

**Testimony from NYCHA's Chief Executive Officer Lisa Bova-Hiatt**  
***Executive Budget Hearing – Public Housing***  
**Committee on Public Housing with the Committee on Finance**  
**Tuesday, May 7, 2024 – 9:30 a.m.**  
**New York City Hall Council Chambers**

Chairs Chris Banks and Justin Brannan, members of the Committees on Public Housing and Finance, other distinguished members of the City Council, NYCHA residents, community advocates, and members of the public: good morning. I am Lisa Bova-Hiatt, NYCHA's Chief Executive Officer. I am pleased to be joined by Chief Operating Officer Eva Trimble, Executive Vice President of Finance and Chief Financial Officer Annika Lescott-Martinez, Chief Asset and Capital Management Officer Shaan Mavani, and other members of NYCHA's team. NYCHA's adopted budget was approved by the Board of Directors in December; thank you for this opportunity to provide updates on NYCHA's fiscal outlook for 2024, as well as our work to transform our organization and improve residents' quality of life.

**Updates on the Emergency Rental Assistance Program (ERAP) and other State and City Funding**

Making the best use of the limited funding available to improve living conditions for NYCHA residents is at the forefront of our mission. As we discussed with the Council in March during the preliminary budget hearing, we are grappling with significant rent arrears – which have made NYCHA's fiscal predicament more dire. Rent payments are one-third of NYCHA's operating budget, funding that is vital to the efforts to repair and maintain NYCHA developments. This is an especially critical situation considering that our aging buildings have nearly \$80 billion in major capital needs, the result of decades of federal disinvestment.

However, thanks to the commitment of partners like Mayor Adams, Governor Hochul, and the State legislature to the well-being of public housing residents and the future of this agency, NYCHA has received \$147 million in ERAP funding to date. We have applied \$145 million to residents' accounts and will continue to credit residents' accounts as funds are received. Thanks in part to the ERAP funding, rent arrears have decreased since last year and are stabilizing.

Additionally, the State budget has recently appropriated \$140 million to NYCHA for capital projects; we will engage with State stakeholders to program these funds in the coming months. And we were allocated \$379 million in expense funds and \$1.4 billion in capital funds, including

funding for our PACT program, from the City this year (City Fiscal Year 2025) through the Executive Plan.

We are incredibly grateful for this support, which will go a long way in stabilizing the Authority's finances and enabling the repairs that residents deserve.

### **Federal Funding Updates and Outlook**

In terms of federal funding, based on preliminary information, we expect that we will receive about \$4.961 billion in operating revenues. To help close our \$35 million operating deficit for 2024, we will continue to closely monitor our spending and revenues and implement cost-saving measures as necessary. We received a \$754 million federal capital grant in 2023, \$43 million more than in 2022, and are still awaiting notification of our 2024 grant. We appreciate the efforts of New York's Congressional Delegation to raise awareness about the imperative to provide funding for public housing.

NYCHA's Section 8 program is sufficiently funded. We expect to receive about \$1.89 billion for Section 8 vouchers and the associated administrative fees this year. NYCHA is receiving the previous year's expenses plus a Section 8 administrative fee that is estimated to be prorated by 90 percent.

Our outlook regarding expenses has not changed. We continue to make strategic investments with the limited funding available to address the mandates of the HUD Agreement and improve living conditions for residents.

### **Budget Impacts**

I must stress that NYCHA's finances are still precarious. We are only collecting about 71 percent of the rent owed and rental arrears currently stand at \$448 million – a \$344 million increase from 2019, and well beyond the ERAP funding NYCHA residents will receive. For these reasons, we continue to advocate for additional federal and State funding beyond ERAP to help address the shortfalls in our operating budget.

Given the widening gap between operating expenses and revenues, NYCHA is implementing various cost-cutting measures to reduce expenses, such as decreasing property staff through attrition as developments convert through PACT, reducing central office expenses (while reallocating the funding to essential services and prioritizing property management funding), and implementing overtime control measures.

### **Investing in Residents' Quality of Life**

Capital funding also remains insufficient, and we continue to advocate for additional capital funding from the federal and State government. While the capital funding we receive is a fraction of the investments, repairs, and upgrades our buildings need, we are making a difference for residents with the funding we do receive. Last year, we expended over \$1.1 billion on capital projects, completed construction for 100 projects, and also initiated over 100 projects. More than 600 capital projects are currently underway across the city, and we are targeting \$1.5 billion in expenditure and completion of 150 projects this year. Five City Council-funded projects that we had to pause last year due to staffing constraints have been restarted, and we plan to restart the remainder of paused projects beginning in July and over the following 12 months.

### **Transformation for a More Sustainable Future**

During our conversation with the Council at the preliminary budget hearing, we discussed a range of efforts underway to become a better landlord for residents and strengthen this vital institution so that it can continue providing affordable housing to future generations of New Yorkers.

These efforts include housing preservation initiatives such as PACT, the Public Housing Preservation Trust, and Comprehensive Modernization, which will bring revitalized homes and improved building services – from elevators to heating – to residents. We are also focused on improving the way we operate, bringing faster and more efficient repairs through Transformation Plan initiatives such as Work Order Reform and the Neighborhood Model.

We are making progress with these initiatives, and we are happy to answer any questions about our work that you may have. Thank you, as always, for your partnership in our shared mission of service to NYCHA residents.



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## **Testimony on Public Housing Hearing**

May 7, 2024

My name is Mbacke Thiam. I am the Housing, Health and CAN Community Organizer at the Center for the Independence of the Disabled, New York (CIDNY). This testimony is supported by Sharon McLennon Wier, Ph.D., MSEd., CRC, LMHC, Executive Director for CIDNY. CIDNY is the voice of people with disabilities throughout the five boroughs of New York City. We are a nonprofit organization founded in 1978. We are part of the Independent Living Centers movement, a national network of grassroots and community-based organizations that enhance opportunities for people with disabilities to direct their own lives. I am here today to testify at the FY25 Executive Budget Hearing on Public Housing.

CIDNY receives many calls from our seniors and disabled consumers regarding accessibility, elevator repairs, and safety issues specially, in NYCHA-Grant-Senior Centers. CIDNY wants to know how long it takes to repair elevators, because many people with mobility disabilities require access to elevators to complete their activities of daily living.

Based on consumers' concerns, CIDNY is worried about seniors who need to be in a safe environment. There are no security systems, security guards or door attendants present in the buildings like St. Nicholas Houses, which is currently occupied by squatters. You are aware of the "NY Squatter Rights" which allows for squatters who occupy a property for more than 30 days, it may result in a lengthy court process to have them evicted.

These squatters may be dangerous and unidentified people, sometimes selling or using illegal drugs or stupefying products. These individuals may threaten the quality of life for these seniors and the disabled community in NYCHA buildings. CIDNY wants to ensure that seniors and the disabled community has a voice that allows them to live in an accessible, clean, safe, and well-maintained environment.

Thank you,

**Mbacke Thiam**

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**Testimony of Alia Soomro, Deputy Director for New York City Policy  
New York League of Conservation Voters  
City Council Committee on Public Housing  
Jointly with the Committee on Finance  
FY25 Executive Budget Hearing  
May 7, 2024**

My name is Alia Soomro and I am the Deputy Director for New York City Policy at the New York League of Conservation Voters (NYLCV). NYLCV is a statewide environmental advocacy organization representing over 30,000 members in New York City. Thank you, Chair Banks, and members of the Committee on Public Housing for the opportunity to comment.

The New York City Housing Authority (NYCHA) has been long-neglected due to significant underinvestment and mismanagement. Chronic issues such as lack of heating and hot water, mold, lead paint, rats and other pests, and little to no recycling access have plagued NYCHA residents for years. Compounding this, NYCHA residents are disproportionately impacted by climate change. Many campuses are located in flood zones, exposing residents to sea level rise, coastal storm surge, and inland flooding. Many NYCHA campuses also lack access to air conditioning, leaving residents, especially seniors, more vulnerable to heat-related illnesses and death during extreme heat events. NYLCV stands with advocates calling for increased funding for long-needed building upgrades and public health improvements, as well as significant funding to address the impacts of climate change.

As advocated in NYLCV's recently-released [2024 NYC Policy Agenda](#), the City must prioritize safeguarding the health and safety of NYCHA residents by (though not limited to) eliminating lead-based paint, mold, and pests from NYCHA residences, all of which contribute to adverse health impacts such as asthma and lead poisoning. We echo calls by the New York City Coalition to End Lead Poisoning (NYCCELP) advocating for sufficient funding for NYCHA's [Lead-Safe Housing Policy](#) (Lead-Based Paint Abatement and Dust Wipe Sampling), [XRF Testing Initiative](#), and the [Team for Enhanced Management Planning and Outreach \(TEMPO\)](#).

NYLCV also echoes the call by the Council for New York State to increase its capital contribution for NYCHA restoration and maintenance. As the Public Housing [FY25 Executive Budget Hearing Committee's Report](#) states, the Mayor's Executive Budget Plan did not include the Council's ask of \$584 million to support necessary and delayed maintenance repairs and capital needs at NYCHA developments. NYLCV calls on the City to work with New York State and Federal agencies to identify more funding for operating and long-term capital repairs, including heating and cooling systems, and lead and mold removal.

The City should also identify long-term capital funding to make permanent [a pilot program that switched out gas stoves for electric induction ones](#) at 20 NYCHA apartments in the Bronx. The program, run by WE ACT, in partnership with NYCHA, the Association for Energy Efficiency, Columbia University, and Berkeley Air Monitoring, saw a significant improvement in air quality compared to households with gas stoves. NYLCV applauds the Governor's and Mayor's commitment to electrify NYCHA housing through the [Induction Stove Challenge](#), which promises to deploy 10,000 induction stoves in NYCHA apartments, and encourages the implementation and expansion of projects like this, as a step in the right direction.

Relatedly, NYCHA should explore opportunities to pair building capital repairs such as elevator improvements and mold and lead abatement with energy efficiency retrofits and zero-emission heating, cooling, and cooking systems installation. While the Public Housing [Committee Report](#) states, "NYCHA is taking steps towards Local Law 97 compliance, to reduce its greenhouse gas emissions, by decarbonizing heating systems, gas stoves, and improving insulation," the City must ensure that NYCHA is sufficiently funded in order to continue implementing its [Sustainability Agenda](#) and to ensure that NYCHA campuses are on track to meet emissions reduction targets and procurement commitments for renewable energy, such as reducing greenhouse gas emissions by 80 percent by 2050. NYLCV also urges NYCHA to explore the possibility of investing in thermal energy networks to decarbonize campuses to aid in reaching these emissions reduction goals. The City also must work with State and Federal agencies to identify sustainable funding streams to make NYCHA campuses resilient to climate hazards such as sea level rise, storm surges, and extreme rainfall. This includes protecting mechanical, electrical, and plumbing infrastructure, floodproofing buildings, and installing new, more efficient boilers and back-up generators.

NYLCV appreciates the inclusion of approximately \$30 million in Community Development Block Grant Disaster Recovery (CDBG-DR) funding over three years in the Executive Plan to fund and expand NYCHA's green infrastructure network across 17 developments. We encourage NYCHA to continue working with DEP to fund and improve NYCHA's stormwater management and implement green infrastructure projects such as permeable pavement, porous asphalt, porous concrete, rain gardens, and subsurface storage systems. Funding should also be prioritized for mitigating extreme heat for NYCHA residents.

In addition to increasing and maintaining NYCHA's tree canopy and comprehensively retrofitting NYCHA buildings, there should be funding allocated to restart the [Get Cool NYC Program](#), which provided air conditioners, free of charge, to senior residents who are 65 or over or have a qualifying underlying condition. This program was [found](#) to help seniors who participated less likely to report feeling sick from the heat compared to those who didn't participate in the Get Cool NYC Program. To complement this program, the City should also identify funding sources to help qualifying residents in this program with their summer utility bills. NYLCV urges the City to provide long-term funding for composting and recycling for all NYCHA campuses, especially as the City plans to roll-out the curbside organics program in the next few years. An organic waste collection program that leaves out NYCHA cannot be called a citywide or universal program.

Lastly, as with other City agencies, NYLCV calls on the City to prioritize long-term hiring and staffing at NYCHA. As of April 2024, NYCHA had 708 vacancies. With historic underinvestment and constant quality of life issues, NYCHA residents deserve significant funding and investment not only to address existing public health and building maintenance problems but to prepare for the impacts of climate change.

Thank you for the opportunity to comment.





WRITTEN TESTIMONY FOR THE NEW YORK CITY COUNCIL, PUBLIC HOUSING  
COMMITTEE, PRELIMINARY BUDGET HEARING BY BROOKLYN LEGAL SERVICES  
CORPORATION A

May 7, 2024

Dear Chair Banks and members of the Committee on Public Housing,

My name is Jessica Rose and I am testifying on behalf of Brooklyn Legal Services Corporation A ("Brooklyn A").

Brooklyn A has submitted applications for renewed funding in Fiscal Year 2025 for its Preserving Affordable Housing (PAH) Program, which provides legal representation, legal education and advocacy strategies to preserve and protect affordable housing. We prevent eviction, combat tenant harassment and discrimination, and help tenant associations marshal the power of strength in numbers to protect the right to safe and sanitary housing. Last fiscal year our PAH Program helped more than 3,300 individuals to maintain housing stability, approximately 7 percent of them in NYCHA, and supported 54 tenant associations to fight for habitable living conditions and combat harassment. For Fiscal Year 2025, we are applying for \$550,000 in discretionary funding under Legal Services for Low Income New Yorkers (LSLINY) and Legal Services for the Working Poor (LSWP), as well as other initiatives. While the need for these services has increased significantly, and costs for providing services have increased, LSLINY has not been increased since Fiscal Year 2021 and LSWP was only increased last fiscal year, after multiple years of level funding. Our application's reference number for LSLINY and LSWP funds is 161639.

We also have an application for discretionary funding from the Foreclosure Prevention Programs and Support Our Older Adults that would help support our foreclosure prevention work that enables largely BIPOC low and moderate income homeowners to

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preserve their equity for themselves and for generations to come and to age in place; the foreclosure prevention application reference number is 160114.

A combination of a dwindling stock of affordable apartments, surging rental rates and the financial hardship resulting from the pandemic affecting many New Yorkers means the need for legal services still dramatically outweighs the capacity of the legal service providers across the city. Evictions have remained sky-high since NYC's pandemic eviction moratorium was lifted in January 2022. According to city records, city marshals have carried out 15,000 residential evictions since January 2022. Evictions are surging across New York City, with the monthly rate of illegal lockouts mirroring pre-pandemic numbers in the second half of 2023. Access to free legal services makes a significant difference in the outcome of eviction proceedings: data from 2022 showed 78% of tenants with a lawyer in eviction proceedings were able to stay in their homes and avoid facing the streets or the overloaded shelter systems.

Brooklyn A's aggressive housing practice prevents thousands of evictions of low-income tenants and their families each year by providing high level legal services and zealous advocacy; helping families obtain the benefits they need to pay rent arrears and afford future rent; and contesting illegally high rents, slowing the increasingly rising rent costs. We provide the same services for public housing tenants, while also representing them in administrative hearings. Most of this work is funded by the Anti-Eviction: Full Legal Representation program (formerly Homelessness Prevention Law Project), also known as the Right to Counsel program (RTC), and Anti-Harassment Tenant Protection (AHTP).

Brooklyn A also provides essential legal services to tenant groups, employing aggressive legal tactics to challenge the management authority of landlords that neglect affordable housing properties with the goal for the building and individual apartments to be repaired and rehabilitated so the tenants can live safely in their homes. This work has impacted many tenants currently living in NYCHA properties and has resulted in some receiving abatements due to inhabitable living conditions and lack of essential services.

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The demand for these services is higher than ever, and discretionary support is essential to provide continued support for eviction prevention work that remains at citywide highs, as well as tenant-affirmative work including organizing and assuring safe housing conditions, critical work that is not being funded by the City's Right to Counsel Program. We need maximum support to provide representation to keep New Yorkers in their homes, get repairs and restoration of essential services made, educate tenants on their rights, and represent tenants in danger of losing their homes in legal proceedings.

For the coming fiscal year, it appears that the scope of work for the Universal Access law funds legal services that include full representation for Housing Part actions to protect a tenant's possession, foreclosure proceedings that preserve a client's tenancy as a renter, restoration or maintenance of essential services, housing discrimination proceedings, and any challenge to rent level seeking to keep a tenant in his or her apartment. AHTP also funds full representation, as well as limited scope representation (which includes negotiations with landlords, mediation services, drafting and sending cease and desist letters, and more), brief services, and outreach and advocacy.

The AHTP program does not currently fund representation for public housing tenants. Right now, we can only commence actions against NYCHA for individuals or group cases if there is a referral from the Family Justice Centers, the Office of Civil Justice, or HRA. This means public housing residents typically cannot make use of the valuable legal resources AHTP provides. In a public housing system that has an estimated \$78 billion of repair needs, there are countless residents living in inadequate, unsafe, or illegal conditions. Brooklyn A represents NYCHA tenants and expanding the scope of AHTP would give us a necessary tool to deliver justice for public housing residents.

Expanding AHTP would allow us to take more cases like the group we successfully represented in Coney Island: Across seven NYCHA buildings in the neighborhood, the cooking gas was out for over a year—even as residents and local elected officials demanded this basic service be restored. Residents were forced to cook with hot plates or else buy food out, disrupting their diets and budgets with little acknowledgement from the city. We were proud to work with our 53 clients to restore the gas last year, but these kinds

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of injustices are far too common in NYCHA buildings. Whether it's cooking gas outages, no hot water, no heat in the winter, or other essential service outages, NYCHA residents too often go without a basic standard of living. If civil service providers had AHTP fully at its disposal, we could ensure timely solutions for these often underserved New Yorkers.

Brooklyn A works hard to engage the public through regular workshops and events to educate community members about their rights, explain legal and organizing options, and ensure that members of the community know that help is available. These events are now held in person or virtually over Zoom and livestreamed to social media platforms. Often elected officials—including in the last year Council Member Farah Louis, Council Member Alexa Aviles, Council Member Marjorie Velazquez, Council Member Sandy Nurse, and others—co-sponsor and participate in our events and we partner with other community-based organizations to increase outreach.

Brooklyn A also takes referrals from elected offices. We implemented an online referral portal for elected offices to refer constituents to our office directly into our legal database, improving efficiency of communication and information sharing. We have trained dozens of state and city officials' offices to use this portal.

In FY 23, Brooklyn A staff organized and participated in 58 educational and outreach events and reached approximately 2,600 individuals—8 of these events were from the PAH Program. So far in FY 24, our PAH Program alone has hosted or participated in 10 educational and outreach events reaching more than 500 individuals.

Brooklyn A joins our fellow legal service providers in urging the city to maintain and expand its sources of funding for the Right to Counsel and Anti-Harassment Tenant Protection programs so they can be fully implemented. The current funding level for RTC only supports legal representation for just over half of the NYC tenants who need services each year – the antithesis of the intent of the Right to Counsel Law.

Fully funding the RTC program is part of the solution to the housing affordability crisis plaguing this City. Keeping low-income people in their homes is essential not only for their

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Thomas McC. Souther, Esq., Board Chair  
Jessica A. Rose, Esq., Executive Director



individual well-being, but also as a bulwark against the loss of affordable rents in the housing market. When a low-income tenant is evicted, their apartment at times is not rented again to low-income tenants; as contrary to the law, unscrupulous landlords raise rents illegally or remove the apartment from the market altogether. Thus, as we move through the many stages of this housing and health crisis, we remain on the frontline of efforts to ensure that the needs of New York's marginalized communities are met. We will continue to make the case for justice and equity.

Thank you,

Jessica A. Rose

Executive Director

Brooklyn Legal Services Corporation A

[jrose@bka.org](mailto:jrose@bka.org)

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# Save Section 9 Written Testimony

To: Committee on Finance and Committee on Public Housing

Date: May 7, 2023

Hearing: Executive Budget Hearings - Finance

Chair Brannan, Chair Banks, Deputy Speaker Ayala and members of the Committee on Finance and Committee on Public Housing,

We submit this testimony on behalf of our members, and neighbors, in response to the hearing held on May 7 2023.

Once again New York City's public housing tenants face another round of budgetary disappointment. To reverse this trend we call on the city council to ensure no cuts which harm Section 9 tenants are made, and immediately demand NYCHA prepare a new organizational plan centered on Section 9. This new **organizational plan should be focused on the administration and upkeep of Section 9 public housing; remove financial and organizational responsibilities associated with the implementation of the *Trust and RAD/PACT*.**

Back in 2020 we raised concerns surrounding NYCHA's 2021 Transformation Plan ([our statement is attached and available via this link](#)). Since adopting this organizational plan NYCHA has continued to expand their mission, and shift resources unchecked. This organizational plan restructured NYCHA to ensure the transition to the Trust (formerly the Blueprint) before that law was adopted. By prioritizing the privatization of public housing NYCHA created a chaotic and inefficient bureaucracy.

