inspection surveys performed by third-party contractors. GSA averages cost estimates for abating asbestos from a selection of those building surveys to create three measurement-based cost factors.[26] GSA then uses these cost factors to create individual estimates for all buildings built before 2000. GSA adjusts these estimates for inflation, location differences, and design, management, inspection fees. GSA then sums those estimates to come up with a cumulative total, and accounts for efforts to remediate asbestos by reducing the total estimate by its cumulative expenditures on asbestos

[24]Federal accounting standards for estimating environmental liabilities allow for the use of different methodologies, including cost estimation. Federal Accounting Standards Advisory Board*, FASAB Handbook of Federal Accounting Standards*. According to GSA officials, GSA develops the asbestos cost estimate to comply with federal accounting requirements and they are not used to plan for environmental cleanup projects. GSA's independent auditor reported that GSA's fiscal year 2023 annual financial report presented fairly, in all material respects, its financial position in accordance with U.S. generally accepted accounting principles. See KPMG*, Independent Auditors' Report on the U.S. General Services Administration's Financial Statements – Fiscal Years 2023 and 2022*, (Washington, D.C.: Nov. 14, 2023). In addition, we found GSA's methodology and cost factor formula to be reasonable for the purposes of developing an accounting estimate.

[25]Percentages are rounded. The scope of our report covers fiscal years 2018 through 2022. However, in instances where it is available, we use fiscal year 2023 data.

[26]The three units of measure for the cost factors are gross square feet, linear feet, and individual "each" items that may have asbestos (such as fire doors or piping). GSA develops these cost factors based on abatement costs estimated within surveys that meet its quality standards for inclusion into the cost estimation.

abatement costs.[27] GSA reported roughly $23 million in asbestos expenditures in fiscal year 2022.[28]

- For non-asbestos liabilities, GSA also uses a cost estimation formula, developing average cost factors that integrate environmental costs identified in projects. GSA applies the average cost factor to its building inventory to identify a total estimate.[29] The estimate accounts for inflation, location differences, and design, management, and inspection fees. GSA also reduces the non-asbestos liability estimate by the cumulative expenditures from cleanup costs related to non-asbestos liabilities. GSA reported approximately $8 million in non-asbestos expenditures, such as lead-based paint abatement, in fiscal year 2022.

GSA estimates cleanup costs associated with hazardous releases based on site-specific information. To collect this information, GSA regional environmental managers identify and report, on a quarterly basis, those sites with a release or threatened release of a hazardous substance that will require future study or remediation by GSA. GSA develops cost estimates for a site, including costs to determine the extent of contamination and to carry out the remediation method (such as removal, treatment, or containment), as well as costs related to regulatory oversight and monitoring. GSA also adjusts the estimates quarterly based on changes in scope or costs and reduces the cost estimate by the amount of funds expended.[30] GSA reported spending approximately $6 million to address hazardous release sites in fiscal year 2022. For

[27]GSA does not use the cost formula to calculate asbestos cost estimates for two sites – the Paul Rogers Federal Building and Courthouse exterior columns and siding and the Denver Federal Center underground asbestos steam lines and vaults. According to GSA officials, there are unique characteristics at these sites and, therefore, officials manually add these cost estimates to the overall estimate created by the cost formula.

[28]Funds spent abating asbestos and non-asbestos liabilities are typically spent as part of other projects, such as renovation projects. According to GSA officials, reported expenditures are not exact, but represent what GSA is able to approximate within its project tracking systems.

[29]GSA applies its non-asbestos cost factor to a broader range of buildings than is the case for its asbestos cost factor. GSA's building inventory for estimating non-asbestos liabilities includes buildings built in 2000 or later.

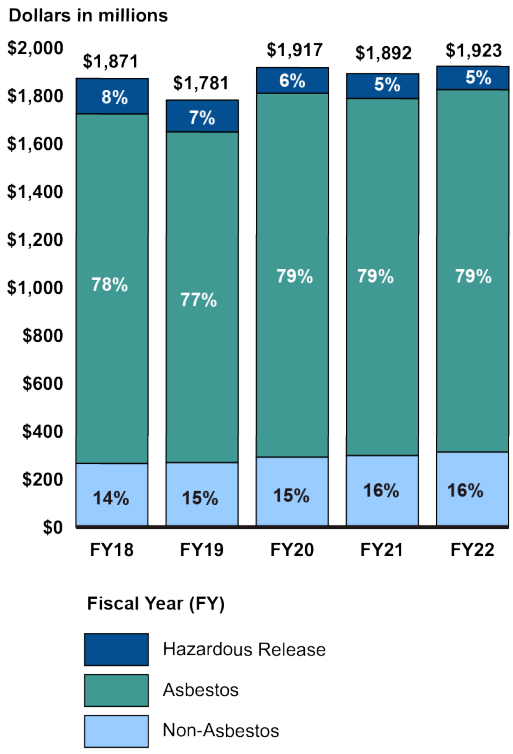
[30]GSA reduces its estimated liabilities for hazardous releases by its expenditures based on federal accounting standards. Similar to non-asbestos and asbestos liabilities, hazardous release expenditures can include activities such as managing contamination in place and may not reflect a reduction of actual contamination.

additional details on a selection of current GSA hazardous release projects and related expenditures, see appendix II.

GSA's Estimates of Environmental Liabilities Have Remained Relatively Stable Over the Last 5 Fiscal Years

GSA's estimates for its total environmental liabilities have remained relatively stable between fiscal years 2018 and 2022, ranging from $1.8 to $2.0 billion. Estimated asbestos cleanup costs were the bulk of GSA's estimated environmental liabilities during this period, at 77 percent or more of the total in each year ($1.4 billion to $1.5 billion). Non-asbestos liabilities and hazardous releases represented, on average, around 15 percent and 6 percent of the total estimate, respectively. See figure 4.

Figure 4: General Services Administration's (GSA) Estimated Environmental Liabilities by Type, Fiscal Years 2018-2022



Source: GAO analysis of General Services Administration data. | GAO-24-106324

Note: Percentages may not sum to 100 percent due to rounding.

GSA officials stated that the liability estimates for asbestos and non-asbestos have largely remained stable in part due to GSA's policy of managing these contaminants in place—as discussed in more detail later

in this report—rather than expending funds on abatement. GSA spent approximately $31 million to address asbestos and non-asbestos contaminants in fiscal year 2022. They added that the minimal changes in these liabilities in recent years relate to changes in the cost factors.[31]

Cost estimates for hazardous releases have decreased slightly since fiscal year 2018. These changes reflect periodic adjustments GSA made to site-specific estimates. For example, GSA may decrease a site-specific estimate due to the discovery of less contamination than identified in preliminary investigations, or due to remediation technology improvements that decrease estimated cleanup costs. GSA may also make periodic adjustments to increase site-specific estimates due to stricter environmental regulations that will increase future cleanup costs, for example, or due to the discovery of more contamination than anticipated. For example, in 2020, GSA discovered previously unknown contaminants during site redevelopment at the Southeast Federal Center, according to GSA officials. This resulted in an increase in the liabilities estimate for the costs associated with investigating the extent of contamination and developing remediation options (see fig. 5).

[31]Because asbestos and non-asbestos liabilities are developed using a cost estimation formula, changes in the annual cost estimates do not necessarily reflect actual reductions or increases in the amount of contamination in GSA properties.