Tenants experience this chaos via:

- The continued deterioration of developments not accepting privatization, in spite of the "savings" NYCHA experiences via [20,000+ conversions](#).
- The bullying tenant leaders experience when their development is being considered, or forced into RAD/PACT. Contrary to NYCHA's testimony, tenant leaders report being pushed into RAD/PACT. During this hearing Vladeck Houses' tenant association president testified to being "**told**" his development was being privatized, something he never asked for, or agreed to.
- The harassment tenants experience once a RAD/PACT deal is announced. The new management office moves into the development and proceeds to hound tenants for lease signings, before their RAD/ PACT deals are finalized, sometimes before an application has been submitted to HUD's Special Application Center.
- The lack of improvement in repairs, wait time for said repairs and the quality of these repairs once NYCHA completes the handover, documented in [this](#) Human Rights Watch Report.

Tenants not interested in leaving Section 9 find that staff and resources previously focused on Section 9 operations, projects and contracting are now focused on selling RAD/ PACT and the Trust to tenants, leaders, financial entities, elected officials and corporate landlords. Others that served as resident coordinators now work to troubleshoot the failures experienced under RAD/PACT. Even more concerning is the continued inflation of financial need that NYCHA continues to present to its customers, the public and elected officials.

In late 2023 Save Section 9, and the [Community Service Society](#), completed unrelated reviews of NYCHA's Physical Needs Assessment. While we did not collaborate on the analyses we both concluded that NYCHA's need was nowhere near the \$79B that they announced. Instead the need is [closer to \\$40B](#).

Additionally, we would like to express our disappointment in the lack of humanity demonstrated by NYCHA's decision to threaten the security of our elders. Save Section 9 is an intergenerational, multicultural organization that roots itself in the values which we learn living in public housing. We believe in each other, and care for each other. Central to this is caring for our elders. Our homes are intergenerational and anchored by seniors. We are volunteers directly impacted by the disinvestment in public housing, but we are inspired to keep fighting because Section 9 is the best housing program in America.

Eliminating security at senior sites makes our elders vulnerable.

As we study the destruction of public housing nationwide we learned that slummification was purposeful and strategic. Beginning with Chicago we see how easy Cabrini fell, but that happened years before the actual buildings collapsed. HUD and the Chicago Housing Authority chose to destabilize that community by starving it of funding, allowing units to empty out and leaving tenants behind to be preyed on.

This process is underway in New York City. 5,000 apartments sit empty; they invite trespassing, and introduce external threats to our already vulnerable communities. Our elders were infected, and killed by COVID, and NYCHAs abandonment, at [twice the rate of any other group in NYC](#). Our senior buildings are no longer exemplary. They have become shelters for the unhoused, and sometimes unhinged. We must protect our elders. We must keep them safe. We must invest in their physical and emotional well being. If we don't, what kind of society are we?

**Now for solutions**, before cutting security at 55 sites designated as senior housing NYCHA must install security cameras, replace front doors and the intercom systems. If NYCHA is unable to do this we must make these sites intergenerational by allowing adults over the age of 40 without children to move into these buildings. Intergenerational sites will deter abuses by those looking to make victims of our elders and provide neighborly support in absence of security guards, and the closure and privatization of our senior centers.

Additionally,

1. We ask the City Council to immediately issue a moratorium on all NYCHA RAD/ PACT conversions, pending the completion of a robust impact study inclusive of all properties currently being served by Project Based Section 8.
2. We ask the City Council to host a joint hearing with its Albany counterparts on RAD/PACT. During this hearing we NYCHA and HUD's office of Public and Indian Housing should be asked to:
  1. Provide insight on the success of the program nationally, success should be defined on improved quality of life for previous Section 9 tenants living in a specific property.
  2. An explanation of the timeline for RAD/PACT conversions highlighting when tenants have an opportunity to oppose these.
  3. Expand on how said opposition is weighed in the larger application for RAD/PACT or Section 18.

We urge you to recognize that in spite of abandonment, we continue to thrive. Public housing supports strong communities, diminishes gentrification, and supports tenants at every stage of life. An investment in public housing will ensure more families have stability, and the social infrastructure necessary to be bold enough to head to Harvard, become urban farmers, start businesses and be part of the solution. NYCHA testified that rehabilitating an empty unit costs 45k. *No corporate landlord can deliver what NYCHA provides at that cost per unit.* Collectively we can work towards our [national solutions](#) and the adoption of the [Green New Deal for Public Housing](#). The latter is now cosponsored by [57 member of congress](#).

In closing, NYCHA thinks that it is in the business of real estate management. We must collectively remind them that they are the provider of a human right, dignified housing. We are available for further conversations regarding our proposals and national solutions for public housing. Our ally and volunteer, Emily, will follow up with your office to schedule meetings.

Save Section 9 Members

## Save Section 9 Solutions and References

### **1. Place an immediate moratorium on all RAD and RAD-Section 18 blends in New York City, until a comprehensive, third party impact assessment study of all Project-based Section 8 conversions in New York City**

To date, there have been no New York City-wide impact assessments of the RAD/PACT program on tenants. In this absence, two studies by [Human Rights Watch](#) and [Neighbours Helping Neighbours](#) document the detrimental impacts of RAD - nationwide and at Ocean Bay Houses respectively, along with data gathered by City Limits and the Anti-Eviction Mapping Network and evidence gathered by media articles:



a. Evictions

- i. The Human Rights Watch report documents significant increases in evictions in two RAD developments. The report states: “ On paper, aside from the NYCHA-specific protections discussed above, tenants in RAD housing nationally have essentially the same rights as those in public housing. But in practice, property managers have significant discretion over evictions and other decisions that may have far-reaching impacts on tenants’ lives. Many tenants worry that PACT managers will be more likely to evict them if they fall behind on rent, which could lead to homelessness or a loss of adequate housing.”
- ii. City Limits and Anti-Eviction Mapping Project gathered data at Ocean Bay Houses indicating there were 80 evictions between January 2017 and February 2019, more than two times higher than evictions at any other NYCHA development
- iii. The Rockaways Neighbors Helping Neighbors report supplements this data via tenant surveys at Oceans Bay finding that 19% of tenants said new management tried to evict them and 18% said they knew a neighbor was threatened with eviction.
- iv. Further eviction evidence:  
<https://www.thecity.nyc/2024/03/14/eviction-private-nycha-managers-rad/>

b. Rent increases and Double Landlords

- i. 61% of tenants at Ocean Bay Houses indicated their rent had increased, 35% said they were recertified more than once a year and 64% said they had to recertify with both NYCHA and the private manager.

c. Poor Living Conditions

- i. The Human Rights Watch report details countless evidence of continued poor living conditions, faulty repairs, poor construction during renovations, hard to reach management, and more. A tenant that was interviewed said: “Monopoly is being played with our lives.... “That’s what the fight is, to protect us from investors who don’t give an ‘F’ about us.” Some tenants describe how repairs were carried out in a manner that places tenants at risk including exposure to lead paint or asbestos. Other tenants worry that their homes will fall into disrepair again, noting that the private managers are frugal with their repairs.
- ii. At Ocean Bay Houses, 40% of tenants said conditions have gotten worse or much worse after conversion, 21% said it is harder to get repairs and 35% said there is not an easy-to-use system for submitting repair requests.

## 2. Call on Congress to:

### a. Uphold the RAD Sunset date of September 30th 2024

A sunset on the RAD program was due on September 30th 2024 and RAD. City Council should call on Congress to sunset RAD on the originally planned date.

- i. The claimed reason to extend RAD until September 2029 was to “provide PHAs more time to carry out the necessary and important resident engagement activities prior to applying for RAD and allow PHAs pursuing large scale, multi-year development of public housing properties to keep their commitments to their communities”
  1. Thus far, tenant engagement by NYCHA and PACT partners has been poor and many tenants do not know their development is being converted or what this means for their tenancy. An example of this was the tenant engagement at Fulton Elliot Chelsea which included a survey process that was falsely communicated as a vote:
    - a. 969 of 3388 participated in the survey. That is 16% meaning 84% did not take part.
    - b. Simon Kawitzky, Vice President Portfolio Planning stated the packets were given out in the languages spoken in the development. English, Spanish , Chinese
    - c. Unable/unwilling to explain how we went from No Demolition to Demolition.
    - d. Have taken the attitude that they are doing everyone a courtesy by meeting with CB4 to explain the proposal.
    - e. Lack of transparency: NYCHA speaks with Resident Leaders And CB4 but not the thousands of other tenants.
    - f. Related is now trying to put up a casino in the Western Rail Yards [West Side Rail Yards/Hudson Yards Rezoning - Manhattan Community Board 4 \(nyc.gov\)](#) violating this agreement.
- ii. As of NYCHA’s 2024 Annual Plan, there are 81 developments under consideration for RAD conversions (Bronx: 36; Brooklyn: 21; Manhattan: 22; Staten Island: 2), a huge increase since the program was first introduced. This will impact 22,282 NYCHA units. Without a comprehensive impact assessment and proper framework of accountability for NYCHA and RAD partners being established by City Council & HUD, extending the RAD sunset deadline puts tens of thousands of tenants at risk

**b. Invest in Section 9 Public Housing and submit a letter of support for the Green New Deal for Public Housing (GND4PH).**

- i. Congress has steadily divested from public housing while increasing funding for housing programs that rely on the private sector. ([HRW](#)). Of note is the consistent disinvestment in Section 9 while increasing investment in the RAD Program:
  1. In 2021, the overall budget of the US Department of Housing and Urban Development (HUD) was \$69.3 billion, of which \$2.9 billion was allocated for major repairs to public housing. Adjusted for inflation, this amount is around 35 percent lower than the capital funding allocation in 2000, which in 2021 dollars would be worth \$4.5 billion ([HRW](#)).
  2. The 2021 President's Budget requests \$100 million for the RAD program, which is \$100 million more than the 2020 enacted level. These funds would be used to support the costs of conversion for public housing properties that are unable to convert using only the funds currently provided through public housing appropriations. ([President's Budget RAD](#)).

Funding has also been increasing for the Section 8 vouchers which bring valuable support to tenants in private market housing. However this increase also facilitates RAD conversions.

Direct investment is needed in Section 9 Public Housing. Funds should be divested from the RAD program and the associated funding of the Section 8 program to preserve public housing.

- ii. Another critical funding source that was just introduced is the GND4PH. NYC gets 50% of the investments allocated within the GND4PH.

**c. Convene a joint hearing between multiple levels of government to hold accountable NYCHA and PACT partners during RAD, Section 18, and RAD-Section 18 blend conversions**

- i. While RAD is a federal program, its implementation is a multi-governmental effort and all levels, including City Council, NY State and HUD are accountable to its impacts. RAD conversions are increasingly using a blend of Section 8 and 18 vouchers (also used by the NY State established Public Housing Preservation Trust). Section 8 and 18 blends provide PACT teams access to Tenant Protection Vouchers which are a higher revenue stream but are distributed on the condition

that units meet 'obsolescence' criteria - placing huge risks on tenants as poor living conditions draw in higher vouchers.

- ii. City Council is accountable to work jointly with NY State and HUD to have close oversight on NYCHA and PACT partners' actions during conversions. [Since NYCHA is controlled and funded by the Mayor and City Council](#), and its board and leadership appointment is overseen by these entities, City Council has a responsibility to track NYCHA's actions. Furthermore, City Council directly funds NYCHA, and \$265.1 million dollars were provided for NYCHA's operating budget in 2024. NYCHA has a history of misusing this funding (see next point), but these practices are connected to a broader mismanagement that embroils NY State and HUD.
- iii. Before his replacement, Federal Monitor Bart Schwartz challenged NYCHA's default position of blaming money woes for its troubles, arguing that many of its problems are self-inflicted due to incompetence and an inability to efficiently use existing resources. He is quoted as saying "Funding is not the worst of NYCHA's problems. It is the lack of effective governance, ethics and accountability that prevents NYCHA from achieving comprehensive, sustainable improvements within its current financial restraints." The Federal Monitor's warnings need to be taken seriously by City Council as it points to a systemic issue in NYCHA's practices that can only be addressed by a coordinated efforts between multiple levels of government.

### 3. Develop the following accountability processes:

#### a. Track NYCHA's spending and claimed capital repair needs, with joint oversight from City Council and HUD

- i. In light of the recent federal bribery charges against 70 NYCHA employees, City Council must develop stringent oversight on NYCHA's spending practices ([US Attorney's office](#)). These bribery charges arrive on the backs of decades of general money mismanagement, as tenants have watched NYCHA use the repair process take place with no accountability and many tenants describe how money is wasted in these processes with repeat visits, poor work quality, and no oversight from NYCHA over work that is contracted out to third parties.
- ii. In a [hearing on NYCHA's Spending of Capital Funds on November 18th 2021](#), **City Council highlighted that NYCHA only spends 6.5% of its allocated City capital funds**. Since City capital funds do not have an expiry date, the report points to a history of NYCHA not spending allocated city capital funding. This is compared to a spending rate by other agencies of at least 60-61%. **This is clear evidence of NYCHA's**

**long track record of wasting and mismanaging funds.** Along with this broader issues, tenant testimonies highlighted a range of related issues that take place when NYCHA mismanages its spending including:

1. Section 964 regulations not being followed by NYCHA, and tenants not being involved in decision making on how capital repairs get addressed
  2. Continued issues with no heat, hot water and broken elevators despite NYCHA having access to City funds to address these
  3. No by-laws in how tenant associations and resident councils are elected and many tenants having no access to NYCHA's claimed 'tenant engagement'
  4. Section 3 regulations not being abided by, and public housing tenants not having access to labor opportunities that can be provided during capital repair efforts
  5. NYCHA abandoning units and critical repair needs that place tenants' lives at risk just so the units can qualify as 'obsolete' and receive Tenant Protection Vouchers PACT/The Public Housing Preservation Trust
- iii. In 2023, NYCHA released an updated Physical Needs Assessment which claimed the Authority needed an astounding \$78.34 billion dollars, increased from \$31.8 billion in 2017. There are a range of issues with how the 2023 PNA was carried out, however the key point to make is that NYCHA parading the alarming number of \$80 billion deeply stigmatizes public housing and contributes to the narrative of its failure. The 2023 PNA is meant to be about tenant needs, however is being used by NYCHA to justify its plans to forward RAD/PACT and the Public Housing Preservation Trust as the only options moving forward, instead of scrutinizing its own mismanagement of funds. The 2023 PNA does not accurately reflect capital needs and must be understood with the following details:
1. Compared to the 2017 PNA which comprehensively examined the whole NYCHA portfolio, the 2023 PNA only examined 10-15% of apartments in 30 selected developments. Only 18% of NYCHA apartments were actually inspected.
  2. The 2023 PNA focuses on the 20-year need while the 2017 PNA focused the 5-year need. This in itself is not of issue, however the 20-year need is a higher number (\$78.3 billion instead of \$60 billion) and adds to the sensationalizing of repair needs without proper explanation of its meaning.
  3. Over 30% of the 2023 PNA amount (18.9 million) is attributed to 'market price escalation', which is the impact of inflation and market prices for construction. This is relevant, but has nothing to do with the physical condition of apartments. Furthermore, this was calculated during surges resulting from the pandemic and do

not take into account savings that can occur through mass material ordering and coordinated construction practices across the portfolio.

The 2023 PNA is an excellent example of how NYCHA continues to twist its financial needs to serve its agenda of forwarding RAD/PACT and the Public Housing Preservation Trust. A thorough assessment of the validity of this PNA is required. For more detailed analysis, please see [CSS and Legal Aid's testimony on the PNA](#).

**b. Dedicated oversight on the PACT team's (NYCHA + Private Management) tenant communications during conversion including: information sharing, tenant 'voting' processes, and what NYCHA claims as tenant 'engagement'.**

Communication from NYCHA and private management during RAD/PACT conversions has included misinformation, confusion, alterations of the truth.

- i. It is also centered on communication *through* the tenant association and not directly to tenants - many tenants do not know their tenant association representatives. Not having a public listing of the publicly elected representatives that compose tenant associations is a barrier to tenant participation. Therefore tenant association contacts should be made public by NYCHA and made available to any tenant at their management office and online. The bylaws that oversee the tenant association should be standardized, including clear instructions on the recall process, and election cycle. NYCHA must be reminded that tenants have a right to request a copy of their bylaws. Each one should be publicly available at the management office and online.
- ii. The PACT teams claim to conduct robust 'tenant engagement' and often cite the Chelsea Working Group as an example. However, NYCHA's plans to demolish Fulton Elliot and Chelsea Houses completely negates the demands of the Working Group. As articulated by the Community Service Society: "During the Chelsea Working Group, residents spent month after month scrutinizing the technical issues facing their developments and the priorities they agreed on when it came to addressing them. The plan proposed by NYCHA in the Draft Significant Amendment reflects none of this work" ([Joint statement by CSS and Legal Aid on FEC](#)). Also noted in this statement is that despite tenants receiving a right to return, historically relocations of this scale and construction timelines of this length mean **demolition will lead to the displacement of tenants**.
- iii. At Fulton Elliot Chelsea, NYCHA and private partners Related Companies and Essence Development claimed that most tenants wanted demolition as indicated by a voting process. **This was actually a survey with poor**

**outreach and little accessibility falsely paraded as a vote and should not hold any legitimacy:**

1. Only 969 of 3388 participated in the survey. This is only 16% of those eligible. ([Fulton Elliott-Chelsea Environmental Review \(nyc.gov\)](#)). 84% did not vote and compose the countless that do not want demolition.
2. Again, Tenant Association representatives were the only pathway for 'engagement'. A significant number of tenants at Fulton Elliot and Chelsea do not have clear information on what the plan ahead means for their leases, for their homes, and for their rent.
3. Flyers about the survey were in English, Spanish, Chinese, simplified Chinese at the Chelsea Land Use meeting when the survey was under discussion. There are more languages than those spoken in the development. The annual review asks tenants the languages they are comfortable reading and speaking. There are more languages spoken in the development than those. Language justice wasn't observed in this process.
4. Even though Fulton Elliot Chelsea is still NYCHA and under Section 9, tenants are already confused about who the management company is. For example, Related has already established their security personnel on site, without properly informing tenants of this change. Related has hired tenants that live in the development to patrol it. While this seems benevolent - providing employment to tenants - this presents a conflict of interest and an unbalanced power dynamic. Tenants who are hired by Related are more likely to want their plan despite not being educated on it.

## References

- ["The Tenant Never Wins": Private Takeover of Public Housing Puts Rights at Risk in New York City | HRW](#)
- [Ahead of Public Hearing, Legal Aid and Community Service Society Raise Serious Concerns About NYCHA](#)
- [2023 Pre-Qualified PACT Partner List | NYC.gov](#)
- [An Advocate's Guide to Public Housing Conversions Under Component 1 of the Rental Assistance Demonstration](#)
- [Congress Approves Changes to the RAD Statute, Managing Multifamily Properties and More! PMCS, INC.](#)
- [DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT Office of Housing Rental Assistance Demonstration PROGRAM PURPOSE BUDGET OVERVIEW JU](#)

- [HUD Highlights Congressional Changes to RAD Statute, Implementation Guidance Forthcoming -NH&RA](#)
- [Monitor's Final Report Card Slams NYCHA's Culture Of Mismanagement | THE CITY — NYC News](#)
- [National Low Income Housing](#)
- [Coalition. Letter to Senate Committee on Appropriations Subcommittee on Transportation, Housing and Urban Development. April 21, 2023.](#)
- [New York City Housing Authority 2023 Physical Needs Assessment Final Report.](#)
- [NYCHA Residents Join NYC](#)
- [Comptroller to Announce Audits of Repair Processes and Eviction Rates at the Housing Authority](#)
- [Private company running Brooklyn public housing complex fired for repeated failures - Gothamist](#)
- [RAD Case Study: New Jersey Development Team Learns Early Lessons | Novogradac](#)
- [Rental Assistance Demonstration](#)
- [Rockiness in the Rockaways: Five Years of RAD at Ocean Bay Houses](#)
- [Tenants' Rights at Risk in NYCHA Conversions, Warns Human Rights Group | THE CITY — NYC News](#)
- [The Nefarious Nature of the Private Partners Selected for RAD Conversions – NYCHA Rising](#)



[REDACTED]

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**From:** Alexa Cruz <acpinky31@gmail.com>  
**Sent:** Wednesday, May 8, 2024 10:30 AM  
**To:** Testimony  
**Subject:** [EXTERNAL] Nycha save section 9 Chelsea Elliot Fulton addition elderly bldg

[REDACTED]

On May 7, 2024, the Committee & Finance Budget Hearing On Nycha Housing

Section 9 constitute deals with equality and discrimination. Help protect our civil and humans rights to continue as it is.