Figure 5: Cleanup of Previously Unknown Contaminated Soil Discovered during the Redevelopment of Southeast Federal Center, Washington, D.C.

Source: GAO. | GAO-24-106324

Some hazardous releases cannot be significantly addressed by remediation, resulting in liabilities that will remain part of GSA's cost estimate for the foreseeable future. According to GSA officials, in some instances it is not feasible to fully remediate contamination from a hazardous release, and the most practical course of action is to contain and continually monitor the contamination. In these cases, the cost of the liability will continue to remain a part of GSA's hazardous release liabilities without significant reduction until GSA is able to dispose of the property. There are some sites where GSA will have some level of liability associated with hazardous releases for many years into the future, according to officials. For example, at the Denver Federal Center, GSA estimates long-term monitoring costs on a site where GSA established an interceptor trench to treat contaminated groundwater and prevent it from leaving the property (see fig. 6). According to GSA officials, cleanup of the entire site is unlikely due to cost and feasibility, and they anticipate having continual costs related to managing the groundwater contamination. Overall, funds expended on hazardous release projects did not significantly affect the reported liabilities. As previously noted, GSA spent approximately $6 million on hazardous release remediation in fiscal year 2022, and the reported liabilities for hazardous releases

decreased from $104 million in fiscal year 2021 to $98 million in fiscal year 2022.

Figure 6: Reservoir with Interceptor Trench for Long-Term Treatment of Contaminated Groundwater at the Denver Federal Center, Lakewood, CO

Source: GAO. | GAO-24-106324

GSA Manages Most Environmental Contaminants in Place, but Limited Monitoring Efforts Do Not Adhere to Its Asbestos Management Policy

GSA Manages Most of Its Environmental Contaminants in Place, Prioritizing Cleanup of Contaminants that Pose Immediate Health and Safety Risks

GSA manages the bulk of its reported environmental contaminants—asbestos and non-asbestos—in place. EPA guidance states that asbestos and lead-based paint maintained in good condition poses little health risk.[32] GSA typically only undertakes asbestos or non-asbestos cleanup projects under specific circumstances. For example, GSA addresses damage to asbestos-containing materials, which could pose a risk to health and safety, or responds to site-specific needs like major repair or construction projects. For hazardous releases, GSA officials said the agency takes immediate action to minimize risks to human health and the environment and to comply with state and federal requirements.

Asbestos

GSA's asbestos management policy calls for managing asbestos with regular monitoring and inspections in accordance with EPA leading practices, rather than abating asbestos.[33] To monitor asbestos, GSA policy requires a baseline inspection, 5-year re-inspections, and annual visual surveillance to inspect asbestos-containing material identified in each building during inspections.

GSA's prioritization of asbestos abatement depends on the circumstances. According to GSA officials, the agency takes immediate action to address damaged asbestos that poses a hazard to health and safety. Otherwise, GSA may abate asbestos during larger site development projects, building renovations, and other repair and alteration projects (see fig. 7). Outside of building alterations, there is no requirement that GSA abate asbestos-containing material that is in good condition. Further, once a building is declared excess, GSA may transfer or sell that property without abating asbestos by providing relevant disclosures as required by regulation.[34]

[32]For PCBs categorized as non-asbestos contaminants, GSA officials stated that GSA removes or disposes of PCB-containing materials during renovation and alteration projects pursuant to applicable legal requirements.

[33]GSA's asbestos management policy follows leading practices outlined in EPA guidance. See Environmental Protection Agency, *Managing Asbestos in Place: A Building Owner's Guide to Operations and Maintenance Programs for Asbestos-Containing Materials,* Publication 20T-2003 (July 1990).

[34]GSA regulations require agencies to report any known and reportable amount of asbestos when reporting excess property, and the legal conveyance document for such property must include certain notices regarding asbestos. 41 C.F.R. §§ 102-75.125(i), 102-75.335. EPA's CERCLA regulations also require disclosure at sale if a particular federal property was known to have had a hazardous substance stored for more than one year, released, or disposed of on said property. 40 C.F.R. §§ 373.1, 373.2(a).

Figure 7: Building with Asbestos-Containing Materials that Is Scheduled to Be Demolished to Accommodate Future Development, Denver Federal Center, Lakewood, CO

Source: GAO. | GAO-24-106324

Non-asbestos

GSA's facilities standards also do not require proactive abatement of all non-asbestos materials. For example, GSA is not required to abate lead-based paint if it is intact and in good condition, in accordance with EPA guidance. GSA abates lead-based paint during building alteration projects, but otherwise may transfer or sell a property with lead-based paint by providing relevant disclosures as required by regulation.[35] For PCBs categorized as non-asbestos contaminants, GSA officials stated that GSA removes or disposes of PCB-containing materials during renovation and alteration projects pursuant to applicable legal requirements. Similar to lead-based paint, GSA may generally transfer or sell properties that contain PCB equipment by disclosing such equipment and maintaining the equipment in compliance until date of transfer.

Hazardous releases

GSA officials stated that they work with relevant authorities to address health risks as they address hazardous releases based on legal requirements. Such requirements can include statutes, regulations, or legal agreements for GSA to conduct a response to a release or

[35]GSA regulations require that when agencies report property as excess, the title report include whether lead-based paint is present on the property, with additional disclosure requirements if the property is housing. 41 C.F.R. § 102-75.125(j).

threatened release of hazardous substances into the environment. These officials also noted that GSA makes it a priority to address health and safety risks related to hazardous release sites. In general, there are relatively few hazardous release sites to manage. As of February 2023, GSA reported cost estimates related to hazardous releases on 34 federal properties in nine of GSA's 11 regions.

In addition, for any ongoing or future development on a property with known environmental contamination, GSA addresses cleanup based on the site's plan or as environmental issues are discovered. For example, at the Denver Federal Center, which has several parcels that are being prepared for redevelopment, GSA officials stated that they worked to clean up environmental issues prior to the start of any construction. GSA officials involved in the redevelopment at St. Elizabeths campus in Washington, D.C. indicated they planned to address remaining contamination from fly ash in future construction at the site as part of the site's master plan.[36] See figure 8.

Figure 8: Examples of How the General Services Administration Manages Contamination at Development Sites

Excavators remove asbestos-contaminated soil as part of the construction of the Food and Drug Administration Lab at Denver Federal Center in Lakewood, Colorado.

Coal combustion residue in a field at the St. Elizabeths campus in Washington, D.C. possibly originated from past use of the coal-fired power plants (pictured) and will be addressed in later re-development.