We are facing as tenants the unfairness with nycha 70 employees of disruption and Lisa chairperson admitted in Fox News that for 10 years they knew about it. So how can we trust? We as tenants and myself are misled with false promises to low income families and there will not provide families with secure homes under section 8 pact rad preservation trust; private developers with only an expiration of contract 1-20 years no security for us., what happens to low income family when private developers that own the buildings which will have no obligation with subsidies apartments units where will our protection be of section 9, when they start charging the median rent of \$5,000 a studio etc., we go homeless & only under section 9 is constitute deals with equality and discrimination security to all low income. We need to be considered as it has been for many years. We had under section 9 repairs; new refrigerators; stoves etc., please address the issues the some tenants are aware of losing our homes there is vulnerability of tenants with nycha sellouts to the private they think is will be remaining section 9 false lies this is a money and land grab.

We have good construction building which they want to demolish them. Safety in fire hurricane we survive the sandy and I can recollect my memory that while sandy hurricane the buildings in the piers owner by essence related. window were destroyed no safety for anyone & Gravities of buildings are sinking the cities too many high risers buildings made with low quality of Sheetrock material not safe for no one surrounding city when hurricane fires earth squake arises in the cities.

We are human beings I have worked all my life I live in nycha since 1969 and I do love my home I have paid my rent no arrears I never took advantage when Corvid.

Section 9 protects all kind of multi low income for family please no homeless  
Nycha is selling out on the low income families we have a city crisis with migrates why can they provide section 9 We are having empty apartments which people were paid to leave the units no mention of names only Damian Williams the southern district attorney can resolve all this issues so we can stay as is. No Yimby we want you to save our homes not destroy lives. Please for low income family in nycha going homeless in the future we want to remain safe and secure with save section 9 give us back our dignity & misleading lies about tenants lead by hou private developers which I don't want to mention is embarrassing of things said in board meetings of cleanliness of some tenants reason for living the building of nycha to new construction. Shame on them.

Our solution is save section 9 to remain as it is. Section 8 Also It will impact the social impact of nycha residents with lesser environmental consequences with more building capacity of infill r8 in Chelsea district

lesser units for people to live in each new building causing causing homelessness etc...etc..with fewer units in buildings

Budget for nycha residents or budget for whom?

Senior site they eliminating the security of elderly protection the vulnerability. Eliminating security to tax payers retirees what is going on with this injustice. Please I am very afraid and emotional I want my well being for myself and others of nycha low income. I thank you all for your in reading and taking your time. I pray that they will a solution in remaining with save section 9 no demolition on Chelsea Elliot Fulton and Chelsea addition. No pact rad no preservation trust no private developer taken over (essence related) or any privateers. Thank you for your attention.

**New York City Council, Committee on Finance  
Jointly with the Committee on Public Housing**

**To:** Hon. Justin Brannan, Chair and Hon. Chris Banks, Chair

**From:** Metin N. Sarci

**Subject:** Fiscal Year 2025 Executive Budget Hearing

**Date:** 05/07/2024

**Introduction**

My name is Metin Necdet Sarci. I am a public housing specialist with 12 years in public service; specializing in NYCHA policy, community relations, and program implementation. The testimony before you is not representative of the New York City Housing Authority (NYCHA) where I am presently employed, and all opinions shared are based on shared wisdom in service to NYCHA residents.

**NYCHA Community Centers**

Community Centers in NYCHA are this city's most valuable resource and are the most exploited. Over 70% of all locations do not have lease agreements ([NYCHA's Blueprint for Change, pg. 88](#)) or provide user fees to cover repair costs. This is presented as cost savings to contracted organizations who provide essential services. However, the executive budget only allocates \$2.3M (Object Code 9008, pg. 2822). This is grossly insufficient to cover regularly needed repair maintenance and worse for reducing the cost of capital repairs.

The [Financial Plan](#) presented, fails to understand that NYCHA centers are a city asset with other units of allocation affecting these facilities despite over 450 locations citywide ([NYCHA PNA Report, 2023](#)). For example, this budget seeks to disinvest in our youth by cutting over \$10M in DYCD programming (Object Code 3557, pg. 1937).

NYCHA locations serving youth require School Age Childcare ([SACC](#)) Licenses of which many contracted organization's funding may be at jeopardy when NYCHA facilities have open Dept. of Building violations with no funding to remediate. Rather than support our partners, I see a nearly \$2M dollar decrease in NYCHA's Architectural Engineering OTPS funding (Object Code A143, pg. 2780) and no funding towards Local Law 11 Facade Repairs.

A \$16M decrease in Capital Repairs Staff (Object Code 9202, pg. 2825) was proposed and this is also unacceptable. I would recommend instead to fund staff to support city contracted organizations to address facility oversight on capital and operation issues as a much better investment. This will encourage public-nonprofit partnership solutions and may allow for increased funding opportunities outside of city subsidy.

**Contact Information**

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Princella Jamerson, Testimony on Finance & Public Housing Executive Budget Hearing

Chair Brannan, Chair Banks, Deputy Speaker Ayala and members of the Committee on Finance and Committee on Public Housing,

We submit this testimony on behalf of our members, and neighbors, in response to the hearing held on May 7 2023.

Once again New York City's public housing tenants face another round of budgetary disappointment. To reverse this trend we call on the city council to ensure no cuts which harm Section 9 tenants are made, and immediately demand NYCHA prepare a new organizational plan centered on Section 9. This new **organizational plan should be focused on the administration and upkeep of Section 9 public housing; remove financial and organizational responsibilities associated with the implementation of the Trust and RAD/PACT.**

Back in 2020 we raised concerns surrounding NYCHA's 2021 Transformation Plan. Since adopting this organizational plan NYCHA has continued to expand their mission, and shift resources unchecked. This organizational plan restructured NYCHA to ensure the transition to the Trust (formerly the Blueprint) before that law was adopted. By prioritizing the privatization of public housing NYCHA created a chaotic and inefficient bureaucracy.

NYCHA never report the total amount of funding and savings that is occurred after 20,000 + of conversions of public housing units to section 8.

- The continued deterioration of developments not accepting privatization, in spite of the "savings" NYCHA experiences via **20,000+ conversions.**
- The bullying tenant leaders experience when their development is being considered, or forced into RAD/PACT. Contrary to NYCHA's testimony, tenant leaders report being pushed into RAD/PACT. During this hearing Vladeck Houses' tenant association president testified to being "**told**" his development was being privatized, something he never asked for, or agreed to.
- The harassment tenants experience once a RAD/PACT deal is announced. The new management office moves into the development and proceeds to hound tenants for lease signings, before their RAD/ PACT deals are finalized, sometimes before an application has been submitted to HUD's Special Application Center.
- The lack of improvement in repairs, wait time for said repairs and the quality of these repairs once NYCHA completes the handover, documented in the Human Rights Watch Report.

Tenants not interested in leaving Section 9 find that staff and resources previously focused on Section 9 operations, projects and contracting are now focused on selling RAD/ PACT and the Trust to tenants, leaders, financial entities, elected officials and corporate landlords. Others that served as resident coordinators now work to troubleshoot the failures experienced under RAD/PACT. Even more concerning is the continued inflation of financial need that NYCHA continues to present to its customers, the public and elected officials.

NYCHA's Physical Needs Assessment is wrong and is nowhere near the **\$79B** that they announced. Instead the need is **closer to \$40B.**

Additionally, we would like to express our disappointment in the lack of humanity demonstrated by NYCHA's decision to threaten the security of our elders. Save Section 9 is an

intergenerational, multicultural organization that roots itself in the values which we learn living in public housing. We believe in each other, and care for each other. Central to this is caring for our elders. Our homes are intergenerational and anchored by seniors. We are volunteers directly impacted by the disinvestment in public housing, but we are inspired to keep fighting because Section 9 is the best housing program in America.

NYCHA has started to eliminating security at senior development sites leaving them unsecured without any safety protocols or any kind of mechanism in place.

As we study the destruction of public housing nationwide we learned that slummification was purposeful and strategic. Beginning with Chicago we see how easy Cabrini fell, but that happened years before the actual buildings collapsed. HUD and the Chicago Housing Authority chose to destabilize that community by starving it of funding, allowing units to empty out and leaving tenants behind to be preyed on.

This process is underway in New York City. 5,000 apartments sit empty; they invite trespassing, and introduce external threats to our already vulnerable communities. Our elders were infected, and killed by COVID, and NYCHAs abandonment, at [twice the rate of any other group in NYC](#). Our senior buildings are no longer exemplary. They have become shelters for the unhoused, and sometimes unhinged. We must protect our elders. We must keep them safe. We must invest in their physical and emotional well being. If we don't, what kind of society are we?

**Now for solutions**, before cutting security at 55 sites designated as senior housing NYCHA must install security cameras, replace front doors and the intercom systems. If NYCHA is unable to do this we must make these sites intergenerational by allowing adults over the age of 40 without children to move into these buildings. Intergenerational sites will deter abuses by those looking to make victims of our elders and provide neighborly support in absence of security guards, and the closure and privatization of our senior centers.

Additionally,

1. We ask the City Council to immediately issue a moratorium on all NYCHA RAD/ PACT conversions, pending the completion of a robust impact study inclusive of all properties currently being served by Project Based Section 8.
2. We ask the City Council to host a joint hearing with its Albany counterparts on RAD/PACT. During this hearing we NYCHA and HUD's office of Public and Indian Housing should be asked to:
  1. Provide insight on the success of the program nationally, success should be defined on improved quality of life for previous Section 9 tenants living in a specific property.
  2. An explanation of the timeline for RAD/PACT conversions highlighting when tenants have an opportunity to oppose these.
  3. Expand on how said opposition is weighed in the larger application for RAD/PACT or Section 18.

We urge you to recognize that in spite of abandonment, we continue to thrive. Public housing supports strong communities, diminishes gentrification, and supports tenants at every stage of life. An investment in public housing will ensure more families have stability, and the social infrastructure necessary to be bold enough to head to Harvard, become urban farmers, start businesses and be part of the solution. NYCHA testified that rehabilitating an empty unit costs 45k. *No corporate landlord can deliver what NYCHA provides at that cost per unit.* Collectively we can work towards our [national solutions](#) and the adoption of the [Green New Deal for Public Housing](#). The latter is now cosponsored by [57 member of congress](#).

In closing, NYCHA thinks that it is in the business of real estate management. We must collectively remind them that they are the provider of a human right, dignified housing. We are available for further conversations regarding our proposals and national solutions for public housing.

## Solutions and References

### **1. Place an immediate moratorium on all RAD and RAD-Section 18 blends in New York City, until a comprehensive, third party impact assessment study of all Project-based Section 8 conversions in New York City**

To date, there have been no New York City-wide impact assessments of the RAD/PACT program on tenants. In this absence, two studies by [Human Rights Watch](#) and [Neighbours Helping Neighbours](#) document the detrimental impacts of RAD - nationwide and at Ocean Bay Houses respectively, along with data gathered by City Limits and the Anti-Eviction Mapping Network and evidence gathered by media articles:

#### Evictions RAD/ PACT

- i. The Human Rights Watch report documents significant increases in evictions in two RAD developments. The report states: “ On paper, aside from the NYCHA-specific protections discussed above, tenants in RAD housing nationally have essentially the same rights as those in public housing. But in practice, property managers have significant discretion over evictions and other decisions that may have far-reaching impacts on tenants’ lives. Many tenants worry that PACT managers will be more likely to evict them if they fall behind on rent, which could lead to homelessness or a loss of adequate housing.”
- ii. City Limits and Anti-Eviction Mapping Project gathered data at Ocean Bay Houses indicating there were 80 evictions between January 2017 and February 2019, more than two times higher than evictions at any other NYCHA development
- iii. The Rockaways Neighbors Helping Neighbors report supplements this data via tenant surveys at Oceans Bay finding that 19% of tenants said new management tried to evict them and 18% said they knew a neighbor was threatened with eviction.
  - iv. Further eviction evidence: <https://www.thecity.nyc/2024/03/14/eviction-private-nycha-managers-rad/>
    - b. Rent increases and Double Landlords
      - i. 61% of tenants at Ocean Bay Houses indicated their rent had increased, 35% said they were recertified more than once a year and 64% said they had to recertify with both NYCHA and the private manager.
    - c. Poor Living Conditions
      - i. The Human Rights Watch report details countless evidence of continued poor living conditions, faulty repairs, poor construction during renovations, hard to reach management, and more. A tenant that was interviewed said: “Monopoly is being played with our lives.... “That’s what the fight is, to protect us from investors who don’t care about us.” Some tenants describe how repairs were carried out in a manner that places tenants at risk including exposure to lead paint or asbestos. Other tenants worry that their homes will fall into disrepair again, noting that the private managers are frugal with their repairs.

ii. At Ocean Bay Houses, 40% of tenants said conditions have gotten worse or much worse after conversion, 21% said it is harder to get repair and 35% said there is not an easy-to-use system for submitting repair requests.

## 2. Call on Congress to:

### a. Uphold the RAD Sunset date of September 30th 2024

A sunset on the RAD program was due on September 30th 2024 and RAD. City Council should call on Congress to sunset RAD on the originally planned date.

i. The claimed reason to extend RAD until September 2029 was to “provide PHAs more time to carry out the necessary and important resident engagement activities prior to applying for RAD and allow PHAs pursuing large scale, multi-year development of public housing properties to keep their commitments to their communities”

1. Thus far, tenant engagement by NYCHA and PACT partners has been poor and many tenants do not know their development is being converted or what this means for their tenancy. An example of this was the tenant engagement at Fulton Elliot Chelsea which included a survey process that was falsely communicated as a vote:

- a. 969 of 3388 participated in the survey. That is 16% meaning 84% did not take part.
- b. Simon Kawitzky, Vice President Portfolio Planning stated the packets were given out in the languages spoken in the development. English, Spanish, Chinese
- c. Unable/unwilling to explain how we went from No Demolition to Demolition.
- d. Have taken the attitude that they are doing everyone a courtesy by meeting with CB4 to explain the proposal.
- e. Lack of transparency: NYCHA speaks with Resident Leaders And CB4 but not the thousands of other tenants.
- f. Related is now trying to put up a casino in the Western Rail Yards [West Side Rail Yards/Hudson Yards Rezoning - Manhattan Community Board 4 \(nyc.gov\)](#) violating this agreement.

ii. As of NYCHA’s 2024 Annual Plan, there are 81 developments under consideration for RAD conversions (Bronx: 36; Brooklyn: 21; Manhattan: 22; Staten Island: 2), a huge increase since the program was first introduced. This will impact 22,282 NYCHA units. Without a comprehensive impact assessment and proper framework of accountability for NYCHA and RAD partners being established by City Council & HUD, extending the RAD sunset deadline puts tens of thousands of tenants at risk

### b. Invest in Section 9 Public Housing and submit a letter of support for the Green New Deal for Public Housing (GND4PH).

i. Congress has steadily divested from public housing while increasing funding for housing programs that rely on the private sector. ([HRW](#)). Of note is the consistent disinvestment in Section 9 while increasing investment in the RAD Program:

1. In 2021, the overall budget of the US Department of Housing and Urban Development (HUD) was \$69.3 billion, of which \$2.9 billion was allocated for major repairs to public housing. Adjusted for inflation, this amount is around 35 percent lower than the capital funding allocation in 2000, which in 2021 dollars would be worth \$4.5 billion ([HRW](#)).
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- ii. Another critical funding source that was just introduced is the GND4PH. NYC gets 50% of the investments allocated within the GND4PH.

### **c. Convene a joint hearing between multiple levels of government to hold accountable NYCHA and PACT partners during RAD, Section 18, and RAD-Section 18 blend conversions**

i. While RAD is a federal program, its implementation is a multi-governmental effort and all levels, including City Council, NY State and HUD are accountable to its impacts. RAD conversions are increasingly using a blend of Section 8 and 18 vouchers (also used by the NY State established Public Housing Preservation Trust). Section 8 and 18 blends provide PACT teams access to Tenant Protection Vouchers which are a higher revenue stream but are distributed on the condition that units meet 'obsolescence' criteria - placing huge risks on tenants as poor living conditions draw in higher vouchers.

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1. Section 964 regulations not being followed by NYCHA, and tenants not being involved in decision making on how capital repairs get addressed
2. Continued issues with no heat, hot water and broken elevators despite NYCHA having access to City funds to address these
3. Section 3 regulations not being abided by, and public housing tenants not having access to labor opportunities that can be provided during capital repair efforts

## (NDA) Non-Disclosure Agreements

NYCHA must stop from threatening and bullying residents' leaders, to sign an **(NDA Agreement)** without any kind of legal counsel. It's vital and important that some of the information of **RAD PACT** transactions and contract is disclosed to insure that the residents' leaders aren't being taken advantage of by NYCHA or the Management Company or Developer.

NYCHA has been abandoning units and critical repair needs that place tenants' lives at risk just so the units can qualify as 'obsolete' and receive Tenant Protection Vouchers PACT/The Public Housing Preservation Trust

In 2023, NYCHA released an updated Physical Needs Assessment which claimed the Authority needed an astounding \$78.34 billion dollars, increased from \$31.8 billion in 2017. There are a range of issues with how the 2023 PNA was carried out, however the key point to make is that NYCHA parading the alarming number of \$80 billion deeply stigmatizes public housing and contributes to the narrative of its failure. The 2023 PNA is meant to be about tenant needs, however is being used by NYCHA to justify its plans to forward RAD/PACT and the Public Housing Preservation Trust as the only options moving forward, instead of scrutinizing its own mismanagement of funds. The 2023 PNA does not accurately reflect capital needs and must be understood with the following details:

4. Compared to the 2017 PNA which comprehensively examined the whole NYCHA portfolio, the 2023 PNA only examined 10-15% of apartments in 30 selected developments. Only 18% of NYCHA apartments were actually inspected.
5. The 2023 PNA focuses on the 20-year need while the 2017 PNA focused the 5-year need. This in itself is not of issue, however the 20-year need is a higher number (\$78.3 billion instead of \$60 billion) and adds to the sensationalizing of repair needs without proper explanation of its meaning.
6. Over 30% of the 2023 PNA amount (18.9 billion) is attributed to 'market price escalation', which is the impact of inflation and market prices for construction. This is relevant, but has nothing to do with the physical condition of apartments. Furthermore, this was calculated during surges resulting from the pandemic and do not take into account savings that can occur through mass material ordering and coordinated construction practices across the portfolio.

The 2023 PNA is an excellent example of how NYCHA continues to twist its financial needs to serve its agenda of forwarding RAD/PACT and the Public Housing Preservation Trust. A thorough assessment of the validity of this PNA is required. For more detailed analysis, please see [CSS and Legal Aid's testimony on the PNA](#).

**Thank you: Princella Jamerson, a Resident of Public Houses:**

## **Committees on Finance & Public Housing's Executive Budget Hearing held on May 7th**

In considering the elimination of security at senior sites, I urge you to reflect on the profound analogy of root shock within a plant. Just as stunted growth leads to death in a plant, severing interpersonal ties and destroying collective connections through the removal of security measures risks similarly dire consequences within our communities. This decision not only makes our elders vulnerable and distressed but also represents a deliberate attempt to starve our housing and undermine the very heart of our community. Home, ideally, should be a sanctuary where one feels relaxed, secure, and at peace. Yet, by depriving our elders of this essential service is heartrendering. The financial aspect of this decision is particularly troubling. Seven million dollars, in the grand scheme of things, may seem insignificant, but its impact is far-reaching. Seven million dollars, in the grand scheme of things, may seem insignificant, but its impact is far-reaching. Seven million dollars is a pittance. This will have profound effects such as social disruption, deterioration of mental, physical, and emotional health, contributing to feelings of isolation and loneliness among residents. Experiences of community safety have health implications for older adults. Research has shown that the perception of risk among older adults in public housing leads to behavioral modifications, reduced satisfaction with housing and neighborhood, and heightened depressive symptoms. "Due to perceived risk, many older people in public housing reported modifying their behavior, including avoiding leaving their home after dark ,and restricting their social ties and activities . Fear of crime also reduced housing and neighborhood satisfactionand heightened depressive symptoms among

older public housing residents.” [\(Perceptions of Risk: Perspectives on Crime and Safety in Public Housing for Older Adults | The Gerontologist | Oxford Academic \(oup.com\)\)](#)

Brian Honan, Vice President of the Office of Intergovernmental Relations in the New York City Housing Authority stated “The federal law does not require a percentage of residents to support a PACT program for conversion...and we have no interest in forcing this [program] on residents.” This is a thinly veiled attempt to terrorize our elders into the PACT/RAD program. I’m sure we will be hearing that Private developers/management will be able to provide security and make our elders feel safe. This is shameful. I strongly suggest the following solutions: One, Annika Lescott-Martinez Chief Financial Officer & Executive Vice President of Finance at the New York City Housing Authority (NYCHA) ask the city for the money; two, dip into it’s reserves , three allow for inter-generational sites so seniors are not left to be preyed upon. Four, NYCHA invest in doors, intercoms, and blend sites before considering these cuts. Most older adults want to age in their home and community of choice. The defunding of security is abandoning our elders. You don’t balance the budget off their backs. If this was your family, would you do this? How would you feel? When you make these decisions you need to take humanity and common decency into account. "The strength of a community is built on the respect it shows to its elders.

Stopfecdemolition

Renee Keitt

## ENVIRONMENTAL JUSTICE INITIATIVE/

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Columbia Fiero, Documentarian & Editor

## CITY COUNCIL SUBMISSION

TESTIMONY FOR JOINT COMMITTEES Oversight and Public Housing September 23, 2022

### **Resubmitted for May 7, 2024 hearing**

#### **Arsenic and Jacob Riis Houses**

I am Joel R Kupferman. Executive Director and Senior Attorney at the Environmental Justice Initiative- and counsel to the Jacob RIIS [residents], Residents to Preserve Public Housing and Alfred E Smith Resident Associations, respectively.

**It is error to claim that there is no actionable exposure to arsenic by RIIS residents.**

It is not only in the water. **It is in the soil.** The City and NYCHA are in error to put the attention on one and ignore the other. People are being **poisoned by the dust in the air from the dirt piles -from the soil itself.** The **soil and residents must be tested.** The soil **must be contained.** Currently, it is not controlled. We know the City applied **massive amounts of arsenic to all surface and sub-surface soil, to kill the rats.** But they **have failed to remove the arsenic,** which is cancerous, and noxious, thus continue to poison the tenants- who they were supposedly trying to protect.

Testing at NYCHA Smith Houses indicated 240 parts per million in the soil- which is 15 times the New York State **Soil Cleanup Objectives** of 16 parts per million—a huge elevation of allowable limit. We do not know the exact amount at Riis Houses – but **NYCHA and NYC DOH and DEP have failed to measure or to mitigate the ongoing chronic exposure.** The Smith Resident Association has urged Dan Greene, then NYCHA Compliance officer; DEP Commissioner Sepenzia; and STV (the same company in charge of construction and water infrastructure matters at RIIS), that all soil, **thus toxic, must be covered,** then **controlled/removed.** The pleas went on deaf ears.

Studies at Flint, Detroit, New Orleans show that **resuspended soil leads to heightened Pb levels in children's blood.** Harvard studies show that **a slight increase in long term exposure to Particulate Matter 2.5, found in soil, leads to a major increase in Covid death.**<sup>[1]</sup>

This **is compounded by the indoor exposure** of lead paint, asbestos, and mold as well as the close proximity to the particulate matter emitting **East 14<sup>th</sup> St. Con Ed power plant.**

Despite the fact that RIIS residents are vulnerable and have suffered chronic exposure, neither NYCHA, NYC DEP and DOH **nor its contractor, STV, have seen fit to adopt any preventative,**

protective, or mitigating practices to address the environmental and health hazards confronting the residents.<sup>[2]</sup> Instead, NYCHA has merely waived aside evidence indicating the presence of serious hazards as **well as the multiple vectors of exposure**, and stands on the pronouncement withdrawal that the arsenic actionable levels in the water do not exist- states, *without support*, that **RIIS residents face no real risks**. NYCHA's pronouncement is deeply troubling not only because it articulates the shocking principle that toxic exposures should be accepted by affected populations merely because they happen all the time, but also because it completely elides the significant health effects from exposures to environmental toxicological agents. Such callousness by NYCHA is astounding, who is mandated to care for residents living in City housing;<sup>[3]</sup> as is the fact that NYCHA's deference puts at great risk the City's most vulnerable residents: young children, people with chronic respiratory illnesses, and the elderly. This evasion makes the situation even more distressing.



Figure 1 176 Ave D 9-9 -22 pic by J.Kupferman

In this regard, EJI calls attention to the fact that despite NYCHA's recent admissions regarding its failure to protect housing residents from serious lead and mold exposures,[\[4\]](#) NYCHA has additionally *refused* to adopt even the most basic and **inexpensive measures** at the RIIS Houses site—measures such as the **placement of geo-textile matting, the planting of ground cover, and the layering of fresh soil on top of *in situ* soils**—to prevent the dangerous **re-suspension** of contaminated soils and dust -all surfaces where children play, and their migration into RIIS Houses apartments, nearby local public schools, and the adjacent playgrounds. And finally, adding yet another layer of concern is the City's acceptance of NYCHA and its contractors' failure to adopt any effective protective measures. NYCHA, as the largest public housing authority in North America and as home to 1 in 14 New Yorkers,[\[5\]](#) presents a horrific example to state and local

governments around the country- of how the nation's poorest residents and they are particularly people of color, are treated.

The Housing Authority cannot in good faith rely upon on a **risk assessment report (or lack of one)** that **lacks both scientific integrity and legal support** - a deficient risk assessment that stems from its failure to examine the full spectrum of harms faced by RIIS Houses residents and workers. First, **NYCHA employed a deficient methodology-** when **it failed to undertake a comprehensive soil sampling plan** including all sites that could contribute to residents' and workers' exposure to the lead, arsenic, VOCs, SVOCs, barium, and cadmium most likely contained in the soil. There has been failure to examine all following: the suspension, re-suspension, and dispersal of soil contaminants; the penetration of these contaminants into tenants' apartments, school building hallways and other residential common areas; the ingestion of contaminated soil **by young children playing on the grounds**. There are multiple avenues of exposure for individuals involved in one or more of the following activities, in addition to living with the re-suspended and transported, contaminated soil dust in their apartments: passing by the active sites; sitting outside near the apartment buildings; attending one of the public schools on the block; and playing in the area.

#### **Assumption of Arsenic at RIIS:**

**The high levels of arsenic found at Smith Houses is a strong indicator of the probability of similar levels present at RIIS.** Both these NYCHA Developments received the large arsenic doses placed by the NYC Department of Health's Rat Poison Control Program in prior years. **NYCHA is recklessly discounting exceedance findings.** Waldon was the environmental engineering firm employed by the contractor Navillus, which trenched and placed pipes at Smith as part of the Post-Sandy Rebuild. Waldon's tests show an arsenic concentration level in the topmost 12 inches of soil of 42.8 milligram per kilogram (mg/kg), 18.7 mg/kg, 18.6 mg/kg, 19.8 mg/kg, and 43.2 mg/kg— concentrations far exceeding—in fact, *2.7 times*—the Residential and Restricted Residential SCO of 16 ppm.<sup>[7]</sup> The arsenic concentrations of 85 ppm found in a prior test by EJI/NYELJP, and 240 ppm found in tests undertaken by the Urban Soils Institute, denote an extreme health concern given that the contaminated soil is located within the area surrounding a daycare facility where very young children play outdoors for hours and near residential units without appropriate window protections. (See NYELJP's November 2018 letter, Attachment G.)

Toxic levels of arsenic exposure can occur through inhalation, absorption through the skin, and ingestion;<sup>[8]</sup> because it is tasteless and odorless, it is quite difficult for a person to know at the outset when they are exposed at levels falling below the acute poisoning range of 100 to 300 mg.<sup>[9]</sup> In fact, the onset of chronic arsenic poisoning is particularly insidious given that a person exposed to concentrations above 20 mg/kg may exhibit any of several non-specific symptoms, including abdominal pain, diarrhea, or sore throat,<sup>[10]</sup> all of which are associated with numerous and more benign illnesses. **Long-term arsenic exposure from soil and water,** leads to multi-system



disease—including the cardiovascular, neurological, genitourinary, and respiratory systems—as exemplified by malignancy of the skin, lungs, liver, kidneys, and bladder.[11]

We should also be concerned about the **assumed high levels of lead** found in the soil and the lack of any lead soil testing or publication of results at RIIS. Lead was found at Smith to be 505 ppm, 592 ppm, and 802 ppm by EJI/NYELJP and 551 & 552 ppm by Waldon. The lead concentration of these sets of samples all exceed the SCO limit of 400 ppm, the level deemed by DEC to require remedial action.[12] The Housing **Authority's failure to act in such circumstances defies comprehension**. The US Environmental Protection Agency “has recognized that lead poisoning is the number one environmental health threat in the United States for children ages 6 and younger”.[13] According to the Centers for Disease Control, in this country there are approximately half a million children, aged 1 through 5 years,[14] with blood lead levels above 5 micrograms per deciliter ( $\mu\text{g}/\text{dL}$ ), the reference level at which the CDC recommends that public health actions be initiated. However, the CDC has made clear that this action level should not be taken as a demarcation of a zone of harmless exposure because “no safe blood lead level in children has been identified”.[15] Indeed, even very low levels of lead in blood have been shown to result in neurologic impairments such as behavioral and learning issues, slowed growth and, in rare cases, seizures and death. Even when lead exposure is caught before the direst consequences, its effect on children is never inconsequential because the *effects of lead exposure cannot be corrected*.[16] It is for all these reasons that the public health goal is to prevent children’s exposure to lead *before* they are harmed. And pursuing this objective is the most critical for populations like the residents of RIIS Houses because children living at or below the poverty line who live in older housing are at greatest risk.

**NYCHA's soil inaction** appears to be based on the **fundamental misconception** that the risks from exposure to contaminated soil dust posed by renovation, construction, and demolition activities[17] are short-term and geographically limited. In other words, NYCHA’s myopic position is that these risks may be assessed in **complete isolation** from people’s health status, past exposures, **cumulative impact** and experience of current exposures to other toxic agents. However, neither the law nor environmental health science permits the use of such a stunted assessment. Beyond any concern over short-term exposures to airborne toxic particulate matter (“PM”) arising from construction/maintenance activities, consideration must also be taken for **long-term exposures to particulate matter** from contaminated soil dust that settles across the Housing complex for inhalation, ingestion, or dermal exposure after re-suspension.[18] In addition to the plethora of studies establishing the prevalence of this risk in urban settings, New York City’s own Division of Environmental Health confirmed the existence of this risk when it investigated the Smith Project site on August 14, 2018, and issued an Inspection Report and Notice of Violation to both to Navillus and NYCHA.[19] The Notice of Violation states that both entities must **“contain dust areas, use dust suppression methods while working,”** and **“isolate work from the public.”**[20] The City issued the Notice of Violation after undertaking a site investigation and determined that Navillus’ practices are deficient to such a degree that the public is at risk of exposure to contaminated soil dust. Given this determination, it is difficult to understand why neither NYCHA

nor Navillus have seen fit to alter practices at the SMITH site to comply with the City's order. The same concern is ever more present at RIIS.

NYC Health Department most certainly must be aware of this egregious soil situation there, at RIIS. NYC DOH Deputy Commissioner Corinne Schiff and NYC DEP Operating Officer Sapienza were at RIIS for many hours according to administration testimony at Friday's hearing. I, myself, Joel Kupferman/EJI, contacted DOH-Environmental Division about the arsenic soil endangerment-only to be told that the Health Department can only deal with one issue at a time.

At the time, Chief Operating Officer-Vincent Sapienza, then DEP Commissioner Sapienza, was apprised of the similar SMITH situation in a eleven-page, well-documented, April 3, 2018 letter. Daniel Green, then NYCHA's Chief Compliance Officer, now NYCHA's Vice President for Healthy Homes, was apprised of the toxic soil exposure problem at Smith via letters, direct communication by phone, weekly-meeting discussions, and staged walkthrough. He was apparently aware of the evident soil problem by his several ongoing inspections.

In addition to the health risks created by short- and long-term exposures, STV and NYCHA fail to take into account the health status of RIIS Houses residents. Given that NYCHA Housing residents now remain in their apartments on average for 22 years,<sup>[21]</sup> there is a high probability that many, if not all, of the residents living in RIIS Houses are exposed to the extremely toxic plume of particulate matter and aerosolized compounds resulting from the operation of the particulate matter emitting East 14<sup>th</sup> St Con Ed powerplant.<sup>[22]</sup> Moreover, added to this combination of exposures, RIIS Houses residents have been subjected to environmental assaults stemming from the contaminated indoor dust and particulate matter generated by adjacent highways and waterways packed with toxin-emitting sources.<sup>[23]</sup> Studies have shown that PM2.5 and PM10 concentrations are increased by local fugitive sources of particulate matter from vehicle exhaust,<sup>[24]</sup> road construction activities, and air and sea transportation sources (which produce particles across the range from PM2.5 to PM10).<sup>[25]</sup> The RIIS Houses apartment complex falls within the atmospheric dispersal zone of a number of these cumulative, aggravating toxic sources; it is located by the FDR Drive on the East River, which serves as a main waterway for tug boats, water taxis, and garbage barges; it is bounded by both ground and raised highways; and it is within the flight jet path taking off and landing at the City's two major airports. The destruction of East River Park has been a major source of particulate matter. In addition to these permanent and incessant progenitors of toxins, there are other occasional polluting sources, such as the re-surfacing of adjacent highways<sup>[26]</sup> and the salting of roadways to address icy conditions.<sup>[27]</sup> The effects of these polluting sources is revealed in the data: the Lower East Side ("LES") neighborhood in which the Smith Houses complex sits has higher percentages than City averages of black carbon, particulate matter, nitric oxide, nitric dioxide, and sulfur dioxide.<sup>[28]</sup> And adding yet another burden to this toxic environment are the years of people's exposures to pesticides and rodenticides, (including arsenic),<sup>[29]</sup> black mold,<sup>[30]</sup> and dust from the unremediated lead paint inside apartments and in the hallways of buildings.<sup>[31]</sup> Given the widespread knowledge that people in NYCHA housing complexes suffer disproportionately from respiratory illnesses<sup>[32]</sup> -for example, the LES has a crude rate of verified tuberculosis of 15.1 as compared to the city-wide rate of 7.2 (representing a 210% increase) and a preventable asthma hospitalization rate of 384.6 as compared to the city-wide rate of 232.9 (representing a 165% increase)<sup>[33]</sup>—this reliance of

NYCHA on a deeply flawed report is incomprehensible. *See, e.g., Baez, Maribel et al. v New York City Housing Authority*, 13-cv-08916 (SDNY).

In this regard, EJI/NYELJP notes further that schoolchildren, a particularly vulnerable segment of the population, are being subject to multiple vectors of exposure resulting from the presence of a public school PS/MS 34 located directly across the street from the RIIS immediate area, two within the complex and one adjacent to it near the school across the street. Those children living in the Smith Homes complex and attending one of the public schools are exposed to lead, arsenic, pesticides (recently including Roundup) and other toxic agents through at least four different vectors, including: (1) airborne particulate matter resulting from construction and demolition activities disturbing contaminated soil; (2) indoor apartment building dust and household dust resulting from the transport of contaminated soil and airborne particulates and the continual resuspension and deposition of these particulates; (3) indoor school building dust resulting from the same processes; and (4) airborne particulate matter resulting from activities on the playground during and after school. There is little doubt that children who live in the apartment complex but do not attend school there visit the playgrounds near them and thereby are subjected to three of the four noted vectors for exposure. With regard to the health statuses of these children, the latest data shows an **asthma hospitalization** rate of 40.8 per 100,000 children ages 5-14 years in the neighborhood as compared to the city-wide rate of 37.1.<sup>[34]</sup> The health of **elderly residents** of the RIIS Houses, many of whom are likely to suffer from respiratory disease, should be of equal concern to NYCHA given that they are subject to airborne particulate matter from Project activities, re-suspended contaminated soil dust during times they are outside, contaminated indoor dust and contaminated water. According to the City's own data, 42% of all families living in Manhattan's public housing complexes are headed by an adult over the age of 62, and according to data for New York County, 7.8% of adults have asthma and 4.9% have Chronic obstructive pulmonary disease (**COPD**).<sup>[35]</sup>

Finally, the NYELJP would be remiss if it did not reiterate its deep concern over the lack of trees, **vegetation and ground cover** at RIIS Houses caused by reckless renovation activities, poor planning and lack of commitment to maintaining a proper landscape at RIIS. Trees serve as resiliency hydrological anchors in a flood prone area " And to reiterate the mismanagement and malfeasance of protecting the water supply infrastructure - an area well covered by City Council members and testifiers. **STV, as construction manager must be held accountable.** Arsenic, in the water and in the soil pose a **serious endangerment to health and the environment.** *Recommendations for actions are found in notes. Please feel free to reach out to me and THE Environmental Justice Initiative for clarification or more information.*

*Joel R Kupferman, Esq.*  
9-29-22

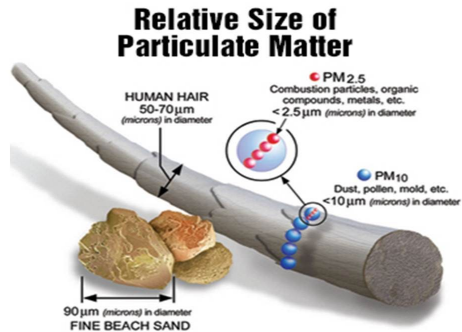
### ***FOOTNOTES on Separate page***

Pertinent cited and additional Files available at  
<https://www.dropbox.com/sh/oxmax8mfj76bs8c/AADgaTdhtBdcd2UwVOrQw0B8a?dl=0>

## WORKING NOTES

1. INTRO
  - a. EJI [www.nyenvirolaw.org](http://www.nyenvirolaw.org)
  - b. COUNSEL to Alfred E Smith and Jacob Riis Residents Association
  - c. Worked with Flint lawyers
  - d. 9/11 – forced reconsideration that the “AIR was SAFE” in lower Manhattan, litigated, sampled
2. WATER CONCERNS
  - a. Myriad of problems at Riis
  - b. Problems with Pump
  - c. STV – construction manager – exercised project management malfeasance at Smith Houses
  - d. Cumulative and long-term impact of arsenic exposure discounted or ignored
  - e. Water tank – possible arsenic treated wood.
  - f. Legionnaires– de minimis investigation Arcane risk assessment that should be examined/ revised.
    - i. Unsubstantiated denial of problem – arcane NYC DOH assessment/classification . Failure to determine source and risk assessment.
3. SOIL EXPOSURE
  - a. Major route of exposure
    - i. Cite David Carpenter’s letter
  - b. ATSDR: The primary routes of arsenic entry into the body are via ingestion and inhalation. Dermal exposure can occur, but is not considered a primary route of exposure. Exposure dose is the cumulative exposure by all routes.
  - c. Arsenic from Water and Soil ...Elevated levels of arsenic in soil (due to either natural or man-made contamination) may be an ingestion risk, especially for children with pica and mouthing behaviors during play [Rossman 2007]. However, the bioavailability of arsenic in soil is variable, and dependent on the chemical form of arsenic. [https://www.atsdr.cdc.gov/csem/arsenic/what\\_routes.html](https://www.atsdr.cdc.gov/csem/arsenic/what_routes.html)
  - d. High levels of arsenic in soil – NYC Rat poison Control Program
    - i. Findings at Smith: 85 parts per million 240 parts per million
    - ii. NYC Health Dept violation cite (non-cover
  - e. Loose uncovered soil at Riis – including six foot mounds
    - a. Lead in soil
    - b. Resuspension of soil – vector for lead blood levels
      - i. Flint report
      - ii. Mielke report – arsenic in soil – flooding
      - iii. Children playing in soil – dermal and ingestion
      - iv. Trekking into apartments
      - v. Penetration through windows
    - c. Pesticide application – warning markers – but no listing of pesticide used

- d. Failure to cover – lack of ground cover
- e. Storm Water Management violations –
  - i. Run-off into sewer system
  - ii. CONSTRUCTION – PLACEMENT OF NEW PIPES causes further soil disturbance



- a. PM 2.5 (picture - Wu q)
- b. Respiratory problems exacerbated – NEJM article  
<https://www.nejm.org/doi/full/10.1056/NEJMoa1702747> Conclusions: In the entire Medicare population, there was significant evidence of adverse effects related to exposure to PM2.5 and ozone at concentrations below current national standards. This effect was most pronounced among self-identified racial minorities and people with low income. (Supported by the Health Effects Institute and others.)
- c. Cumulative impact – chronic exposure
- d. LACK OF BIOMARKER TESTING – Urine and Hair
- e. Failure of gov't agencies to act
  - i. DEP Deputy Commissioner at site
  - ii. Deputy NYC DOH Commissioner at site
  - iii. I was told by Assistant Commissioner that NYC DOH can only work on one problem at time
- f. False reassurance THAT THERE IS NO PROBLEM to residents
- g. Dan Green – knowledge about Smith arsenic problem – and failure to contain resuspension
- h. STV – apprised of situation at Smith Houses
  - i. IN CHARGE of water infrastructure construction management –
  - ii. Should be fully audited and investigated - lack of accountability & oversight of faulty contractors
- i. High probability of flooding - no resiliency plan , misspending of FEMA rebuild funds
- j. Federal Court Case
- k. NYS Green Amendment

#### 4. DEMANDS – SOLUTION

- a. Immediate removal of large piles
- b. Geo textile cover
- c. Fast growing ground cover

- d. Soil Testing - Full RCRA 8
- e. Planting of flora - ground cover, shrubs, and trees
  - i. Multitude of benefits including hydrological retention
  - ii. Shade, mitigate strong rain fall, Air quality
  - iii. Removal of toxic soils – Follow NYS DEC # Soil Cleanup
  - iv. Much resiliency money available Fed and State CLIMATE funds
- f. Provide HEPA vacuums for residents on lower levels
  - i. Share program – based on Syracuse EPA HEPA Vacuum Project
- g. Request for risk assessment BY NYS DOH ASTDR
- h. Provide resources for Tenant Association to hire independent environmental assessors and investigators
  - i. Difficult for Tenant Association to procure funds & experts
- 5. Increase Whistleblower protection
- 6. Create an Ombudsperson position at DEP,DOH and NYCHA
  - i.
- 5. Vulnerable population --- disabled ,elderly, people of color, children – utilize full EJ regs and con
- 6. CITY Health Clinic – state Network Bellevue Clinic provide evaluation at site , request
- 7. Problem area - 14<sup>th</sup> Street Con Ed plant

## STATE REGS

### FOOTNOTES

1. 6 NYCRR Part 375 NYS Environmental Remediation Programs  
[https://www.dec.ny.gov/docs/remediation\\_hudson\\_pdf/part375.pdf](https://www.dec.ny.gov/docs/remediation_hudson_pdf/part375.pdf)
2. DER-10 provides an overview of the site investigation and remediation process for DEC's remedial programs administered by the Division of Environmental Remediation (DER). These include the Inactive Hazardous Waste Disposal Site Remedial Program, known as the State Superfund Program (SSF); Brownfield Cleanup Program (BCP); Environmental Restoration Program (ERP); and Voluntary Cleanup Program (VCP); and certain petroleum releases. <https://www.dec.ny.gov/regulations/67386.html>
3. --- **Generic Remedial Action Objectives (RAOs)**  
<https://www.dec.ny.gov/regulations/67560.html>
  - a. **Soil**
    - i. **RAOs for Public Health Protection**
      1. Prevent ingestion/direct contact with contaminated soil.
      2. Prevent inhalation exposure to contaminants volatilizing from soil
    - ii. **RAOs for Environmental Protection**
      1. Prevent migration of contaminants that would result in (include all appropriate media: groundwater, surface water, or sediment) contamination.