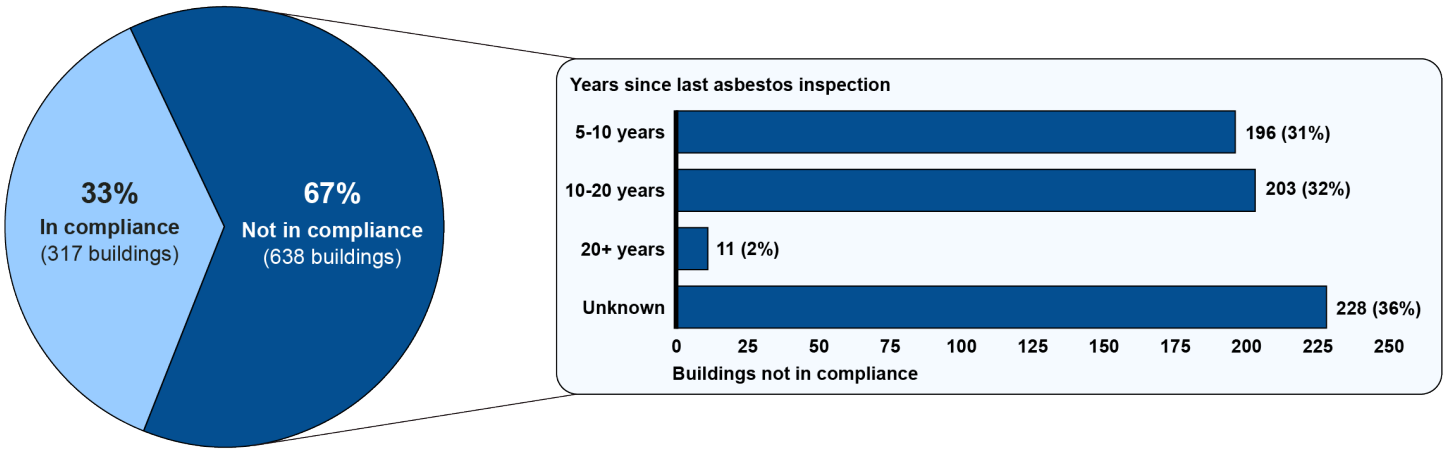
Source: GAO (photos). | GAO-24-106324

[36]The fly ash (coal combustion residue) contamination on the site possibly originated from a waste incinerator and/or coal-fired power plants that operated on the property prior to GSA's ownership, according to GSA officials.

GSA Has Not Monitored Asbestos in Line with Its Policy

GSA has not completed asbestos inspections required by its asbestos management policy for approximately two-thirds of buildings within the last 5 years. Specifically, according to GSA data, 638 of 955 buildings were not in compliance with this policy, as of September 2023. This includes 228 buildings that do not have a known date of last inspection and 410 buildings whose last inspection was not within the last 5 years.[37] Of those 410 buildings, 214 last had an inspection more than 10 years ago. See figure 9.

Figure 9: General Service Administration (GSA) Buildings Not in Compliance with Inspection Policy and Years Since Asbestos Survey Completed, as of September 2023



Source: GAO analysis of General Services Administration data. | GAO-24-106324

[37]GSA officials were unable to provide data that distinguish between baseline inspections and 5-year re-inspections. We were therefore unable to assess to what extent buildings have historically been in compliance with the 5-year re-inspection policy, and we could only report on the date of most recent inspection or re-inspection. We excluded from our analysis data on an additional 32 buildings where GSA indicated that the building had an Asbestos Confirmation Statement designating the building free of asbestos-containing material. According to GSA, 12 buildings that we have designated not in compliance with the policy had an Asbestos Confirmation Statement in development, or an asbestos survey or full asbestos abatement underway. Additionally, 21 buildings not in compliance are delegated buildings, where GSA is the landholding agency, but another agency is responsible for completing asbestos inspections per GSA policy. Thirty-five buildings not in compliance are currently designated unsafe to enter or access is not permitted, and no further asbestos inspections will be performed, according to GSA officials. According to GSA, 71 buildings not in compliance have one or more of the following designations: decommissioned, demolition planned, approved for disposal, excess, unoccupied, or vacant.

GSA officials provided several reasons for the large number of buildings that are not in compliance with GSA's policy for completing asbestos inspections every 5 years, including limited funding, staffing shortages, and incomplete records and database limitations. These officials stated that there is no dedicated funding to complete asbestos inspections, which must compete with other priorities such as major construction projects, or, at one site, electric vehicle projects. Additionally, they said some regions only have one staff member—called an "industrial hygienist"—responsible for monitoring asbestos inspections and ensuring third-party contractors complete them, and that individual has many other responsibilities that they may prioritize. These other responsibilities include monitoring asbestos repair and abatement projects and addressing incidents which pose immediate health and safety risks. Further, GSA officials stated that some buildings may appear to be out of compliance with the asbestos management policy because completed asbestos inspection surveys for some buildings may not have been uploaded to GSA's IRIS database (used to track asbestos information) as required. According to these officials, staffing constraints as well as file size upload limitations within IRIS have made it difficult for regional officials to upload inspection surveys.

GSA headquarters officials also stated that the IRIS database lacks an oversight mechanism for tracking inspection completion, and that has impeded their oversight of compliance with the policy. Specifically, while IRIS can store inspection data, the database cannot provide an overview of which buildings have inspections and when the next inspection is due for completion. As a result, GSA headquarters officials said they must conduct time-intensive, manual searches in IRIS to determine the inspection status for the approximately 1,000 buildings that fall under GSA's 5-year inspection policy. As an interim measure, GSA headquarters officials said they are following up with the regions through monthly calls to develop a prioritized list of buildings that need surveys.[38]

GSA officials stated that they are taking several steps to address these issues. For example, the officials said they requested $500,000 in the 2024 fiscal year budget that may be used for several activities. These

[38]GAO previously recommended that GSA address asbestos-related data shortcomings in IRIS. See GAO, *Asbestos in GSA Buildings: Improved Data Would Enhance Oversight,* GAO 19-45R (Washington, D.C.: Nov. 19, 2018). GAO closed these recommendations after GSA developed an Asbestos Module for IRIS that was capable of recording and documenting major asbestos events. However, according to GSA officials, they later discovered that the Asbestos Module could not readily track compliance of the number of inspections completed across the inventory every year.

activities include helping fund updates to the IRIS database, or funding additional building inspections, each of which costs $10,000-$20,000. However, these officials stated that, even if all requested funds were allocated toward funding inspections, it would be insufficient to cover the associated costs. Further, officials indicated they had not yet decided how to use additional funds or identified strategies to overcome remaining funding gaps.

GSA officials also stated that they are considering changes to the asbestos policy, namely, reducing asbestos monitoring requirements to more accurately reflect the risks to health and safety from undisturbed asbestos. Officials discussed the following changes that they are considering:

- using annual surveillance inspections (walk-throughs) to visually monitor asbestos in buildings in lieu of the 5-year re-inspections that include material sampling and testing,
- changing the blanket 5-year re-inspection requirement to selectively conduct re-inspections after significant renovation and repair projects that could have disturbed existing asbestos,
- reducing the frequency of re-inspections from 5 years to every 10 years, and
- excluding low-risk buildings from inspection requirements, including warehouses, parking garages, or other unoccupied structures.

GSA officials said they believe that these are risk-based approaches that could allow GSA to (1) acquire the necessary information while reducing the financial and resource burdens on the regions, and (2) allocate resources more effectively to address competing priorities. GAO has previously recommended the use of risk-informed decision-making to address environmental issues with limited resources.[39] Implementing a risk-informed decision-making approach can help agencies consider trade-offs when addressing risks to human health and the environment, cost, and other factors in the face of uncertainty.