2. Prevent impacts to biota from ingestion/direct contact with soil causing toxicity or impacts from bioaccumulation through the terrestrial food chain
- b. **Soil Vapor**
- i. RAOs for Public Health Protection
    1. Mitigate impacts to public health resulting from existing, or the potential for, soil vapor intrusion into buildings at a sit
4. ENVIRONMENTAL JUSTICE – heightened analysis and protection
- a. NYC NYS and federal

## RESOURCES

<https://medicine.tulane.edu/departments/pharmacology/faculty/howard-w-mielke-phd>  
[HOWARD R. MIELKE](#)

Illegally subjects people who breathe or ingest PM2.5, lead and arsenic to serious harm.  
 Similar health risks for workers... presumed safe levels

## Particulate Matter and Soils Articles

**Resuspension of urban soils as a persistent source of lead poisoning in children: A review and new directions** Mark A.S.Laidlaw Gabriel M.Filippelli [Mark A.S.LaidlawGabriel M.Filippelli](#)

<https://www.sciencedirect.com/science/article/abs/pii/S0883292708001832>

### Abstract

Urban soils act as the repository for a number of environmental burdens, including Pb. Significant attention has been devoted to reducing Pb burdens to children with outstanding success, but the fact that blood Pb levels above 10 µg/dL are disproportionately found in children living in many USA cities (15–20% in some cities compared to a national average of less than 2%) indicates that not all of the sources have been eliminated. Although the health risk of fine particulates has begun to raise concerns in cities, little attention has been paid to Pb associated with these particulates and the potential role of this pathway for continued Pb burdens of urban youth. This review summarizes recent work on particulate resuspension and the role of resuspension of Pb-enriched urban soils as a continued source of bio-available Pb both outside and inside homes, then presents recent efforts to model Pb burdens to children based on the atmospheric parameters that drive particulate resuspension. A strong seasonal relationship is found between atmospheric particulate loading and blood Pb levels in children, and new particulate loading models are presented for a range of US cities involved in the Interagency Monitoring of Protected Visual Environments (IMPROVE) program. These seasonal particulate loading models have implications for a number of respiratory health impacts, but can also be used to calculate seasonal patterns in bio-available Pb redistribution onto contact surfaces (the primary pathway for ingestion-related uptake in toddlers) and assist clinicians in interpreting time-specific blood Pb tests

Arsenic from Water and Soil ...Elevated levels of arsenic in soil (due to either natural or man-made contamination) may be an ingestion risk, especially for children with pica and mouthing behaviors during

play [Rossman 2007]. However, the bioavailability of arsenic in soil is variable, and dependent on the chemical form of arsenic. [https://www.atsdr.cdc.gov/csem/arsenic/what\\_routes.html](https://www.atsdr.cdc.gov/csem/arsenic/what_routes.html) ATSDR

Dermal contact when handling preserved wood products containing arsenic could result in arsenic exposure. However, very little is known regarding the chemical form, conditions for absorption, kinetics, or other information needed to make a statement regarding skin absorption in specific populations [NAS 1977]. Toxic effects have been reported in the occupational literature from splashes of arsenic trichloride or arsenic acid on worker's skin [Garb and Hine 1977].

a.

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## **Footnotes**

[1] Xiao Wu, Rachel C. Nethery, Benjamin M. Sabath, Danielle Braun, Francesca Dominici (2020) "Exposure to air pollution and COVID-19 mortality in the United States." medRxiv 2020.04.05.20054502; doi: [10.1101/2020.04.05.20054502](https://doi.org/10.1101/2020.04.05.20054502)

[2] In this regard, NYELJP draws attention to the contract between NYCHA and Navillus which states that the re-use of site soils is permitted only if "they meet the project environmental requirements and specifications," and that "excavated materials unsuitable for filling or backfilling" must be "legally disposed of off-site." See Division 31 – Earthwork, Contract between NYCHA and Navillus included in prior submissions. These provisions make clear that soil testing should have been done prior to any other Project activities in order to determine contamination levels and appropriate procedures for handling contaminated soils.

[3] See, e.g., 24 CFR §1.4(b)(2)(i) ("A recipient, in determining the types of housing, accommodations, facilities, services, financial aid, or other benefits which will be provided under any such program or activity, or the class of persons to whom, or the situations in which, such housing, accommodations, facilities, services, financial aid, or other benefits will be provided under any such program or activity, or the class of persons to be afforded an opportunity to participate in any such program or activity, *may not, directly or through contractual or other arrangements, utilize criteria or methods of administration which have the effect of subjecting persons to discrimination because of their race, color, or national origin, or have the effect of defeating or substantially impairing accomplishment of the objectives of the program or activity as respect to persons of a particular race, color, or national origin*") (emphasis supplied).



[4] See NYCHA Admissions, Consent Decree in *USA v. NYCHA*, 18 Civ. 5213, at 1-3 (June 11, 2018), available at <https://www.epa.gov/sites/production/files/2018-06/documents/nycha-cd.pdf> (last visited on March 1, 2019).

[5] New York City Housing Authority, "NYCHA 2018 Fact Sheet," (2018), available at [https://www1.nyc.gov/assets/nycha/downloads/pdf/NYCHA-Fact-Sheet\\_2018\\_Final.pdf](https://www1.nyc.gov/assets/nycha/downloads/pdf/NYCHA-Fact-Sheet_2018_Final.pdf) (last visited on March 1, 2019).

[6] Of course, NYELJP does not agree that the levels noted by Waldon represent a correct analysis of soil contaminants. Accordingly, this statement should not be taken as any such confirmation of either Waldon's methodology or its findings.

[7] 6 NYCRR § 375-6.8, Table 375-6.8(b) (2006).

[8] R.N. Ratnaïke, "Acute and Chronic Arsenic Toxicity," *Postgrad Med J.*, 2003, v. 79, at 391-96.

[9] *Id.*; W.L. Schoolmeester, D.R. White, "Arsenic Poisoning," *South Med J.*, 1980, v. 73, at 198-208.

The acute lethal dose of ingested arsenic "has been estimated to be about 0.6 mg/kg/day." R.N. Ratnaïke, "Acute and Chronic Arsenic Toxicity," *Postgrad Med J.*, 2003, v. 79, at 392.

[10] See, e.g., Affidavit of Stephen Lester, *Matter of Daisy Wright, et al. v. New York State Department of Health*, dated April 2015; R.N. Ratnaïke, "Acute and Chronic Arsenic Toxicity," *Postgrad Med J.*, 2003, v. 79, at 393-94 (internal citations omitted).

[11] R.N. Ratnaïke, "Acute and Chronic Arsenic Toxicity," *Postgrad Med J.*, 2003, v. 79, at 393-94 (internal citations omitted).

[12] 6 NYCRR § 375-6.8, Table 375-6.8(b) (2006).

[13] Department of Justice Press Release, "The United States and Indiana Reach Agreement With SunCoke Energy and Cokenergy to Resolve Clean Air Act Violations at Indiana Harbor Coke Plant," January 25, 2018, available at <https://www.justice.gov/opa/pr/united-states-and-indiana-reach-agreement-suncoke-energy-and-cokenergy-resolve-clean-air-act> (last visited on April 2, 2019).

[14] Children under the age of 6 years old are at risk because they are growing rapidly and because they tend to put their hands or other objects, which may be contaminated with lead dust, into their mouths.

[15] See CDC website information, available at <https://www.cdc.gov/nceh/lead/> (last visited on April 2, 2019).

[16] *Id.*

[17] Studies have shown that construction and demolition activities result in high local concentrations of PM10, which contains a wide variety of toxic substances and adversely affect the respiratory health of nearby residents. See D. Hansen, B. Blahout, *et al.*, *J. Hosp. Infect.*, 2008, v. 70, at 259-264; C.M. Beck, A. Geyh, *et al.*, *J. Air Waste Manage. Assoc.*, 2003, v. 53, at 1256-1264; J. Joseph, R.S. Patil and S.K.Gupta, *Environ. Monit. Assess.*, 2009, v. 159, at 85-98.

[18] P. J. Liroy, C. P. Weisel, J. R. Millette, S. Eisenreich, D. Vallero, J. Offenbergl, B. Buckley, B. Turpin, M. Zhong and M. D. Cohen, *Environ. Health Perspect.*, 2002, 110, 703; 40 M. Abu-Allaban, S. Hamasha and A. Gertler, *J. Air Waste Manage. Assoc.*, 2006, 56, 1440-1444.

[19] See August 14, 2018 Inspection Report and Notice of Violations issued to NYCHA and Navillus by the New York City Department of Health and Mental Hygiene, Division of Environmental Health.

[20] See August 14, 2018 Inspection Report and Notice of Violations issued to NYCHA and Navillus by the New York City Department of Health and Mental Hygiene, Division of Environmental Health.

[21] The Times reports that the average period a NYCHA tenant stays put these days is 22 years, up from 19 years in 2005 and 17 years in 1995. Mireya Navarro, “As New York Rents Soar, Public Housing Becomes Lifelong Refuge,” NY Times, Aug. 3, 2015, available at <https://www.nytimes.com/2015/08/04/nyregion/as-new-york-rents-soar-public-housing-becomes-lifelong-refuge.html?partner=rss&emc=rss&r=0>.

[22] =

[23] P. Kumar, A. Robins, S. Vardoulakis and R. Britter, *Atmos. Environ.*, 2010, v. 44, at 5035–5052; P. Kumar, A. Robins, S. Vardoulakis and P. Quincey, *Particulogy*, 2011, v. 9, at 566–571; M. Abu-Allaban, J. Gillies, A. Gertler, R. Clayton and D. Proffitt, *Environ. Monit. Assess.*, 2007, v. 132, at 155–163; S. H. Cadle, P. A. Mulawa, E. C. Hunsanger, K. Nelson, R. A. Ragazzi, R. Barrett, G. L. Gallagher, D. R. Lawson, K. T. Knapp and R. Snow, *Environ. Sci. Technol.*, 1999, v. 33, at 2328–2339; A. J. Kean, R. F. Sawyer and R. A. Harley, *J. Air Waste Manage. Assoc.*, 2000, v. 50, at 1929–1939

[24] P. Kumar, A. Robins, S. Vardoulakis and R. Britter, *Atmos. Environ.*, 2010, v. 44, at 5035–5052; P. Kumar, A. Robins, S. Vardoulakis and P. Quincey, *Particulogy*, 2011, v. 9, at 566–571; M. Abu-Allaban, J. Gillies, A. Gertler, R. Clayton and D. Proffitt, *Environ. Monit. Assess.*, 2007, v. 132, at 155–163; S. H. Cadle, P. A. Mulawa, E. C. Hunsanger, K. Nelson, R. A. Ragazzi, R. Barrett, G. L. Gallagher, D. R. Lawson, K. T. Knapp and R. Snow, *Environ. Sci. Technol.*, 1999, v. 33, at 2328–2339; A. J. Kean, R. F. Sawyer and R. A. Harley, *J. Air Waste Manage. Assoc.*, 2000, v. 50, at 1929–1939.

[25] G. E. Andrews, I. D. Andrews, D. W. Dixon-Hardy, B. M. Gibbs, H. Li and S. Wright, *ASME Turbo Expo 2010: Power for Land, Sea, and Air*, American Society of Mechanical Engineers, 2010, at 363–375; J. J. Corbett, J. J. Winebrake, E. H. Green, P. Kasibhatla, V. Eyring and A. Lauer, *Environ. Sci. Technol.*, 2007, v. 41, 8512–8518; T. S. Bates, P. K. Quinn, D. Coffman, K. Schulz, D. S. Covert, J. E. Johnson, E. J. Williams, B. M. Lerner, W. M. Angevine, S. C. Tucker, W. A. Brewer and A. Stohl, *J. Geophys. Res.: Atmos.*, 2008, v. 113, at D00F01.

[26] This includes, among other highway projects, the re-surfacing of the F.D. Roosevelt Drive, which entailed the application of 35,000 tons of asphalt over a six-month period ending on November 30, 2015. See CBS News, “\$8.5 million FDR Drive Resurfacing Project Finished Ahead of Schedule,” (November 30, 2015), available at <https://newyork.cbslocal.com/2015/11/30/fdr-drive-resurfacing-project-complete/> (last visited March 10, 2019).

[27] Recent studies have shown that fine dry road salts migrate in excess of 300 meters after the snowpack melts, and more immediately if the salts are applied in the absence of precipitation. See J. Lazarcik, J.E. Dibb, “Evidence of Road Salt in New Hampshire’s Snowpack Hundreds of Meters from Roadways,” *Geosciences*, 2017, v. 7(3), 54. Rock salt causes burns when it comes into contact with the skin, and respiratory tract irritation when inhaled. Repeated exposures corrode major components of the respiratory tract.

[28] Public Tableau, Bizlitics, NYC Health Dashboard, Lower East Health Outcomes and Neighborhood Conditions, available at [https://public.tableau.com/profile/bizlitics#!/vizhome/NYHealthDashboards\\_v4demo\\_0/AllMaps](https://public.tableau.com/profile/bizlitics#!/vizhome/NYHealthDashboards_v4demo_0/AllMaps), (last visited February 20, 2019).

- [29] Division of Environmental Health, New York City Department of Health and Mental Hygiene, *Pesticide Use by New York City Agencies in 2017*, 1, 42-43 (November 2018) (found at: <https://www1.nyc.gov/assets/doh/downloads/pdf/pesticide/pesticide-use-report2017.pdf>)
- [30] Institute of Medicine of the National Academies, "Report Brief: Damp Indoor Spaces and Health," May 2004, available at <http://www.nationalacademies.org/hmd/~media/Files/Report%20Files/2004/Damp-Indoor-Spaces-and-Health/dampindoor2pagerforPDF.pdf>; Former State Senator Jeffrey Klein, et al., "Break the Mold: Cleaning Up NYCHA's Mess," March 8, 2018, available at [https://www.nysenate.gov/sites/default/files/press-release/attachment/break\\_the\\_mold\\_full\\_report.pdf](https://www.nysenate.gov/sites/default/files/press-release/attachment/break_the_mold_full_report.pdf).
- [31] See NYCHA Admissions, Consent Decree in *USA v. NYCHA*, 18 Civ. 5213, at 1-3 (June 11, 2018), available at <https://www.epa.gov/sites/production/files/2018-06/documents/nycha-cd.pdf> (last visited on March 1, 2019).
- [32] Dan Goldberg, "The long-term health consequences of living at NYCHA," Politico, April 9, 2018, available at <https://www.politico.com/states/new-york/albany/story/2018/04/06/the-long-term-health-consequences-of-living-at-nycha-352931>.
- [33] Public Tableau, Bizlitics, NYC Health Dashboard, Lower East Health Outcomes and Neighborhood Conditions, available at [https://public.tableau.com/profile/bizlitics#!/vizhome/NYCHHealthDashboards\\_v4demo\\_0/AllMaps](https://public.tableau.com/profile/bizlitics#!/vizhome/NYCHHealthDashboards_v4demo_0/AllMaps), (last visited February 20, 2019).
- [34] Public Tableau, Bizlitics, NYC Health Dashboard, Lower East Health Outcomes and Neighborhood Conditions, available at [https://public.tableau.com/profile/bizlitics#!/vizhome/NYCHHealthDashboards\\_v4demo\\_0/AllMaps](https://public.tableau.com/profile/bizlitics#!/vizhome/NYCHHealthDashboards_v4demo_0/AllMaps), (last visited February 20, 2019).
- [35] American Lung Association, "Estimated Prevalence and Incidence of Lung Disease," May 2014, available at <https://www.lung.org/assets/documents/research/estimated-prevalence.pdf> (last visited March 10, 2019).

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**From:** envjoel@ix.netcom.com  
**Sent:** Friday, May 10, 2024 6:04 PM  
**To:** Testimony  
**Subject:** [EXTERNAL] Testimony NYC Council 5-7-2024 Joint Committees NYCHA Budget Riis Meeting Packet=.pdf; nihms148520=anno.pdf; Environmental and Public Health Issues at the Alfred E. Smith Houses May 7. 2019.docx; Carpenter's letter.RU.PP Smith Houses.pdf; Soils and Health Closing the Soil Knowledge Gap - Mielke - 2015 - Soil Horizons - Wiley Online Library.pdf; Eric Adams said their water was safe. Public housing residents say they're getting sick.pdf; Brownfield HW 23110 report extracts.pdf; Testimony NYC Council 5-7-2024 Joint Committees NYCHA Budget. by EJI.pdf

[REDACTED]

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**ENVIRONMENTAL JUSTICE INITIATIVE\*/**  
**New York Environmental Law & Justice Project**

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\* 501(c)(3) tax exempt



- A. Counsel to Alfred E Smith Resident Association, Residents for Preservation of Public Housing , many individual NYCHA Residents
- B. Executive Director - Senior Attorney at Environmental Justice Initiative
- II. Today is World Asthma Day!
  - A. NYCHA continues to put residents and workers in harm's way
  - B. Remember that the BAEZ v NYCHA law suit was based on the fact that Asthma is a recognized disability. And that asthma is exacerbated by unfettered construction and renovation that produces furtive emission of PM 2.5 and recognized environmental concern.
  - C. Contractors and Construction managers are receiving millions from FEMA funded resiliency projects to produce malfeasant non-compliant work.
  - D. Much of the improper work resulted in a major loss of trees at Smith , Baruch, and assumingly at other NYCHA developments undergoing Hurricane Sandy work. NYCHA-Capital & compliance officer Dan Green did not enforce tree protection plans (allowing soil compaction, physical damage to trunk and damage to systems) causing immediate and long range damage.
    - 1. NYCHA does not have a certified arborist on staff - to evaluate contract compliance)
- III. RIIS
  - A. Article submitted - Politico "Eric Adams said their water Public housing residents say they're getting sick.pdf"
  - B. Exposure to high level Arsenic & Lead caused by long uncovered 5 foot piled high soil piles
    - 1. Arsenic - over 4x NYS clean up objective (SCO)
    - 2. Lead - over 11x NYS clean up objective (SCO)
  - C. Re-suspension of soils see Soils and Health Closing the Knowledge Gap - Mielke - 2015 - Soil Horizons - Wiley Library.pdf
  - D. Residents walking through lead and arsenic runoff onto conveying to inside apartments
  - E. Failure to perform urine testing for arsenic of residents requested by Mt. Sinai
  - F. STATE SUPERFUND SITE 23110 at northern section
    - 1. Spectrum of toxic VOC's, SVOC's, Pesticides ( DDT) detected and documented
    - 2. SVOC and VOC vapors entering building from crawl spaces -
      - a) failure to test for mandated Vapor Intrusion
  - G. Exposure to raw sewage
  - H. Water infrastructure is not completely hygienic
    - 1. Poorly maintained and inspected Water Tanks have been found to be contaminated <https://www.fox5ny.com> › news › contamination-of-nycha-water-tanks-went-unreported Contamination of NYCHA water tanks went unreported. NEW YORK (FOX5NY.COM) - Inspection reports that were just made public reveal that insects, dead birds, and squirrels have been floating inside ...



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- A. STV - failed to supervise and comply - retained environmental air monitors

1. Caught one around corner from deleterious Concrete cutting below two teenage asthmatic tenants windows
  - V. Whistle blower information that was not heeded
    - A. Excessive unwarranted approval of expensive work change orders
    - B. Suggestion: Increase whistle blower protection
      1. City Council committees should seek input of whistle blowers
  - VI. BAD ACTOR POLICY needed
    - A. Institute procurement policy similar to NYC and NYS Bad Actor policy
  - VII. SMITH HOUSES
    - A. Diligent contractor not allowed work order changes to meet Health and Safety Plan requirements
    - B. Insufficient Soil Testing, containment, remediation and removal of toxic soils
    - C. Failure to conduct Vapor Intrusion testing.
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    - A. Many funding sources are available but not sought by NYCHA
      1. Urban Forestry Programs - planting of trees and groundcover on the vast NYCHA acreage
      2. EPA Environmental Justice Grants
  - IX. FEDERAL TECHNICAL ASSISTANCE
    - A. OSHA Strategic Partnership Program
      1. Free evaluation for increased compliance with Health and Safety of ALL (public and private workers)
      2. Spillover effect of increased H & S for all residents in proximity to work being done.
  - X. FIRE AND EMERGENCY RESPONSE
    - A. Lack of planning and drills
    - B. Change the law to mandate emergency planning and coordination such as fire drills at NYCHA developments , flood response especially for mobility challenged (ADA reqs)
  - XI. Technical Grants to NYCHA Resident Associations to perform and hire industrial hygienists
    - A. Improve Section 3 work training
  - XII. TENANT ABILITY TO PROCURE NYC AGENCY (DOH, DEP, DOB,+) ASSISTANCE, OVERSIGHT AND ENFORCEMENT THWARTED BY non-compliant 311 System
    - A. Tenant cannot lodge complaints to pertinent city agencies- disingenuously redirected to NYCHA (the bad landlord)
  - XIII. TRANSFERS UNDER RAD/PACT & TRUST cannot take place without full complete Environmental Assessment - Indoors and outdoors



A full report expanding upon this outline will be provided to the Public Housing and Finance Committees in the near future.

Yours,

Joel R Kupferman, Esq.  
Environmental Justice Initiative  
Counsel to Alfred E Smith Resident Association  
May 10, 2024

Attachments

*Joel Richard Kupferman*

Environmental Justice Initiative - NYELJP

**National Lawyers Guild- Environmental Justice Committees**, Haiti and Indigenous Peoples' Rights Committees

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\* 501(c)(3) tax exempt

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Environmental Justice Initiative  
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May 10, 2024

Attachments

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May 7, 2019

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NYC Board of Health  
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Long Island City, NY 11101-4132

**Re: Environmental and Public Health Issues at the Alfred E. Smith Houses**

Dear Ms. Garcia, Mr. Vito Mustaciuolo, Mr. Sapienza and NYC Board of Health:

The New York Environmental Law and Justice Project ("NYELJP") submits this letter on behalf of itself, its organizational affiliates, the Environmental Justice Initiative and the National Lawyers Guild's Environmental Justice Committee, and its client, the Alfred E. Smith Houses Tenants' Association, regarding the Recovery and Resiliency Project ("Project") undertaken by the New York City Housing Authority ("NYCHA") and its contractor, Navillus Tile, Inc. ("Navillus") to build flood protection structures, rebuild extant infrastructure, and increase

natural disaster resiliency. This letter follows numerous prior submissions by NYELJP addressing significant environmental and critical public health concerns engendered by Project activities. The submissions include letters and memorandums, expert declarations, soil sampling analyses done by neutral third party laboratories, historical and current exposure data from City archives and databases, and materials detailing the effects of toxic exposures on immune-compromised and healthy populations. See NYELJP submissions dated June 28, 2017, November 10, 2017, November 28, 2017, November 30, 2017, February 22, 2018, February 27, 2018, and March 19, 2018. By this letter, NYELJP makes clear that the City has been and continues to be on notice of its violations of the City's own environmental and public health laws and regulations as well as numerous federal laws and regulations, including the Toxic Substances Control Act, the Emergency Planning and Community Right-to-Know Act, and the Americans with Disabilities Act, among other laws.<sup>1</sup>

Despite the fact that the intended beneficiaries of the Project are Smith Houses residents, neither NYCHA nor its contractor has seen fit to adopt any preventative, protective, or mitigating practices to address the Project-related environmental and health hazards confronting the residents.<sup>2</sup> Instead, NYCHA has merely waived aside evidence indicating the presence of serious hazards as well as the multiple vectors for exposure, and stands on the deeply flawed Waldon Environmental Engineering Report ("Waldon Report") which states, *without support*, that Smith Houses residents face no real risks from Project activities beyond that experienced by people living near any City construction or demolition activity that disturbs the soil. See Waldon Report at 3-6. Waldon's pronouncement, and NYCHA's reliance upon it, is deeply troubling not only because it articulates the shocking principle that toxic exposures should be accepted by affected populations merely because they happen all the time, but also because it completely elides the significant health effects of exposures to environmental toxicological agents. Such callousness exhibited by a City contractor, and *accepted and sanctioned by NYCHA*, an agency mandated to care for residents living in City housing,<sup>3</sup> is astounding; and the

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<sup>1</sup> Regulations promulgated under the Toxic Substances Control Act (TSCA) such as the Renovation, Repair and Painting Rule and the Lead-based Paint Activities Rule, as well as the Residential Lead-based Paint Hazard Reduction Act's Section 1018 Lead Disclosure Rule apply to most housing and child-occupied facilities built before 1978. The regulations require lead-safe work practices and disclosure of information about lead-based paint, among other things.

<sup>2</sup> In this regard, NYELJP draws attention to the contract between NYCHA and Navillus which states that the re-use of site soils is permitted only if "they meet the project environmental requirements and specifications," and that "excavated materials unsuitable for filling or backfilling" must be "legally disposed of off-site." See Division 31 – Earthwork, Contract between NYCHA and Navillus included in prior submissions. These provisions make clear that soil testing should have been done prior to any other Project activities in order to determine contamination levels and appropriate procedures for handling contaminated soils.

<sup>3</sup> See, e.g., 24 CFR §1.4(b)(2)(i) ("A recipient, in determining the types of housing, accommodations, facilities, services, financial aid, or other benefits which will be provided under any such program or activity, or the class of persons to whom, or the situations in which, such housing, accommodations, facilities, services, financial aid, or other benefits will be provided under any such program or activity, or the class of persons to be afforded an opportunity to participate in any such program or activity, *may not, directly or through contractual or other arrangements, utilize criteria or methods of administration which have the effect of subjecting persons to discrimination because of their race, color, or national origin, or have the effect of defeating or substantially impairing accomplishment of the objectives of the program or activity as respect persons of a particular race, color, or national origin*") (emphasis supplied).

fact that NYCHA’s deference puts at great risk the City’s most vulnerable residents—young children, people with chronic respiratory illnesses, and the elderly—makes the situation even more distressing. In this regard, NYELJP calls attention to the fact that, despite NYCHA’s recent admissions regarding its failure to protect housing residents from serious lead and mold exposures,<sup>4</sup> NYCHA has *refused* to make Navillus adopt even the most basic and inexpensive measures at the Smith Houses Project site—measures such as the placement of geotextile matting, the planting of ground cover crops, and the layering of fresh soil on top of *in situ* soils—to prevent the dangerous resuspension of contaminated soils and dust and their migration into Smith Houses apartments, nearby local public schools, and their adjacent playgrounds. And finally, adding yet another layer of concern is the fact that by condoning Navillus’ failure to adopt any effective protective measures, NYCHA, as the largest public housing authority in North America and as home to 1 in 14 New Yorkers,<sup>5</sup> presents a horrific example to state and local governments around the country of how the nation’s poorest citizens may be treated.

The Housing Authority cannot in good faith rely upon on a risk assessment report that lacks both scientific integrity and legal support. The Waldon Report’s deficient risk assessment stems from its failure to examine the full spectrum of harms faced by both the Smith Houses and the public school populations—a failure that is the result of four critical errors. First, Waldon employed a deficient methodology when it failed to undertake a comprehensive soil sampling plan including all sites that could contribute to residents’ and school attendees’ exposure to the lead, arsenic, VOCs, SVOCs, barium, and cadmium found in the soil samples. See Waldon Report at 3-5 (omitting the playground sites adjacent to the public schools as well as Building number 3 soils from testing and analyses). The second methodological error is evinced by Waldon’s failure to examine the suspension, re-suspension, and dispersal of soil contaminants beyond the limited area immediately surrounding the excavations, the penetration of these contaminants into tenants’ apartments and residential and school building hallways and other common areas, the ingestion of contaminated soil by young children playing in the dirt, and the multiple avenues of exposure for individuals involved in one or more of the following activities in addition to living with the re-suspended and transported contaminated soil dust in their apartments: passing by the active sites; sitting outside near the apartment buildings; attending one of the public schools on the block; and playing in the area.

Third, Waldon’s characterization of the levels of toxic contaminants in the soil as “slight exceedances” of the Department of Environmental Conservation’s Soil Cleanup Objectives (“SCOs”) that are not of “any significant magnitude,” Waldon Report at 5, is belied by both Navillus’ and Waldon’s findings from their

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<sup>4</sup> See NYCHA Admissions, Consent Decree in *USA v. NYCHA*, 18 Civ. 5213, at 1-3 (June 11, 2018), available at <https://www.epa.gov/sites/production/files/2018-06/documents/nycha-cd.pdf> (last visited on March 1, 2019).

<sup>5</sup> New York City Housing Authority, “NYCHA 2018 Fact Sheet,” (2018), available at [https://www1.nyc.gov/assets/nycha/downloads/pdf/NYCHA-Fact-Sheet\\_2018\\_Final.pdf](https://www1.nyc.gov/assets/nycha/downloads/pdf/NYCHA-Fact-Sheet_2018_Final.pdf) (last visited on March 1, 2019).

respective samplings. For example, if one were to accept Waldon's findings on arsenic as correct,<sup>6</sup> the company's tests show an arsenic concentration level in the topmost 12 inches of soil of 42.8 milligram per kilogram (mg/kg), 18.7 mg/kg, 18.6 mg/kg, 19.8 mg/kg, and 43.2 mg/kg—concentrations far exceeding—in fact, 2.7 times—the Residential and Restricted Residential SCO of 16 ppm.<sup>7</sup> The arsenic concentrations of 85 ppm found in a prior test by NYEJLP, and 240 ppm found in tests undertaken by the Urban Soils Institute, denote an extreme health concern given that the contaminated soil is located within the area surrounding a daycare facility where very young children play outdoors for hours and near residential units without appropriate window protections. See NYEJLP's November 2018 letter, Attachment G. Toxic levels of arsenic exposure can occur through inhalation, absorption through the skin, and ingestion,<sup>8</sup> and because it is tasteless and odorless, it is quite difficult for a person to know at the outset when they are exposed to it at levels falling below the acute poisoning range of 100 mg to 300 mg.<sup>9</sup> In fact, the onset of chronic arsenic poisoning is particularly insidious given that a person exposed to concentrations above 20 mg/kg may exhibit any of several non-specific symptoms, including abdominal pain, diarrhea, or sore throat,<sup>10</sup> all of which are associated with numerous and far more benign illnesses. Long-term arsenic exposure leads to multisystem disease—including the cardiovascular, neurological, genitourinary, and respiratory systems—the most serious of which is malignancy of the skin, lungs, liver, kidneys, and bladder.<sup>11</sup>

With regard to lead concentrations, the June 2018 tests revealed an average lead concentration of 290 ppm, with three NYEJLP's samples measuring 505 ppm, 592 ppm, and 802 ppm, see NYEJLP's November 2018 letter, Attachment G, and Waldon samples showing lead concentration levels of 551 ppm and 552 ppm. Waldon Report at 4. The lead concentration of these sets of samples all exceed the SCO limit of 400 ppm, the level deemed by DEC to require remedial action.<sup>12</sup> Waldon's statement that the *average* lead concentration across all of its samples is 308 mg/kg (or 308 ppm), far from providing a justification for taking no action, instead reveals its decision to gloss over hot spots around the Smith Houses complex and disregard the soil sites posing the greatest health risk. The Housing Authority's failure to act in such circumstances defies comprehension. The US Environmental Protection Agency "has recognized that lead poisoning is the number one environmental

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<sup>6</sup> Of course, NYEJLP does not agree that the levels noted by Waldon represent a correct analysis of soil contaminants. Accordingly, this statement should not be taken as any such confirmation of either Waldon's methodology or its findings.

<sup>7</sup> 6 NYCRR § 375-6.8, Table 375-6.8(b) (2006).

<sup>8</sup> R.N. Ratnaïke, "Acute and Chronic Arsenic Toxicity," *Postgrad Med J.*, 2003, v. 79, at 391-96.

<sup>9</sup> *Id.*; W.L. Schoolmeester, D.R. White, "Arsenic Poisoning," *South Med J.*, 1980, v. 73, at 198-208. The acute lethal dose of ingested arsenic "has been estimated to be about 0.6 mg/kg/day." R.N. Ratnaïke, "Acute and Chronic Arsenic Toxicity," *Postgrad Med J.*, 2003, v. 79, at 392.

<sup>10</sup> See, e.g., Affidavit of Stephen Lester, *Matter of Daisy Wright, et al. v. New York State Department of Health*, dated April 2015; R.N. Ratnaïke, "Acute and Chronic Arsenic Toxicity," *Postgrad Med J.*, 2003, v. 79, at 393-94 (internal citations omitted).

<sup>11</sup> R.N. Ratnaïke, "Acute and Chronic Arsenic Toxicity," *Postgrad Med J.*, 2003, v. 79, at 393-94 (internal citations omitted).

<sup>12</sup> 6 NYCRR § 375-6.8, Table 375-6.8(b) (2006).

health threat in the United States for children ages 6 and younger.”<sup>13</sup> According to the Centers for Disease Control, in this country there are approximately half a million children, aged 1 through 5 years,<sup>14</sup> with blood lead levels above 5 micrograms per deciliter ( $\mu\text{g}/\text{dL}$ ), the reference level at which the CDC recommends that public health actions be initiated. However, the CDC has made clear that this action level should not be taken as a demarcation of a zone of harmless exposure because “no safe blood lead level in children has been identified.”<sup>15</sup> Indeed, even very low levels of lead in blood have been shown to result in neurologic impairments such as behavioral and learning issues, slowed growth and, in rare cases, seizures and death. Even when lead exposure is caught before the direst consequences, its effect on children is never inconsequential because the *effects of lead exposure cannot be corrected*.<sup>16</sup> Lead exposure can affect nearly every system in the body, and yet because lead exposure often occurs with no obvious symptoms, it frequently goes unrecognized and undiagnosed. It is for all of these reasons that the public health goal is to prevent children’s exposure to lead *before* they are harmed. And pursuing this objective is the most critical for populations like the residents of Smith Houses because children living at or below the poverty line who live in older housing are at greatest risk.<sup>17</sup> These were some of the concerns that moved the US Environmental Protection Agency to push through 140 federal enforcement actions in 2018 to ensure that entities like renovation contractors, landlords, property managers, realtors, and others comply with rules that protect the public from exposure to lead from lead-based paint, lead dust, chips, or other debris.<sup>18</sup>

Waldon’s findings on barium levels in the soil also indicates concentrations far exceeding the SCO limit of 400 ppm for restricted residential use and 350 ppm for residential use, with concentrations of 673 ppm, 539 ppm, and 465 ppm found in three of the samples taken. Waldon Report at 4. The company’s findings on SVOCs levels of 1090  $\mu\text{g}/\text{mg}$ , 1000  $\mu\text{g}/\text{mg}$ , 534  $\mu\text{g}/\text{mg}$ , and 508  $\mu\text{g}/\text{mg}$ , *Id.*, also exceed the SCO limit of 500  $\mu\text{g}/\text{mg}$ , with two of the samples indicating a 100 percent increase over the SCO limit.<sup>19</sup> *Id.* The levels of these carcinogenic and

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<sup>13</sup> Department of Justice Press Release, “The United States and Indiana Reach Agreement With SunCoke Energy and Cokenergy to Resolve Clean Air Act Violations at Indiana Harbor Coke Plant,” January 25, 2018, available at <https://www.justice.gov/opa/pr/united-states-and-indiana-reach-agreement-suncoke-energy-and-cokenergy-resolve-clean-air-act> (last visited on April 2, 2019).

<sup>14</sup> Children under the age of 6 years old are at risk because they are growing rapidly and because they tend to put their hands or other objects, which may be contaminated with lead dust, into their mouths.

<sup>15</sup> See CDC website information, available at <https://www.cdc.gov/nceh/lead/> (last visited on April 2, 2019).

<sup>16</sup> *Id.*

<sup>17</sup> *Id.*

<sup>18</sup> US Environmental Protection Agency, “EPA Enforcement Actions Help Protect Vulnerable Communities from Lead-Based Paint Health Hazards,” October 25, 2018, available at <https://www.epa.gov/newsreleases/epa-enforcement-actions-help-protect-vulnerable-communities-lead-based-paint-health-0> (last visited April 2, 2019). To see a full list of the 2018 lead-based paint enforcement actions: <https://www.epa.gov/enforcement/epas-lead-based-paint-enforcement-helps-protect-children-and-vulnerable-communities-2018>.

<sup>19</sup> 6 NYCRR § 375-6.8, Table 375-6.8(b) (2006).



neurotoxic agents unequivocally present a significant, and now also at this point in the Project activities timeline, a long-standing health hazard to Smith House residents and the nearby public school population.

The Waldon Report appears to be based on the fundamental misconception that the risks from exposure to contaminated soil dust posed by the Project's construction and demolition activities<sup>20</sup> are short-term and geographically limited, in other words, that they are risks which may be assessed in complete isolation from people's health status, past exposures, and experience of current exposures to other toxic agents. However, neither the law nor environmental health science permits the use of such a stunted assessment. Beyond any concern over short-term exposures to airborne toxic particulate matter ("PM") arising from Project activities, Smith Houses residents also face long-term exposures to particulate matter from contaminated soil dust that settles across the Housing complex for inhalation, ingestion, or dermal exposure after resuspension.<sup>21</sup> In addition to the plethora of studies establishing the prevalence of this risk in urban settings, New York City's own Division of Environmental Health confirmed the existence of this risk when it investigated the Project site on August 14, 2018, and issued an Inspection Report and Notice of Violation to both to Navillus and NYCHA.<sup>22</sup> The Notice of Violation states that both entities must "contain dust areas, use dust suppression methods while working," and "isolate work from the public."<sup>23</sup> The City issued the Notice of Violation after undertaking a site investigation and determining that Navillus' practices are deficient to such a degree that the public is at risk of exposure to contaminated soil dust. Given this determination, it is difficult to understand why neither NYCHA nor Navillus have seen fit to alter practices at the site to comply with the City's order.

In addition to the health risks created by short- and long-term exposures, Navillus and NYCHA fail to take into account the health status of Smith Houses residents. Given that NYCHA Housing residents now remain in their apartments on average for 22 years,<sup>24</sup> there is a high probability that many, if not all, of the residents living in Smith Houses were exposed to the extremely toxic plume of particulate matter and aerosolized compounds

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<sup>20</sup> Studies have shown that construction and demolition activities result in high local concentrations of PM<sub>10</sub>, which contains a wide variety of toxic substances and adversely affect the respiratory health of nearby residents. See D. Hansen, B. Blahout, *et al.*, *J. Hosp. Infect.*, 2008, v. 70, at 259-264; C.M. Beck, A. Geyh, *et al.*, *J. Air Waste Manage. Assoc.*, 2003, v. 53, at 1256-1264; J. Joseph, R.S. Patil and S.K.Gupta, *Environ. Monit. Assess.*, 2009, v. 159, at 85-98.

<sup>21</sup> P. J. Lioy, C. P. Weisel, J. R. Millette, S. Eisenreich, D. Vallero, J. Offenber, B. Buckley, B. Turpin, M. Zhong and M. D. Cohen, *Environ. Health Perspect.*, 2002, 110, 703; 40 M. Abu-Allaban, S. Hamasha and A. Gertler, *J. Air Waste Manage. Assoc.*, 2006, 56, 1440-1444.

<sup>22</sup> See August 14, 2018 Inspection Report and Notice of Violations issued to NYCHA and Navillus by the New York City Department of Health and Mental Hygiene, Division of Environmental Health.

<sup>23</sup> See August 14, 2018 Inspection Report and Notice of Violations issued to NYCHA and Navillus by the New York City Department of Health and Mental Hygiene, Division of Environmental Health.