By not completing asbestos inspections as required or updating its policy to incorporate risk-informed decision-making, GSA is missing key data used in asbestos management and may not be achieving the greatest reduction in risk with its limited resources. Further, without an adequate

[39]GAO, *Environmental Liabilities: DOE Would Benefit from Incorporating Risk-Informed Decision-Making into Its Cleanup Policy*, GAO-19-339 (Washington, D.C.: Sept. 18, 2019).

oversight mechanism, GSA has limited insight on its adherence to the asbestos policy. Not having up-to-date inspection information on the condition of asbestos may have several consequences, including limiting the effectiveness of the building asbestos management plans that officials use to ensure the health and safety of building occupants. Annual asbestos surveillance may also be less effective, because annually reviewing the condition of asbestos relies on having a current asbestos inventory, developed from the more rigorous asbestos inspections. Moreover, the lack of regular asbestos inspections could make it difficult for GSA to accurately notify tenants of asbestos in GSA's facilities, as required by federal regulation.[40] Lastly, without updated information, the reported cost estimate for asbestos liabilities—developed using inputs from the 5-year re-inspections—is less representative of actual costs, potentially resulting in an incomplete understanding and reporting of GSA's potential costs to address its asbestos liabilities.

Environmental Contaminants Rarely Extend Disposal Timelines but Can Affect Sales of Unneeded Federal Properties

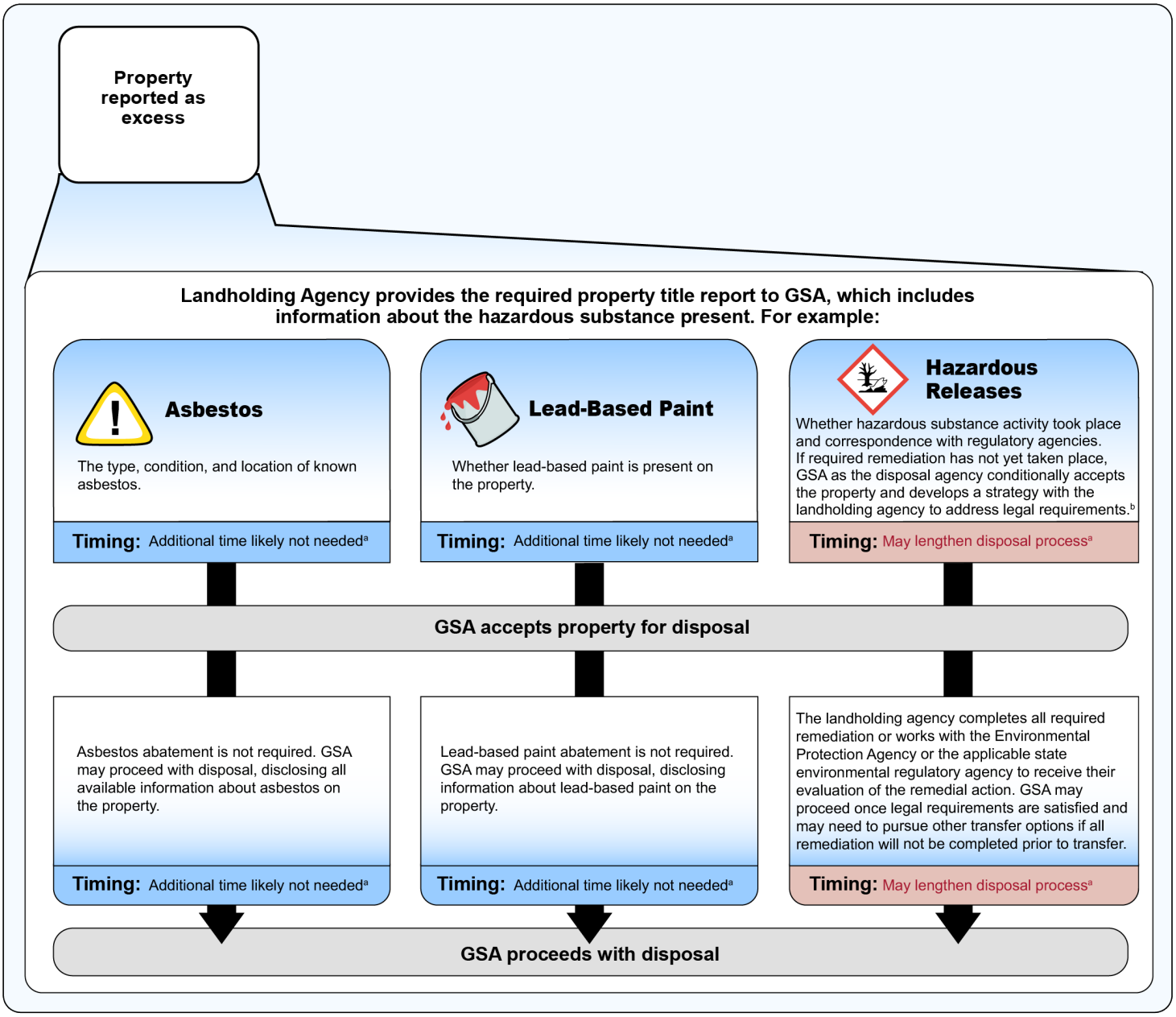
[40]In 2022, GSA's Office of Inspector General published an audit of asbestos management at the Chet Holifield Federal Building in Laguna Niguel, California in response to a hotline compliant about asbestos management at the facility. In that audit, GSA officials found that, due to issues with the baseline survey, GSA's Public Building Service (PBS) did not maintain a reliable asbestos inventory and did not update the building asbestos management plan as required. They also did not notify building occupants of asbestos-containing material in accordance with federal and state regulations and GSA policy. These officials concluded that GSA was not effectively managing the risk of exposure to asbestos of tenants, visitors, and contractors in the building. General Services Administration, Office of Inspector General, *Audit of PBS's Management of Asbestos at the Chet Holifield Federal Building in Laguna Niguel, California,* A190043/P/4/R22002 (Feb. 2, 2022).

GSA Officials Report a Few Hazardous Releases Have Extended Disposal Timelines While Other Contaminants Have Minimal Effect

The extent to which environmental contaminants affect GSA's real property disposal process varies by type, with hazardous release issues typically causing the greatest effect. GSA is typically required to address hazardous releases prior to disposing of unneeded properties, which can extend timelines, according to GSA officials.[41] Specifically, as part of the disposal process, GSA may be required to remediate hazardous releases. These remediation efforts can significantly lengthen the disposal process—although officials noted such instances have been relatively rare over the past 5 years. In contrast, while GSA is required to disclose information on asbestos and non-asbestos contaminants, it is generally not required to take action to remediate prior to disposal. See figure 10 for a depiction of how different kinds of environmental contamination can affect disposal time frames.

[41]When conveying surplus real property out of federal ownership, GSA must comply with the requirements in 42 U.S.C. § 9620(h)(3)(A)(ii) to include a covenant in the deed asserting that "all remedial action necessary to protect human health and the environment with respect to any such substance remaining on the property… has been taken before the date of such transfer."

Figure 10: General Services Administration's (GSA) Management of Environmental Contaminants during Real Property Disposal Process, by Contaminant Type



Source: Interviews with GSA officials and GAO analysis of General Services Administration information, GAO (Icon), and FARBAI and Crispline Design/stock.adobe.com. | GAO-24-106324

[a]According to GSA officials.

[b]Conditional based on whether the U.S. will be able to comply with the requirements of 42 U.S.C. § 9620(h)(3)).

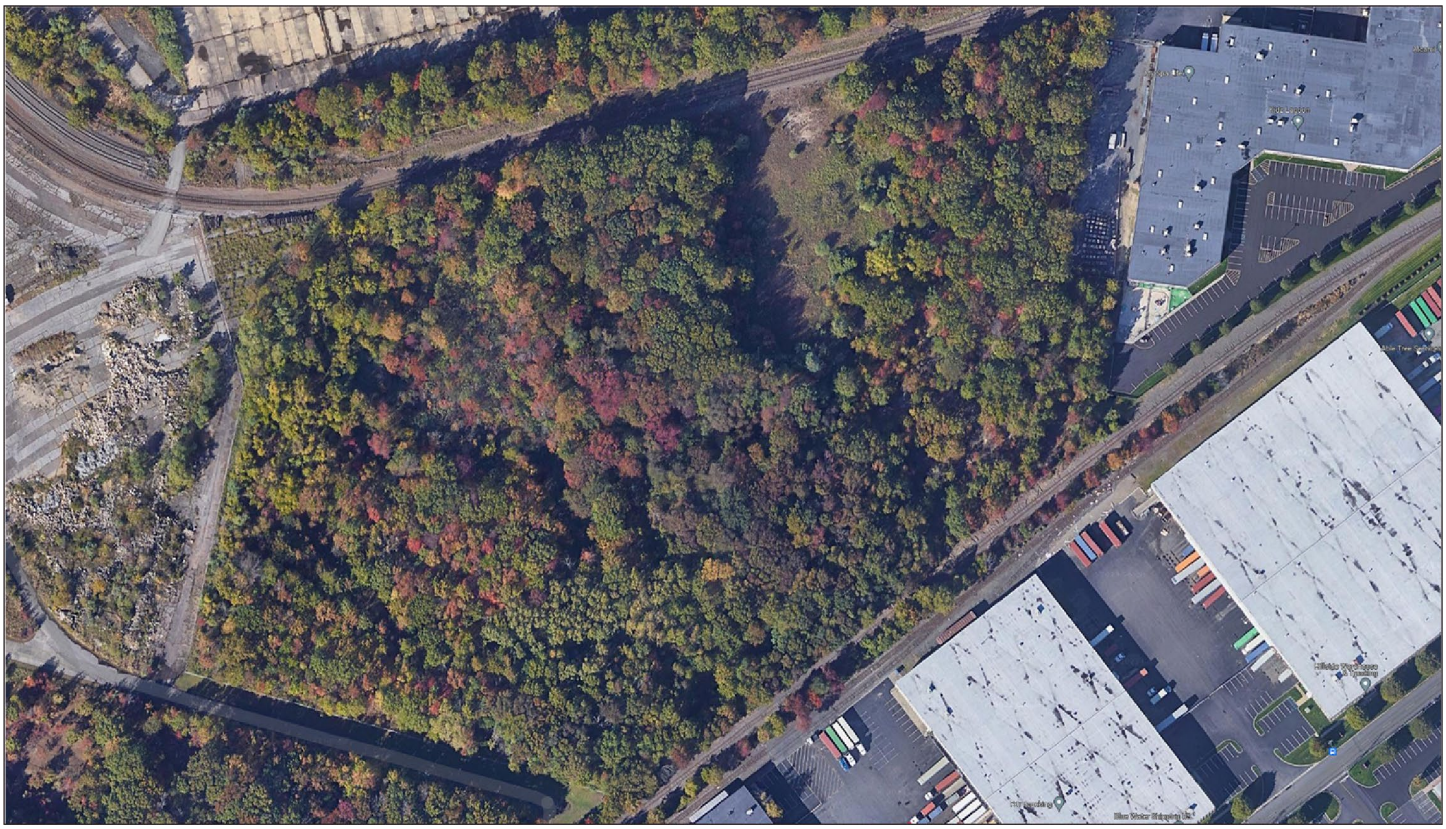
Hazardous releases. According to GSA officials, hazardous releases can add significant time to the disposal of surplus properties. Not only is time required for GSA or the landholding agency to identify and remediate the release, but GSA must also work with appropriate regulatory authorities to obtain necessary approvals. Further, GSA may have to plan and identify funding for long-term monitoring and maintenance responsibilities related to the hazardous releases. GSA officials described several instances in which the presence of a hazardous release affected the overall disposal timeline for a property. For example:

- **Raritan Arsenal, Edison, New Jersey.** The U.S. Army used the former Raritan Arsenal from 1917 to 1963 for the receipt, storage, shipment, and decommissioning of ordnance, arms, and machinery (see fig. 11).[42] After the arsenal closed in 1963, the government sold several parcels of the property, but retained others. One of the government's remaining parcels—which contained soil contamination, a construction and demolition landfill, and an asbestos landfill, among other contaminants—was transferred to GSA, which began seeking to dispose of the property in 2011. For more than a decade, GSA worked with the U.S. Army Corps of Engineers to remediate on-site contamination resulting from past Department of Defense activities, completing remediation in February 2023. Hazardous substances still present on the parcel include contamination resulting from the landfills, along with stormwater and soil erosion issues. The disposal process has been placed on hold due to ongoing efforts to work with the New Jersey Department of Environmental Protection to address the remaining contamination and the stormwater and soil erosion issues.[43] Once these issues are addressed, and GSA obtains approval from the New Jersey Department of Environmental Protection, the disposal process can be completed. GSA regional officials told us that efforts to obtain this approval may take several years after cleanup is completed.

[42]Ordnance is military supplies including weapons, munitions, combat vehicles, and maintenance tools and equipment.

[43]According to the EPA, cleanup of sites contaminated by a release of a hazardous substance may be deferred to states to oversee cleanup pursuant to state laws and regulations in lieu of a cleanup pursuant to CERCLA and its implementing regulations.

Figure 11: Aerial Photo of Raritan Arsenal Parcel Owned by the General Services Administration, Edison, NJ



Source: Google. | GAO-24-106324

- **Defense Logistics Agency Depot, New Haven, Indiana.** The former depot held stores of metallurgical ores and materials necessary for manufacturing defense and strategic materials in the advent of a national emergency. While GSA has always owned the property, the Defense Logistics Agency's Defense National Stockpile Center occupied and operated it. GSA first sought to dispose of this property in 2006 but placed the disposal on hold while the Defense Logistics Agency conducted further remediation to address multiple soil contaminants, including arsenic and mercury. The Defense Logistics Agency eventually determined that some contaminants would remain on site with restrictions in the deed of sale, which would prohibit

residential or agricultural uses.[44] GSA officials noted that meeting state regulatory requirements added time to the overall disposal process, including soil and groundwater investigations required by the Indiana Department of Environmental Management.[45] The property was ultimately sold through public auction in 2018—12 years after GSA began the disposal process.

- **Hardesty Federal Complex, Kansas City, Missouri.** The U.S. Army operated the Hardesty Federal Complex as a logistics depot during World War II, with GSA assuming custody and control of the complex in 1960 (see fig. 12). The complex was then home to several federal agencies until they vacated the site in the early 2000s. In 1999, GSA began the process to dispose of the property. Soil sampling identified hazardous substances, including trichloroethylene (TCE), slowing the process. GSA began to work with the state of Missouri to complete necessary remediation activities.[46] After nearly a decade, GSA received approval from the Missouri Department of Natural Resources and the Governor of Missouri to dispose of the property and sell it at public auction under the condition that the new property owner assume cleanup responsibility.[47] It was subsequently discovered that the contamination had spread farther than indicated through several environmental studies, including reaching the underground water table and adjoining privately owned land.[48] As a result, GSA agreed to retain on-site and offsite cleanup responsibilities as part of the sale to a non-profit corporation, which occurred via public auction in 2011.