<sup>24</sup> The Times reports that the average period a NYCHA tenant stays put these days is 22 years, up from 19 years in 2005 and 17 years in 1995. Mireya Navarro, "As New York Rents Soar, Public Housing Becomes Lifelong Refuge," NY Times, Aug. 3, 2015, available at <https://www.nytimes.com/2015/08/04/nyregion/as-new-york-rents-soar-public-housing-becomes-lifelong-refuge.html?partner=rss&emc=rss&r=0>.

resulting from the collapse and burning of the World Trade Center towers.<sup>25</sup> Moreover, added to this combination of exposures, Smith Houses residents have been subjected to environmental assaults stemming from the contaminated indoor dust and particulate matter generated by adjacent highways and waterways packed with toxin emitting sources.<sup>26</sup> Studies have shown that PM2.5 and PM10 concentrations are increased by local fugitive sources of particulate matter from vehicle exhaust,<sup>27</sup> road construction activities, and air and sea transportation sources (which produce particles across the range from PM2.5 to PM10).<sup>28</sup> The Smith Houses apartment complex falls within the atmospheric dispersal zone of a number of these cumulative, aggravating toxic sources; it is located on Catherine Slip on the East River, which serves as a main waterway for tug boats, water taxis, and garbage barges, it is bounded by both ground and raised highways, and it is within the flight path of jets taking off and landing at the City's two major airports. In addition to these permanent and incessant sources of toxins, there are other occasional polluting sources, such as the re-surfacing of adjacent highways<sup>29</sup> and the salting of roadways to address icy conditions.<sup>30</sup>

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<sup>25</sup> G. Stenchikov, *et al.*, "Multiscale Plume Transport From The Collapse Of The World Trade Center On September 11, 2001," *Environ Fluid Mech.*, May 2, 2006, DOI 10.1007/s10652-006-9001-8; available at [http://web.kaust.edu.sa/faculty/GeorgiyStenchikov/papers\\_wtc/StenchikovEnvFluidMech2006.pdf](http://web.kaust.edu.sa/faculty/GeorgiyStenchikov/papers_wtc/StenchikovEnvFluidMech2006.pdf); P.J. Liou, *et al.*, "Characterization of the dust/smoke aerosol that settled east of the world trade center (WTC) in Lower Manhattan after the collapse of the WTC 11 September 2001," *Environ Health Perspect.*, v. 110, pp. 703–714 (2002); P.J. Landrigan, *et al.*, "Health and environmental consequences of the WTC disaster," *Environ Health Perspect.*, v. 112, pp. 731–739 (2004); A. Huber, *et al.*, "Modeling air pollution from the collapse of the WTC and assessing the potential impacts on human exposures," *Environ Manage.*, February 2004, pp. 35–40.

<sup>26</sup> P. Kumar, A. Robins, S. Vardoulakis and R. Britter, *Atmos. Environ.*, 2010, v. 44, at 5035–5052; P. Kumar, A. Robins, S. Vardoulakis and P. Quincey, *Particology*, 2011, v. 9, at 566–571; M. Abu-Allaban, J. Gillies, A. Gertler, R. Clayton and D. Proffitt, *Environ. Monit. Assess.*, 2007, v. 132, at 155–163; S. H. Cadle, P. A. Mulawa, E. C. Hunsanger, K. Nelson, R. A. Ragazzi, R. Barrett, G. L. Gallagher, D. R. Lawson, K. T. Knapp and R. Snow, *Environ. Sci. Technol.*, 1999, v. 33, at 2328–2339; A. J. Kean, R. F. Sawyer and R. A. Harley, *J. Air Waste Manage. Assoc.*, 2000, v. 50, at 1929–1939

<sup>27</sup> P. Kumar, A. Robins, S. Vardoulakis and R. Britter, *Atmos. Environ.*, 2010, v. 44, at 5035–5052; P. Kumar, A. Robins, S. Vardoulakis and P. Quincey, *Particology*, 2011, v. 9, at 566–571; M. Abu-Allaban, J. Gillies, A. Gertler, R. Clayton and D. Proffitt, *Environ. Monit. Assess.*, 2007, v. 132, at 155–163; S. H. Cadle, P. A. Mulawa, E. C. Hunsanger, K. Nelson, R. A. Ragazzi, R. Barrett, G. L. Gallagher, D. R. Lawson, K. T. Knapp and R. Snow, *Environ. Sci. Technol.*, 1999, v. 33, at 2328–2339; A. J. Kean, R. F. Sawyer and R. A. Harley, *J. Air Waste Manage. Assoc.*, 2000, v. 50, at 1929–1939.

<sup>28</sup> G. E. Andrews, I. D. Andrews, D. W. Dixon-Hardy, B. M. Gibbs, H. Li and S. Wright, *ASME Turbo Expo 2010: Power for Land, Sea, and Air*, American Society of Mechanical Engineers, 2010, at 363–375; J. J. Corbett, J. J. Winebrake, E. H. Green, P. Kasibhatla, V. Eyring and A. Lauer, *Environ. Sci. Technol.*, 2007, v. 41, 8512–8518; T. S. Bates, P. K. Quinn, D. Coffman, K. Schulz, D. S. Covert, J. E. Johnson, E. J. Williams, B. M. Lerner, W. M. Angevine, S. C. Tucker, W. A. Brewer and A. Stohl, *J. Geophys. Res.: Atmos.*, 2008, v. 113, at D00F01.

<sup>29</sup> This includes, among other highway projects, the re-surfacing of the F.D. Roosevelt Drive, which entailed the application of 35,000 tons of asphalt over a six-month period ending on November 30, 2015. See CBS News, "\$8.5 million FDR Drive Resurfacing Project Finished Ahead of Schedule," (November 30, 2015), available at <https://newyork.cbslocal.com/2015/11/30/fdr-drive-resurfacing-project-complete/> (last visited March 10, 2019).

<sup>30</sup> Recent studies have shown that fine dry road salts migrate in excess of 300 meters after the snowpack melts, and more immediately if the salts are applied in the absence of precipitation. See J. Lazarcik, J.E. Dibb, "Evidence of Road Salt in New Hampshire's Snowpack Hundreds of Meters from Roadways," *Geosciences*, 2017, v. 7(3), 54. Rock salt causes burns when it comes into contact with the skin, and respiratory tract irritation when inhaled. Repeated exposures corrode major components of the respiratory tract.

The effects of these polluting sources is revealed in the data; the Lower East Side (“LES”) neighborhood in which the Smith Houses complex sits has higher percentages than City averages of black carbon, particulate matter, nitric oxide, nitric dioxide, and sulfur dioxide.<sup>31</sup> And adding yet another burden to this toxic environment are the years of people’s exposures to pesticides and rodenticides,<sup>32</sup> black mold,<sup>33</sup> and dust from the unremediated lead paint inside apartments and in the hallways of buildings.<sup>34</sup> Given the widespread knowledge that people in NYCHA housing complexes suffer disproportionately from respiratory illnesses<sup>35</sup>--for example, the LES has a crude rate of verified tuberculosis of 15.1 as compared to the city-wide rate of 7.2 (representing a 210% increase) and a preventable asthma hospitalization rate of 384.6 as compared to the city-wide rate of 232.9 (representing a 165% increase)<sup>36</sup>—NYCHA’s reliance on a deeply flawed report is incomprehensible. See, e.g., *Baez, Maribel et al. v New York City Housing Authority*, 13-cv-08916 (SDNY).

In this regard, EJI//NYELJP notes further that schoolchildren, a particularly vulnerable segment of the population, are being subject to multiple vectors of exposure resulting from the presence of two public schools within the immediate area of Smith Homes. One school is within located within the Smith Homes complex and another is located directly across the street from the complex, and there are three playgrounds in the immediate area, two within the complex and one adjacent to it near the school across the street. Those children living in the Smith Homes complex and attending one of the public schools are exposed to lead, arsenic, pesticides (including Roundup) and other toxic agents through at least four different vectors, including: (1) airborne particulate matter resulting from construction and demolition activities disturbing contaminated soil; (2) indoor apartment building dust and household dust resulting from the transport of contaminated soil and airborne particulates and the continual resuspension and deposition of these particulates; (3) indoor school building dust resulting from the same processes; and (4) airborne particulate matter resulting from activities on the playground during and after school. There is little doubt that children who live in the apartment complex but

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<sup>31</sup> Public Tableau, Bizlitics, NYC Health Dashboard, Lower East Health Outcomes and Neighborhood Conditions, available at [https://public.tableau.com/profile/bizlitics#!/vizhome/NYCHHealthDashboards\\_v4demo\\_0/AllMaps](https://public.tableau.com/profile/bizlitics#!/vizhome/NYCHHealthDashboards_v4demo_0/AllMaps), (last visited February 20, 2019).

<sup>32</sup> Division of Environmental Health, New York City Department of Health and Mental Hygiene, *Pesticide Use by New York City Agencies in 2017*, 1, 42-43 (November 2018) (found at: <https://www1.nyc.gov/assets/doh/downloads/pdf/pesticide/pesticide-use-report2017.pdf>)

<sup>33</sup> Institute of Medicine of the National Academies, “Report Brief: Damp Indoor Spaces and Health,” May 2004, available at <http://www.nationalacademies.org/hmd/~/media/Files/Report%20Files/2004/Damp-Indoor-Spaces-and-Health/dampindoor2pagerforPDF.pdf>; Former State Senator Jeffrey Klein, et al., “Break the Mold: Cleaning Up NYCHA’s Mess,” March 8, 2018, available at [https://www.nysenate.gov/sites/default/files/press-release/attachment/break\\_the\\_mold\\_full\\_report.pdf](https://www.nysenate.gov/sites/default/files/press-release/attachment/break_the_mold_full_report.pdf).

<sup>34</sup> See NYCHA Admissions, Consent Decree in *USA v. NYCHA*, 18 Civ. 5213, at 1-3 (June 11, 2018), available at <https://www.epa.gov/sites/production/files/2018-06/documents/nycha-cd.pdf> (last visited on March 1, 2019).

<sup>35</sup> Dan Goldberg, “The long-term health consequences of living at NYCHA,” Politico, April 9, 2018, available at <https://www.politico.com/states/new-york/albany/story/2018/04/06/the-long-term-health-consequences-of-living-at-nycha-352931>.

<sup>36</sup> Public Tableau, Bizlitics, NYC Health Dashboard, Lower East Health Outcomes and Neighborhood Conditions, available at [https://public.tableau.com/profile/bizlitics#!/vizhome/NYCHHealthDashboards\\_v4demo\\_0/AllMaps](https://public.tableau.com/profile/bizlitics#!/vizhome/NYCHHealthDashboards_v4demo_0/AllMaps), (last visited February 20, 2019).

do not attend school there visit the playgrounds near them and thereby are subjected to three of the four noted vectors for exposure. With regard to the health statuses of these children, the latest data shows an asthma hospitalization rate of 40.8 per 100,000 children ages 5-14 years in the neighborhood as compared to the city-wide rate of 37.1.<sup>37</sup> The health of elderly residents of the Smith Homes complex, many of whom are likely to suffer from respiratory disease, should be of equal concern to NYCHA given that they are subject to airborne particulate matter from Project activities, re-suspended contaminated soil dust during times they are outside, and contaminated indoor dust. According to the City's own data, 42% of all families living in Manhattan's public housing complexes are headed by an adult over the age of 62, and according to data for New York County, 7.8% of adults have asthma and 4.9% have COPD.<sup>38</sup>

Finally, the EJI//NYELJP would be remiss if it did not reiterate its deep concern over the damage to trees at Smith Houses caused by reckless Project activities. Navillus' and NYCHA's failure to hire a certified arborist to oversee this aspect of the Resiliency Project, create a comprehensive tree protection plan, preclude mechanical trenching in critical root zones, and alleviate (rather than aggravate) the severe compaction of soils surrounding the trees by undertaking pneumatic invigoration and utilizing root bio-stimulants, has likely seriously comprised the health of the trees at Smith Houses and undermined the ecosystem services these trees have long provided to Smith Houses residents, schoolchildren, and other members of the public.

The NYELJP and its client, the Smith Houses Tenants' Association, await your detailed reply to the environmental and public health concerns raised here.

Very truly yours,  
/s/  
Barbara Franco Olshansky, JD, MPH  
Joel Kupferman, Esq.  
Environmental Justice Initiative // NY Env/Law & Justice Project

CC: see attached

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<sup>37</sup> Public Tableau, Bizlitics, NYC Health Dashboard, Lower East Health Outcomes and Neighborhood Conditions, available at [https://public.tableau.com/profile/bizlitics#!/vizhome/NYCHHealthDashboards\\_v4demo\\_0/AllMaps](https://public.tableau.com/profile/bizlitics#!/vizhome/NYCHHealthDashboards_v4demo_0/AllMaps), (last visited February 20, 2019).

<sup>38</sup> American Lung Association, "Estimated Prevalence and Incidence of Lung Disease," May 2014, available at <https://www.lung.org/assets/documents/research/e-estimated-prevalence.pdf> (last visited March 10, 2019).

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And others



# Jacob Riis Houses Meeting w/ Federal Monitor

26 June 2023 / 10:00 AM / RIIS MANAGEMENT OFFICE

## Attendees

Joel Kupferman, Michael O'Hora, Federal Monitor Staff

## Agenda

### **Discuss the State of Affairs at Jacob Riis regarding NYCHA Inaction on Air Quality and Unsafe Living Conditions**

1. Presentation by Joel and Michael

### **Discuss Action Plans**

2. Joel: Discuss prior attempted actions
3. Federal Monitor: What can be done?

## **NYCHA's Inaction at Jacob Riis**

- Currently, there are massive piles of uncovered soil at the Jacob Riis houses that resident apartments are facing. The soil is contaminated with alarmingly high levels of arsenic and other heavy metals, such as lead, VOCs, SVOCs, and harmful particulate matter. A 2007 Remedial Investigation Report prepared for ConEdison contains soil sample data from the construction site at the Riis houses, where the MGP used to be. Twelve samples were taken from the site, nine exceeding the arsenic threshold level (13 ppm). This threshold level, known as the Soil Cleanup Objective (SCO), is found in CP-51, which is the Soil Cleanup Guidance Policy, issued by the New York State Department of Environmental Conservation (DEC) and the New York State Department of Health (DOH). This is the most

relevant policy as the cleanup site currently contains piles of dirt that potentially contain arsenic, endangering the health of Riis Houses residents. While the 2007 remedial investigation report may be dated, inorganic arsenic is a naturally-occurring element that does not degrade over time. The higher-than-normal levels of arsenic in the soil can be attributed to rodenticides that New York City may have used as part of a rat control program. While arsenic-based rodenticides have not been widely used since the turn of the 21st century, arsenic tends to linger in the soil given that it cannot degrade into a simpler chemical because it is a naturally-occurring element like oxygen or carbon.

- Joel Kupferman personally tested the soil and had an arsenic result of 15.9ppm, above the 13ppm level SCO unrestricted use and 72 times higher than the cancer-causing SCO of 0.22ppm for residential cleanup objectives.
- Regarding lead contamination: Again referencing the 2007 report, of the 12 samples taken, all 12 were above the threshold level of 63 mg/kg, the highest being 711 mg/kg, which is over 11x higher. Like arsenic, lead does not degrade over time as it is an element and cannot break down into a simpler compound. Soil can become “re-suspended” into the atmosphere during the warmer times of the year due to evapotranspiration, and there is a correlation with increased lead exposure in urban areas. By refusing to cover the piles of contaminated soil at the Riis property, NYCHA is allowing lead, arsenic, and other contaminants to re-suspend into the air and contaminate the air its residents breathe. This adds to why NYCHA needs to do the bare minimum of covering or removing the soil entirely.
- At least two people have died at the Riis Houses due to circumstances that are at least partially related to the arsenic contamination. One of those residents was Josefa Bonet, who died on October 1, 2022. Her physician, Dr. Joshua Rein of Mount Sinai Hospital, wrote in an October 19 letter to state Health Commissioner Dr. Mary Bassett and city

Health Commissioner Dr. Ashwin Vasan that Bonet, aged 74 when she died, had been diagnosed with kidney disease. The tests revealed a level of arsenic in her urine of 30 micrograms per liter (mcg/l) – four times the upper limit of normal but below the “overt toxicity” level of 50 mcg/L that triggers a state notification. In the letter, Dr. Rein wrote, “This value is abnormal and chronic low-grade toxicity cannot be excluded,” and “She was admitted to the hospital on Sept. 29th and passed away Oct. 1. It is possible that arsenic may have played a role in her death.” In his letter, Rein suggested to the two high-level government health officials that they use the resources at their command to expand testing of residents at Riis Houses and other public housing developments, noting that routine testing for arsenic is not often performed. Bassett did not respond at all. Health department spokesperson Cadence Acquaviva said the commissioner relied on the city to handle this issue because they were “the lead agency with oversight and medical expertise” on the Riis arsenic situation. Vasan did respond, but not for nearly another month. When he answered, on Nov. 10, the city health commissioner dismissed Rein’s concerns out of hand and blamed the arsenic levels on seafood consumption.

- As mentioned earlier, we are concerned about the lack of accountability for pesticide application, as this further contributes to the adverse health effects experienced by Riis residents. Earlier this year, one of our clients in the Riis Houses was notified that pesticide application was being performed in her building, and all requests by her to know what was in the pesticide product were unanswered.
- Although RIIS residents are vulnerable and have suffered chronic cumulative exposure, neither NYCHA, NYC DEP, DOH, nor its contractor has seen fit to adopt any preventative, protective, or mitigating practices to address the residents’ environmental and health hazards.

- According to the World Health Organization: Long-term health effects of arsenic exposure can include cancer, developmental effects, diabetes, pulmonary disease, cardiovascular disease, adverse pregnancy outcomes, and infant mortality.
- These air quality concerns do not only impact the residents of the Jacob Riis houses; they also affect both the construction workers for the Resiliency project and the Riis Houses staff.
  - ● OSHA reached out to NYCHA as part of the OSHA Strategic Partnership Program and offered to perform an inspection at no cost to NYCHA. NYCHA originally agreed to this and then backed out of the agreement. Had OSHA found any violations, this program allowed for a deferral of fines so NYCHA could have the opportunity to remedy any concerns.
- There has been a failure to examine the following: the suspension, re-suspension, and dispersal of soil contaminants; the penetration of these contaminants into tenants' apartments, school building hallways, and other residential common areas; the ingestion of contaminated soil by young children playing on the grounds.
- There are multiple avenues of exposure for individuals involved in one or more of the following activities, in addition to living with the re-suspended and transported contaminated soil dust in their apartments: passing by the active sites, sitting outside near the apartment buildings, attending one of the public schools on the block; and playing in the area.

## **Action Plan Discussion**

1. How do we ensure that these issues are addressed correctly?

- We request that NYCHA take action to control the vapor intrusion of these compounds into the resident apartments both before and during the construction process.
- We want more coordination between NYCHA and the contractors so there is less finger-pointing when a problem arises.

2. What can the Federal Monitor do to help us?



Imagine the result

**Consolidated Edison Company of New  
York, Inc.**

**Remedial Investigation Report**

**East 11<sup>th</sup> Street Works Site  
NYSDEC Site No. V00534**

November 13, 2007

**Table 12. Summary of Inorganics, Cyanide and PCBs Detected in Surface Soil - Site Characterization Data, Remedial Investigation, Former East 11th Street Works, Manhattan, New York**

Sample ID: Sample Depth (feet bgs): Date Collected:	Unrestricted Use SCOs	Units	SS-1 0 - 0.2 06/11/04	SS-2 0 - 0.2 06/11/04	SS-3 0 - 0.2 06/11/04	SS-4 0 - 0.2 06/11/04	SS-5 0 - 0.2 06/09/04	SS-6 0 - 0.2 06/09/04	SS-7 0 - 0.2 06/09/04	SS-8 0 - 0.2 06/09/04	SS-9 0 - 0.2 06/09/04	SS-10 0 - 0.2 06/09/04	SS-11 0 - 0.2 06/09/04	SS-12 0 - 0.2 06/09/04
<b>Metals</b>														
Arsenic	13	mg/kg	13.3	8.8	6.5	10.6	24.1	23.4	32.8	16	25.8	15 [12.3]	32.1	13.2
Barium	350	mg/kg	262	155	183	186	142	129	84.6	215	135	102 [90.7]	94.9	215
Cadmium	2.5	mg/kg	2	2.49	1.52	2.09	1.82	1.58	1.2	1.12	1.66	1.61 [1.25]	1.59	1.96
Chromium	1*	mg/kg	28.5	50.3	19.6	32.6	20.7	23.7	18.3	12.9	23.4	23.1 [18.7]	21.6	30.8
Chromium	30^	mg/kg	28.5	50.3	19.6	32.6	20.7	23.7	18.3	12.9	23.4	23.1 [18.7]	21.6	30.8
Lead	63	mg/kg	252	656	2,640	408	906	188	133	257	135	129 [83.2]	158	255
Mercury	0.18	mg/kg	0.89	0.82	0.86	0.86	0.75 J	0.44 J	0.58 J	0.58 J	0.93 J	0.42 J [0.48 J]	0.47 J	0.59 J
Selenium	3.9	mg/kg	0.833 J	0.968 J	0.357 U	0.803 J	0.342 U	0.461 J	0.335 U	0.343 U	0.471 J	0.364 U [0.344 U]	0.351 U	0.359 U
Silver	2	mg/kg	0.755 J	1.56	0.925 J	1.41	3.63 J	0.341 J	0.476 J	0.282 J	0.786 J	2.26 J [0.722 J]	0.895 J	0.908 J
<b>Cyanide</b>														
Cyanide	27	mg/kg	0.605 U	0.589 U	0.571 U	0.571 U	0.557 U	0.572 U	0.54 U	0.548 U	0.598 U	0.582 U [0.561 U]	0.56 U	0.573 U
<b>PCBs</b>														
Aroclor-1016	--	mg/kg	0.0063 U	0.0061 U	0.0059 U	0.0058 U	0.0057 U	0.0059 U	0.0056 U	0.0057 U	0.0061 U	0.006 U [0.0057 U]	0.0058 U	0.0059 U
Aroclor-1221	--	mg/kg	0.0043 U	0.0042 U	0.004 U	0.004 U	0.0039 U	0.004 U	0.0038 U	0.0039 U	0.0041 U	0.0041 U [0.0039 U]	0.0039 U	0.004 U
Aroclor-1232	--	mg/kg	0.0029 U	0.0028 U	0.0027 U	0.0027 U	0.0026 U	0.0027 U	0.0026 U	0.0026 U	0.0028 U	0.0028 U [0.0027 U]	0.0027 U	0.0027 U
Aroclor-1242	--	mg/kg	0.0037 U	0.0036 U	0.0035 U	0.0034 U	0.0034 U	0.0035 U	0.0033 U	0.0034 U	0.0036 U	0.0036 U [0.0034 U]	0.0034 U	0.0035 U
Aroclor-1248	--	mg/kg	0.0044 U	0.0043 U	0.0041 U	0.0041 U	0.004 U	0.0042 U	0.0039 U	0.004 U	0.0043 U	0.0042 U [0.004 U]	0.004 U	0.0041 U
Aroclor-1254	--	mg/kg	0.0016 U	0.0016 U	0.0015 U	0.0015 U	0.0015 U	0.0015 U	0.0014 U	0.0015 U	0.0016 U	0.0016 U [0.0015 U]	0.0015 U	0.0015 U
Aroclor-1260	--	mg/kg	0.0035 U	0.0035 U	0.0033 U	0.0033 U	0.0032 U	0.0034 U	0.0031 U	0.0032 U	0.0034 U	0.0034 U [0.0032 U]	0.0033 U	0.0033 U

See Notes on Page 2.