[44]For hazardous releases, in some circumstances CERCLA authorizes the transfer of the property prior to completion of the cleanup if that the transfer meets certain criteria, such as the property is suitable for the intended use and the intended use is consistent with the protection of human health and the environment. 42 U.S.C. § 9620(h)(3)(C).

[45]The deed also included a land use control approved by the Indiana Department of Environmental Management. According to GSA, both the remediation and the restriction on use enabled GSA to satisfy CERCLA requirements to transfer the property. *See* 42 U.S.C. § 9620(h)(3)(A).

[46]According to GSA officials, this contamination was likely caused by former spills from above ground storage tanks and possibly other underground storage tanks that had been removed. TCE is a volatile, colorless liquid organic chemical. TCE does not occur naturally and is created by chemical synthesis. It is used primarily to make refrigerants and other hydrofluorocarbons and as a degreasing solvent for metal equipment.

[47]In this instance, GSA received approval to sell the property as an early transfer in accordance with CERCLA requirements. 42 U.S.C. § 9620(h)(3)(C).

[48]The water table is the upper level of an underground surface in which water saturates the soil or rocks.

GSA officials noted that only a few recently disposed properties included a hazardous release that added time to the disposal process. According to GSA real property data, eight of 22 property sites GSA disposed of during fiscal years 2018 through 2022 included a hazardous release. Of these eight, GSA officials noted that the presence of hazardous releases did not always lengthen the disposal process. For instance, GSA regional officials told us that the presence of environmental contaminants did not affect the sale of a land parcel at the Denver Federal Center, which was formerly contaminated with a landfill.

Figure 12: Former Hardesty Federal Complex, Kansas City, MO

Source: General Services Administration. | GAO-24-106324

Asbestos and non-asbestos. According to GSA real property data, 15 of the 22 property sites GSA disposed of during fiscal years 2018 through 2022 likely included asbestos or non-asbestos contaminants. GSA officials told us that these contaminants did not slow down the disposal process for these properties because GSA is generally allowed to sell or convey properties with such liabilities in their current state, or "as-is," with required disclosures. GSA officials reported that they did not encounter difficulties with selling such properties, as they target buyers—such as commercial developers—who understand the risks and are not concerned with the presence of asbestos or lead-based paint. GSA officials said that selling "as-is" saves the federal government time and money by removing the need for GSA to remediate any environmental issues.

Hazardous Releases Reduce Property Values and Limit Potential Buyers of Unneeded GSA Properties

According to GSA officials, academic research, and private-sector property developers, the presence of hazardous releases can reduce property values and limit sales of unneeded GSA assets. Specifically, GSA regional officials told us that hazardous releases may restrict a property's usage and require a buyer willing to assume the liability and risks associated with environmental contaminants. Therefore, GSA officials said they typically tailor marketing strategies to those potential buyers actively looking for such investments and choosing to participate in the "brownfield" market.[49] In some cases hazardous substance contamination can result in low demand and reduce GSA's final sales price. Further, GSA headquarters officials stated that environmental conditions can reduce the appraised value of a property prior to sale. Specifically, if a property contains environmental contamination that restricts its use or requires remediation, those limitations will be reflected in the appraisal, and can reduce the sales price.

Academic studies have also found that the presence of certain hazardous releases on a property reduce its property value.[50] According to these studies, such properties attracted fewer buyers, developers, or investors, and the contamination made it harder to secure a loan to purchase the property. Most potential investors would either refuse to acquire contaminated land or would require significant adjustments to the sale, and sale prices were found to be lower for contaminated commercial properties. For example, a 2018 study found that sales prices for properties contaminated with oil, petroleum, radioactive hazards, and other chemical hazards sold for nearly 13 to 30 percent less than uncontaminated sites after controlling for building age and location.[51] A 2003 study found that, in particular, groundwater contamination from

[49]In real estate, brownfields are sites where the presence or potential presence of hazardous substances may complicate site redevelopment or reuse.

[50]Thomas O. Jackson and Chris Yost-Bremm. "Environmental Risk Premiums and Price Effects in Commercial Real Estate Transactions." *The Appraisal Journal, no. 1* (2018); Spenser J. Robinson and Andrew R. Sanderford. "Hedonic models and the inclusion of conditions of sale in commercial real estate transactions: A review of the literature." *Journal of Real Estate Literature 25, no. 2* (2017): 311-326; Robert A. Simons and Ron Throupe. "Debundling Property Rights for Contaminated Properties: Valuing the Opportunity Cost of the Right to Sell, Using Cumulative Options." *International Real Estate Review 15, no. 2* (2012): 231-252.

[51]Jackson and Yost-Bremm. "Environmental Risk Premiums."

underground storage tanks and open landfills significantly reduced property values and sale prices.[52]

Property developers who bought GSA surplus property between fiscal years 2018 and 2022 told us that the presence of certain environmental contaminants can affect the property's value and influence the price they are willing to pay. These buyers said that, depending on the circumstance, they may bid lower for properties with contaminants than those without, partly to offset the necessary cleanup expenses. In addition, these buyers indicated that environmental issues can limit who is willing to buy the property. These limitations are often reflected in the final sales price of the property. Our analysis of available market data indicates several GSA properties recently sold for significantly less on a per square foot basis than other properties in that region on average. Several factors likely contributed to this relatively low sales price, including the deteriorated state of the buildings on the property as well as the presence of environmental contaminants.[53] For example:

- The buyer of a GSA property in Schenectady County, New York said that the presence of multiple contaminants on a former Naval Supply Depot, including an underground TCE plume, affected its overall value. Ultimately the 40-acre property, which contained over 327,000 gross square feet of building space, sold for $1.35 million. At $4 per square foot, this price is well below the average rate of $169 per square foot for similar properties without contamination in that real estate market.[54]
- The buyer of a 23-acre GSA property in Covington, Kentucky, which included over 400,000 square feet of building space, told us that the presence of asbestos and underground storage tanks lowered the

[52]John D. Benjamin, Emily N. Zietz, and G. Stacy Sirmans, "The Environment and Performance of Industrial Real Estate," *Journal of Real Estate Literature, Volume 11, no. 3* (2003).

[53]We did not have the information to examine the degree to which of these factors affected the price, which would have required a property specific examination. GSA did not appraise the properties described here based on price per square foot, as we did in our analysis. GSA officials noted analyzing the land value minus the costs to demolish existing buildings achieves more accurate valuations for these types of properties. These officials agreed that the value of the property is negatively affected by the presence of environmental contaminants.

[54]The average rate of $169 per square foot is based on 2018 market data for the Northeast regional market provided by Bloomberg. The buyer has since sold this property to a food manufacturer that has cleaned the property of many of its former contaminants and built a factory on the premises.

value and purchase price of the property. As part of the real property disposal process, state and local government organizations or eligible nonprofit organizations may purchase property at fair market value for a public purpose through a negotiated sale. Therefore, the city of Covington had the right to purchase this property at GSA's appraised value before it was offered to private developers. In 2016, the city entered into negotiations to buy the land and buildings as, according to city officials, it was important to purchase the property due to its location on the Ohio riverfront and within the city's central business district. While city officials believed GSA's appraised value of $20.5 million was too high given the presence of environmental contaminants, the city's strong desire to own that land ultimately led officials to pay that amount and purchase the property in 2020. At $50 per square foot, this price is still well below the average rate of $231 per square foot for similarly sized properties in that region that are not contaminated.[55]

- The buyer of a 259-acre former Defense Logistics Agency Depot in New Haven, Indiana, reported that contaminants on the property affected the price they and other potential buyers were willing to offer. The property, which included over 1 million gross square feet of building space, contained mercury and arsenic contaminants, as well as other soil contaminants. The developer estimated that the presence of these and other contaminants resulted in the property selling for about $10 million less than if there had been no environmental contamination.[56] The contamination also restricted the pool of buyers that were willing to bid on the property, according to the developer. The bidding process began with four bidders, and eventually narrowed to two. The property sold for $3.1 million to the developer, which amounted to around $3 per square foot. This price was much less than the average value of $162 per square foot for a property in that region of similar size, but without contamination.[57]

Conclusions

GSA's considerable environmental liabilities for its real estate portfolio cause fiscal risk to the federal government and, if not properly managed,

[55]The average rate of $231 per square foot is based on 2020 market data for the South regional market provided by Bloomberg.

[56]In addition to the hazardous release contamination, the standing structures on the property held little to no value and contained lead-based paint, according to the developer. After buying the property, the developer demolished these buildings and disposed of any contaminated materials. The cost of this remediation was also factored into the bidding price.

[57]The average rate of $162 per square foot is based on 2018 market data for the Midwest regional market provided by Bloomberg.

may cause health and safety risks to the public. GSA is missing key data needed to manage these risks, which are required under its asbestos inspection policy. GSA officials said they are developing a plan to bring the agency into compliance and are also considering risk-based changes to the policy to make better use of limited resources. However, it is unclear when or the extent to which these actions will ensure GSA has a more complete picture of the asbestos in its buildings. In the meantime, GSA continues to miss key asbestos data used for its management and oversight of asbestos in federal buildings and may not be achieving the greatest reduction in risk given limited resources. Further, the lack of inspections data may reduce the effectiveness of the building asbestos management plans that officials use to take corrective actions protecting health and safety. It may also make it difficult for GSA to accurately notify tenants of asbestos in GSA facilities, as required by federal regulation. Lastly, with outdated information, the reported cost estimates for asbestos, developed using inputs from the 5-year inspections, are less representative of actual costs, potentially resulting in an incomplete understanding and reporting of GSA's potential costs to address its asbestos liabilities.

Recommendations for Executive Action

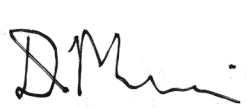
The Administrator of GSA should either implement a plan to ensure that asbestos inspections are conducted in accordance with GSA's current asbestos management policy or revise the policy to incorporate a risk-based approach. Such a plan could include strategies to address funding gaps, a timeline for completing missing inspections or updating the asbestos management policy, and steps to update the IRIS database to allow GSA to better monitor compliance with the policy. (Recommendation 1)

Agency Comments

We provided a draft of this report to GSA for review and comment. GSA provided technical comments, which we incorporated as appropriate. GSA concurred with our recommendation and stated that it will ensure that the recommendation is addressed. GSA's comments are reproduced in appendix III.

We are sending copies of this report to the appropriate congressional committees, the Administrator of the General Services Administration, and other interested parties. The report is also available at no charge on the GAO website at http://www.gao.gov.

If you or your staff have any questions about this report, please contact me at (202) 512-2834 or marronid@gao.gov. Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of this report. GAO staff who made key contributions to this report are listed in appendix IV.



David Marroni
Acting Director, Physical Infrastructure

Appendix I: Summary of Selected Key Federal Environmental Laws and Regulations Applicable to the General Services Administration's Environmental Liabilities

Table 1: Summary of Selected Key Federal Environmental Laws and Regulations Applicable to the General Services Administration's Environmental Liabilities

Legal source	Applicable portions	Description
Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended	42 U.S.C. § 9601, et seq. 40 C.F.R. part 300	Establishes a broad liability scheme to hold past and current owners and operators liable for releases or threatened releases of certain hazardous substances and provides specific requirements for the federal government when disposing of property where hazardous substances were stored, known to have been released, or disposed of. May require federal agencies cleaning up contaminated sites to comply with more stringent applicable or relevant and appropriate state requirements. Allows EPA to retain oversight of cleanups of sites contaminated by hazardous substances or defer oversight of clean up to states or other federal agencies. Requires the Department of Defense to carry out cleanups of releases of hazardous substances on former defense installations that were contaminated while under its jurisdiction but have since been transferred to other entities (known as formerly used defense sites).
Resource Conservation and Recovery Act	42 U.S.C. § 6901, et seq. 40 C.F.R. parts 262-270	Authorizes and establishes via regulation detailed and often waste-specific requirements for the management and disposal of hazardous waste, including treatment standards for hazardous waste on land. Also establishes requirements for corrective actions to clean up contamination at facilities that treat, store, and dispose of hazardous waste.
Clean Water Act	33 U.S.C. § 1321 40 C.F.R. parts 110, 112, and 300	Establishes procedures and requirements to prevent discharges of oil and hazardous substances from vessels and facilities and to contain such discharges.
Federal Agency Asbestos Regulations	41 C.F.R. § 102-80.15	Outlines federal agencies' responsibilities in managing asbestos in agency buildings.

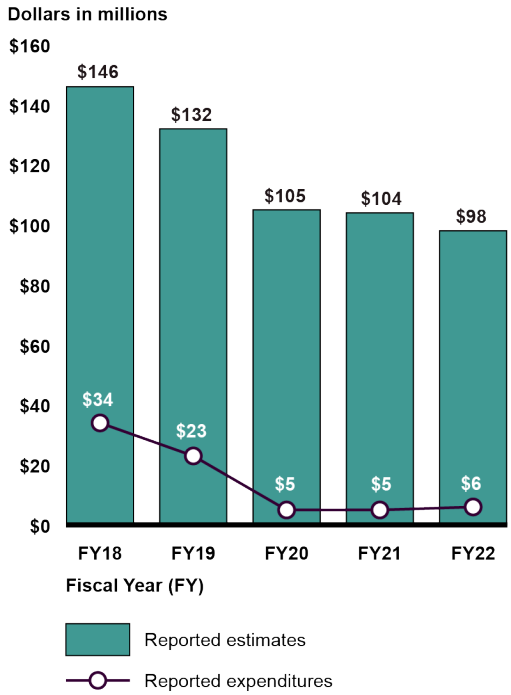
Source: GAO analysis of federal environmental laws and regulations. | GAO-24-106324

Appendix II: General Services Administration's (GSA) Management of Hazardous Release Sites

GSA is responsible for managing a number of sites which, due to their prior use, are contaminated by hazardous substances that have been released or are threatened to be released into the surrounding environment. Such hazardous releases include contamination from petroleum and polychlorinated biphenyl (PCB) containing transformer fluids, as well as soil or groundwater contamination from past uses, such as military operations. GSA is required to estimate the costs necessary to clean up hazardous releases at sites they are responsible for and report them as environmental liabilities in its annual financial statements.

From fiscal years 2018 through 2022, GSA's hazardous release liabilities for current sites have decreased—from $148 million to $98 million—mostly due to adjustments GSA made to site-specific cost estimates. For example, GSA has reduced cleanup estimates after discovering less contamination than identified in an earlier investigation or to account for new remediation approaches that make clean-up efforts less costly. GSA also expends funds to remediate hazardous releases, which can reduce the associated environmental liability. GSA's expenditures on clean-up efforts have decreased over the last 5 fiscal years, with expenditures peaking at $34 million in fiscal year 2018 compared to $6 million in fiscal year 2022. See figure 13.

Figure 13: General Services Administration's Estimated Liabilities and Expenditures for Current Hazardous Release Sites, Fiscal Years 2018-2022



Source: GAO analysis of General Services Administration data. | GAO-24-106324

GSA's efforts to manage hazardous release sites vary based on the amount and types of contamination. GSA develops cost estimates for these sites by determining the extent of contamination at the site, the costs associated with remediating it (such as removal, treatment, or containment), as well as costs related to regulatory oversight of the site. Funds expended on these sites may be spent on reducing contamination, or for long-term monitoring and maintenance responsibilities. Table 2 lists GSA's 10 largest hazardous release sites as of fiscal year 2022 according to their individual cost estimates, and lists funds expended on these sites in fiscal year 2022.

Table 2: General Service Administration's (GSA) 10 Largest Hazardous Release Sites According to Cost Estimate, as of Fiscal Year 2022

Site	Location	Description of contamination and GSA efforts to address, as per GSA data	Cost estimate to address[a]	Expenditures in 2022[b]
Denver Federal Center	Lakewood, CO	Soil and groundwater contamination at the site originated from former ammunition manufacturing and the prior demolition of buildings with asbestos. The cost estimate and expenditures include investigation of contaminated areas, groundwater remediation, long-term groundwater monitoring, and management in place of contamination due to high remediation costs or where remediation is not physically practical. According to GSA officials, they may discover additional contamination as part of ongoing and future construction at the site.	$26,000,000	$1,990,000
Hardesty Federal Complex (Federal Center Building 6)	Kansas City, MO	The contamination arose from past use of underground storage tanks that leaked fluids like petroleum and cleaning solvents into the soil and groundwater. GSA transferred the property to a private developer in 2012 but retains environmental remediation responsibility related to soil and groundwater cleanup and long-term monitoring. GSA has been able to fund required groundwater monitoring. However, remediation is on hold as the agency is awaiting congressional approval of $27 million in prospectus funds to implement a remediation plan addressing environmental contaminants at the site.	$23,500,000	$2,060,000
Southeast Federal Center	Washington, D.C.	The contamination at the site originated from past Navy operations, including machine shops, waste oil storage, and coal storage. In 2005, GSA entered a long-term development agreement to transfer parcels to a private developer, and remediation is ongoing as development progresses. The cost estimate and expenditures are for remediation, project management oversight, reporting to regulatory agencies, disposal of contaminated soil, and other cleanup requirements.	$17,700,000	$790,000
Scotia Naval Depot	Schenectady, NY	GSA disposed of this property but retains responsibility in perpetuity for groundwater monitoring, testing, and reporting to determine the effectiveness of the groundwater and air remedies installed in 2017. Reported cost estimates are for 25 years. Expenditures are for groundwater sampling, state reporting, oversight, and administrative fees.	$8,600,000	$170,000

Site	Location	Description of contamination and GSA efforts to address, as per GSA data	Cost estimate to address[a]	Expenditures in 2022[b]
Belle Mead Army Depot (Building 1)	Belle-Mead, NJ	GSA transferred the Northern Parcel to a private entity in 1986 but retains legal environmental responsibilities for remediation. The cost estimate and expenditures are for long term (30-year) inspection, maintenance, and reporting; annual erosion repair; wetland inspection and monitoring; groundwater investigation; and estimated future groundwater remediation costs.	$6,400,000	$130,000
Federal Building	Kansas City, MO	The cost estimate and expenditures include environmental investigation services required by the state for contaminated groundwater; groundwater sampling; project management and oversight; and soil investigation and sampling.	$4,100,000	$130,000
Goodfellow Federal Center (Building 101)	Saint Louis, MO	The cost estimate and expenditures include a remedial investigation and feasibility study; groundwater sampling; soil sampling; and project management and coordination. GSA is currently investigating the groundwater contamination before moving toward disposing of the property in the future.	$3,400,000	$230,000
St. Elizabeths West Campus	Washington, D.C.	GSA is developing the site for the Department of Homeland Security headquarters consolidation. This estimate is for the sampling, excavation, and disposal of contaminated soil. The contamination includes lead, coal combustion by-products, incinerator waste, petroleum, polychlorinated biphenyls, and general debris. Remaining contamination will be addressed in future projects as part of site development, and the cost estimate may increase due to the discovery of previously unknown areas of soil contamination.	$3,000,000	$0
Central Heating Plant	Washington, D.C.	This cost estimate is for the investigation and disposal of formerly remediated PCB-contaminated concrete (a potential future cost), and cleanup of soil contamination, including sampling, excavation, and disposal. Expenditures are only associated with the soil contamination cleanup activities.	$1,200,000	$20,000
Raritan Depot – Parcel D	Edison, NJ	This parcel is undeveloped land within the former U.S. Army Raritan Arsenal managed under the U.S. Army Corps of Engineer's Formerly Used Defense Sites Program (where the Department of Defense is responsible for environmental restoration of certain properties). GSA is responsible for the area of contamination not covered under this program. The cost estimate is based on costs to achieve regulatory resolution of site contamination from the state. GSA is currently participating in ongoing strategic discussions with the state and other property stakeholders.	$1,000,000	Less than $10,000

Source: GSA data and GSA officials. | GAO-24-106324

Note: The Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended requires GSA to maintain responsibility for necessary remedial action after transfer. 40 U.S.C. § 9620(h)(3).

[a]Cost estimates are rounded to the nearest $100,000.

[b]Expenditures are rounded to the nearest $10,000.

Appendix III: Comments from the General Services Administration

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GSA

The Administrator

February 16, 2024

The Honorable Gene L. Dodaro
Comptroller General of the United States
U.S. Government Accountability Office
Washington, DC 20548

Dear Comptroller General:

The U.S. General Services Administration (GSA) appreciates the opportunity to review and comment on the U.S. Government Accountability Office's (GAO) Draft Report - *Federal Real Property - More Consistent Monitoring of Asbestos Could Improve Oversight* (GAO-24-106324).

GAO made the following recommendation to GSA:

> 001: The Administrator of GSA should either implement a plan to ensure that asbestos inspections are conducted in accordance with GSA's current asbestos management policy or revise the policy to incorporate a risk-based approach. Such a plan could include strategies to address funding gaps, a timeline for completing missing inspections or updating the asbestos management policy, and steps to update the IRIS database to allow GSA to better monitor compliance with the policy.

GSA agrees with the recommendation and is developing a plan to take appropriate action on the recommendation.

If you have any questions or concerns, please contact me or Gianelle Rivera, Associate Administrator, Office of Congressional and Intergovernmental Affairs, at (202) 501-0563.

Sincerely,

Robin Carnahan
Administrator

cc: David Maroni, Director, Physical Infrastructure, GAO

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Appendix IV: GAO Contact and Staff Acknowledgments

GAO Contact

David Marroni, (202) 512-2834 or marronid@gao.gov

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In addition to the contact named above, Matthew Cook (Assistant Director), Patrick Tierney (Analyst-in-Charge), Xiang Bi, Melissa Bodeau, Emily Crofford, Jennifer Leotta, Janice Poling, Malika Rice, Tania Uruchima, Alicia Wilson, and Elizabeth Wood made key contributions to this report.

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