**Table 12. Summary of Inorganics, Cyanide and PCBs Detected in Surface Soil - Site Characterization Data, Remedial Investigation, Former East 11th Street Works, Manhattan, New York**

Sample ID: Sample Depth (feet bgs): Date Collected:	Unrestricted Use SCOs	Units	SS-13 0 - 0.2 06/09/04	SS-14 0 - 0.2 06/09/04	SS-15 0 - 0.2 06/09/04	SS-16 0 - 0.2 06/09/04	SS-17 0 - 0.2 06/09/04	SS-18 0 - 0.2 06/09/04	SS-19 0 - 0.2 06/09/04	SS-20 0 - 0.2 06/09/04	SS-22 0 - 0.2 08/18/04	SS-23 0 - 0.2 08/18/04	SS-24 0 - 0.2 08/18/04	SS-25 0 - 0.2 08/18/04	SS-26 0 - 0.2 08/18/04
<b>Metals</b>															
Arsenic	13	mg/kg	54.4	33.1	46.8	32.3	14.3	7.21	7.98	5.63	8.76 J	10.7 J	12.1 J	15.5 J	6.9 J
Barium	350	mg/kg	61.5	84.1	50.4	137	246	121	99.7	253	82.3	87.7	181	109	105
Cadmium	2.5	mg/kg	1.13	1.38	0.769	1.53	1.96	1.64	1.04	1.37	0.054 U	0.053 U	0.212 J	0.057 U	0.055 U
Chromium	1*	mg/kg	16.7	16.3	14.5	19.2	17.9	19.9	22.5	17.6	26.1 J	35.1 J	34.2 J	22.9 J	23.9 J
Chromium	30^	mg/kg	16.7	16.3	14.5	19.2	17.9	19.9	22.5	17.6	26.1 J	35.1 J	34.2 J	22.9 J	23.9 J
Lead	63	mg/kg	98.8	101	78.8	97.7	578	123	238	265	376	429	711	246	364
Mercury	0.18	mg/kg	0.5 J	0.36 J	0.54 J	0.52 J	1.2 J	0.53 J	0.46 J	0.48 J	0.37 J	0.41 J	0.46 J	0.44 J	0.25 J
Selenium	3.9	mg/kg	0.355 U	0.583 J	1.69	0.35 U	0.344 U	0.564 J	0.554 J	0.864 J	1.84	2.34	2.28	1.49	1.62
Silver	2	mg/kg	0.344 J	0.397 J	0.119 J	0.33 J	3.1 J	0.611 J	0.624 J	0.661 J	0.31 J	0.334 J	0.132 UJ	0.262 J	0.126 UJ
<b>Cyanide</b>															
Cyanide	27	mg/kg	0.568 U	0.597 U	0.577 U	0.559 U	0.556 U	0.551 U	0.529 U	0.561 U	2.93	3.48	0.629 U	0.621 U	0.598 U
<b>PCBs</b>															
Aroclor-1016	--	mg/kg	0.0059 U	0.0061 U	0.0059 U	0.0057 U	0.0058 U	0.0057 U	0.0055 U	0.0058 U	0.0061 U	0.006 U	0.0064 U	0.0064 U	0.0062 U
Aroclor-1221	--	mg/kg	0.004 U	0.0042 U	0.004 U	0.0039 U	0.0039 U	0.0039 U	0.0037 U	0.0039 U	0.0042 U	0.0041 U	0.0044 U	0.0044 U	0.0042 U
Aroclor-1232	--	mg/kg	0.0027 U	0.0028 U	0.0027 U	0.0026 U	0.0027 U	0.0026 U	0.0025 U	0.0027 U	0.0028 U	0.0028 U	0.003 U	0.003 U	0.0029 U
Aroclor-1242	--	mg/kg	0.0035 U	0.0036 U	0.0035 U	0.0034 U	0.0034 U	0.0034 U	0.0033 U	0.0034 U	0.0036 U	0.0036 U	0.0038 U	0.0038 U	0.0037 U
Aroclor-1248	--	mg/kg	0.0041 U	0.0043 U	0.0041 U	0.004 U	0.004 U	0.004 U	0.0038 U	0.004 U	0.0043 U	0.0042 U	0.0045 U	0.0045 U	0.0043 U
Aroclor-1254	--	mg/kg	0.0015 U	0.0016 U	0.0015 U	0.0015 U	0.0015 U	0.0015 U	0.0014 U	0.0015 U	0.0016 U	0.0016 U	0.0017 U	0.0017 U	0.0016 U
Aroclor-1260	--	mg/kg	0.0033 U	0.0035 U	0.0033 U	0.0032 U	0.0033 U	0.0032 U	0.0031 U	0.036	0.041 NJ	0.048 NJ	0.24	0.059	0.065



**Table 12. Summary of Inorganics, Cyanide and PCBs Detected in Surface Soil - Site Characterization Data, Remedial Investigation, Former East 11th Street Works, Manhattan, New York**

**Notes:**

J = indicates an estimated value.

U = indicates the constituent was not detected at the PQL. The value preceding the U indicates the PQL.

mg/kg = milligrams per kilogram.

bgs = below ground surface.

PQL = practical quantitation limit.

NYCRR = New York State Codes Rules and Regulations.

SCOs = Soil Cleanup Objectives according to 6 NYCRR Subpart 375-6 *Remedial Program Soil Cleanup Objectives*.

-- = no SCO exists for the specified compound.

PCBs = polychlorinated biphenyls.

\* = criterion for hexavalent chromium

^ = criterion for trivalent chromium

Bolded and shaded values exceed the Unrestricted Use SCOs.



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Division of Nephrology and Hypertension  
Mount Sinai Union Square  
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October 19, 2022

Dr. Mary Bassett MD, MPH  
Commissioner, New York State Department of Health  
Corning Tower Building  
Albany, New York 12237  
518-474-2011  
mary.bassett@health.ny.gov

Ashwin Vasani, MD, PhD  
Commissioner, New York City Department of Health and Mental Hygiene  
42-09 28th St  
Long Island City, NY 11101  
avasani@health.nyc.gov

Dear Dr. Mary Bassett and Dr. Ashwin Vasani:

I am a nephrologist and would like to bring a public health concern to your attention. I evaluated a 74 year-old woman with chronic kidney disease on September 15, 2022. She lives in NYCHA Jacob Riis Houses (765 FDR Drive, Lower East Side) and expressed concern about arsenic contamination of her drinking water. She was told by her building to not drink the water in early September, which was widely reported in the news. However, the advisory was later retracted as the positive test was attributed to a "false reading", yet there seems to be ongoing controversy surrounding this scandal.

A 24 hour urine total arsenic level was checked that resulted on October 4th at 39 mcg/L (4x the upper limit of normal). Although this level is not consistent with overt toxicity and is below the State mandated reporting level of 50 mcg/L, this value is abnormal and chronic low-grade toxicity cannot be excluded. She was admitted to the hospital on September 29th for pneumonia and passed away on October 1<sup>st</sup>. It is possible that arsenic may have played a role in her death.

Since 24 hour urine collections to evaluate arsenic levels are rarely done, the prevalence of chronic low level arsenic toxicity is likely underestimated. Out of concern for the well-being of everyone who lives in that housing complex, and potentially other housing complexes, I implore both of you to utilize the power of your respective Departments to investigate this public health problem.

The patient's medical information and her families' contact information can be provided to you upon request.

Thank you for your time and consideration.

Sincerely,

Joshua Rein, DO  
Assistant Professor of Medicine  
Barbara T. Murphy Division of Nephrology  
Icahn School of Medicine at Mount Sinai



**NEW YORK CITY DEPARTMENT OF  
HEALTH AND MENTAL HYGIENE**

Ashwin Vasana, MD, PhD

*Commissioner*

**Ashwin Vasana, MD, PhD**

*Commissioner*

**Gotham Center**

**42-09 28th St.**

**Long Island City, NY 11101**

November 10, 2022

Joshua Rein, DO  
Division of Nephrology and Hypertension  
Mount Sinai Union Square  
10 Union Square East, Suites 2E and 2F  
New York, NY 10003

Dear Dr. Rein,

Thank you for your October 19, 2022, letter expressing concerns about the health effects of arsenic in drinking water and asking for additional investigations of the water conditions at the Jacob Riis Houses and other large housing developments in New York City (NYC). I am sorry to hear that your patient, a Riis Houses resident, recently died and as a physician, I know how difficult it is to lose a patient. I want to share information about arsenic in water and the Jacob Riis Houses investigation that took place in September 2022.

Arsenic in the diet is the main source of arsenic exposure in New York City. The New York State Health Department maintains a Heavy Metal Registry and collects reports of elevated arsenic levels from clinical laboratories and physicians. The NYC Health Department interviews NYC residents with very high arsenic levels, so we can report that it is not unusual to find that people who have recently eaten foods that can be higher in arsenic, such as rice, shellfish, seaweed, fish, and fruit juices, have elevated total urine arsenic levels.

NYC drinking water is routinely tested by the NYC Department of Environmental Protection (DEP), including for arsenic. DEP reports that it has never identified levels of arsenic above the Environmental Protection Agency's Maximum Contaminant Level. In 2021, for example, [DEP reported](#) that arsenic was not detected in any sample.

Regarding Jacob Riis Houses, the NYC Housing Authority (NYCHA) was investigating resident complaints of cloudy water and contracted with an environmental consultant to conduct water sampling. The contractor used a laboratory that was not NYS-certified to analyze the samples. The laboratory reported elevated levels of arsenic in the water, and as a precaution, the NYC Health Department advised

NYCHA to retest the water and to issue a warning for residents not to drink the building's water until further investigation was conducted. NYCHA contracted with a different environmental consultant, and on re-testing, using a NYS-certified laboratory, arsenic levels in the water from the Jacob Riis Houses were found to meet drinking water standards. Then, the original consultant determined that it had made an error in the laboratory analysis and had erroneously introduced arsenic into the samples. That laboratory sent NYCHA a letter fully retracting the results. NYCHA continues to test the water and has not found elevated levels of arsenic in Riis House water. The Health Department has advised residents that they can return to their usual tap water use.

To see more information, including a copy of the letter from the original laboratory retracting the report of elevated arsenic levels, please see this presentation: [Riis-Houses-Water-Quality-Update-Eng-Oct-2022.pdf \(nyc.gov\)](#)

Because the original report of arsenic elevation was a lab error; longstanding, robust testing of NYC drinking water shows it is not considered a source of arsenic exposure; and that additional testing at Riis Houses confirms that arsenic in water is not a concern, we do not think that further water testing for arsenic is warranted for Jacob Riis Houses or other buildings.

Thank you again for your concern for the health and well-being of New Yorkers.

Sincerely,



Ashwin Vasani, MD, PhD  
Commissioner  
New York City Department of  
Health and Mental Hygiene

cc: Mary Bassett, MD, MPH  
Commissioner, NYS Department of Health

Jacob RIIS Meeting EJI, Resident Assoc. &  
Federal Monitor Meeting







July 19, 2018

To Whom It May Concern:

This concerns the activities ongoing at the Alfred E. Smith NYCHA Housing complex. I have reviewed the documentation forwarded to me by the Environmental Law and Justice Project as counsel for the tenants association. The major concern is the level of contaminants in soil and the possibility of further exposure resulting from the continuing rebuild work proposed. This includes more trenching, and tree mitigation using pneumatic excavation, which will generate the dispersion of dust particles in the air.

The soil in this community is significantly contaminated with toxic metals, especially lead, arsenic and dangerous organic chemicals such as polycyclic aromatic hydrocarbons (PAHs). Lead, a very toxic neurotoxicity to both children and adults, is present in soil at a concentration nearly twice the Restricted Residential Use standard. In addition, elevated levels of 85 ppm of arsenic were found in a tree well at a NYCHA property daycare, which a known human cancer-causing chemical. This is of great concern for children's exposure when playing outside. Also, the levels of PAHS, which are known carcinogens, are present at between 2 and 20 times the concentration limit set by same standard. Not only do NYCHA residents already experience high levels of lead exposure within the buildings, as revealed by the U.S. Attorney General's findings, but they also now must cope with significantly contaminated soils.

When exceedance to these standards are found, the soils should be either removed and taken to a landfill or covered well with clean soil. The use of pneumatic excavation, known as AIRSPADE, as a way to invigorate the soil from construction damage caused to trees is concerning. The compressed air to de-compact the soil can generate volumes of fine dust and projectiles, which can expose residents to the toxic contaminated dust drift. It is extremely important that best practices and utmost care be taken with the AIRSPADING process such as using a protective barrier like a tent or tarp, using water ahead of time as a water suppressant, or any other method to reduce airborne dust.

Many occupants in public housing projects are already at risk of ill health for a variety of reasons. It is critically important that additional threats to their health resulting from exposure to contaminants in the local soils be avoided.

Yours sincerely,



David O. Carpenter, M.D.  
Director, Institute for Health and the  
Environment  
University at Albany





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## Migration of Contaminated Soil and Airborne Particulates to Indoor Dust

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### Abstract

We have developed a modeling and measurement framework for assessing transport of contaminated soils and airborne particulates into a residence, their subsequent distribution indoors via resuspension and deposition processes, and removal by cleaning and building exhalation of suspended particles. The model explicitly accounts for the formation of house dust as a mixture of organic matter (OM) such as shed skin cells and organic fibers, soil tracked-in on footwear, and particulate matter (PM) derived from the infiltration of outdoor air. We derived formulas for use with measurements of inorganic contaminants, crustal tracers, OM, and PM to quantify selected transport parameters. Application of the model to residences in the U.S. Midwest indicates that As in ambient air can account for nearly 60% of the As input to floor dust, with soil track-in representing the remainder. Historic data on Pb contamination in Sacramento, CA, was used to reconstruct sources of Pb in indoor dust, showing that airborne Pb was likely the dominant source in the early 1980s. However, as airborne Pb levels declined due to the phase out of leaded gasoline, soil resuspension and track-in eventually became the primary sources of Pb in house dust.

### Introduction

Inorganic contaminants can migrate to indoor environments via infiltration of outdoor air containing suspended PM and track-in of soil adhering to footwear (1,2). Examples include the transfer of contaminants into houses derived from atmospheric emissions (3) and metals associated with mining operations (4). After entering a residence, inorganic substances present in soil and airborne particles become incorporated into household dusts, which serve as a primary reservoir for such substances (5). Young children can have elevated contaminant exposures because they exhibit behaviors that increase indirect ingestion by way of hand-to-mouth activities and mouthing of various dust-contaminated objects, and ingest dust at rates that are greater than adults on a body-weight basis (6). For contaminants such as As and Pb indirect ingestion often constitutes the principal exposure mechanism for children (4,7), and therefore health-risk assessments need to address transport mechanisms that bring contaminants indoors as well as the factors that influence contaminant concentrations on contact surfaces indoors. Of special interest are fractionation/dilution processes applicable to soil/dust particles that adhere to hands and footwear and the implications for soil/dust sampling. It is also important to characterize relationships between contaminant source terms and

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Supporting Information Available

The Supporting Information provides details on the derivation of the mass-balance equations and the data sources used to quantify model parameters. This material is available free of charge via the Internet at <http://pubs.acs.org>.

outdoor-to-indoor transport processes in order to design, implement, and evaluate measures for managing health risks at contaminated sites (e.g. Superfund sites).

Conceptual frameworks (3,8) and models for simulating transport processes involving contaminated soils and indoor dusts have been presented by several investigators (1,8–10). These studies, however, were not specifically designed to support assessments of dermal contacts with house dusts containing inorganic substances derived from both outdoor air and exterior soils. We have therefore devised a modeling and measurement framework to address the primary exposure media in residences related to indirect ingestion, consisting of floor dust and dust fall landing on horizontal contact surfaces. Because of the key role of house dust as both a transport and exposure medium, we simulate its formation as well as its redistribution indoors via resuspension and deposition processes and removal by cleaning. To guide the process of model parameterization, we present equations that are used in conjunction with site-specific measurements of inorganic substances in indoor and outdoor media to quantify model parameters involving particle transport and building properties. We also conduct sensitivity/uncertainty analyses to identify which parameters have the greatest impact on model predictions.

## Methods

Movement of inorganic substances to the indoor environment and subsequent incorporation and redistribution in indoor dusts, as depicted in Figure 1, is governed largely by human activities, the built environment, and the nature and sources of outdoor contamination. Track-in of soil on footwear, for example, is a transport pathway that is a function of the number of adults in a household, amount of time children spend outdoors, etc. (11). In addition, walking and other activities resuspend floor/carpet particles to indoor air, which are then redeposited on indoor surfaces and vented from the house via air exchange processes (1). Cleaning activities remove dust accumulations on indoor surfaces (and also resuspend/redistribute dust), but their frequency and effectiveness varies according to cleaning devices used, types of floor surfaces (12), and cleaning behaviors of residents. As the duration between cleaning activities increases, floor dust loading (i.e., mass of dust per unit surface area) increases, as does resuspension of floor particles because of increased mass of resuspendable floor dust.

Relevant characteristics of the built environment affecting the flux of suspended outdoor particles to indoor air include the air exchange rate of a house and effectiveness of the building shell in filtering out airborne particles. Filters in air handling units will also remove suspended PM. Indoor air volume (determined by ceiling height and floor area) controls in part the predicted concentration of airborne particles. Floor area influences the magnitude of dust loading and retention on floors. Particles penetrating the building shell are subsequently deposited onto horizontal surfaces or vented from the house. The chemical composition of both suspended dust and dust fall is a function of particles that have penetrated the building shell and particles resuspended from floor surfaces—which are a mix of particles from tracked-in soil, indoor sources of OM, and deposited particles derived from outdoor air.

## Transport Relationships

The transfer of inorganic substances in outdoor air and soil to the interior of a residence, and their subsequent fate in indoor dust can be formulated as a two-compartment model consisting of an air compartment linked to a floor compartment via resuspension and deposition processes. We have defined a system of time-varying mass-balance relationships that simulate dust fall and the bulk accumulation and loss of particles on floor surfaces together with the associated concentration of an inorganic contaminant/tracer in those exposure media (See Supporting Information for derivation). PM entering the indoor environment is assumed to be uniformly mixed in the indoor air of a naturally ventilated residence and evenly distributed on floor

surfaces. Emissions of submicrometer particles from smoking and cooking represent minor contributors to dust due to their low deposition loss rates (13), and therefore they are not addressed in the model. We define the flux of OM to floors as a lumped parameter to represent the input of lint, skin particles, organic fibers, food debris, etc. to floors. The concentration ( $\text{g g}^{-1}$ ) of OM in dust as well as soil and airborne PM is operationally defined by the mass loss on ignition (14).

As a means of examining the transport processes addressed in the mass-balance relationships, we have derived steady-state solutions for selected model parameters. The mass loading of dust on floor surfaces ( $M_{fl}$  in  $\text{g m}^{-2}$ ) under steady-state conditions is a function of (a) inputs to floor surfaces from the track-in of soils on footwear, OM fluxes from indoor sources, and the deposition of suspended dust and (b) removal by cleaning and resuspension, or

$$M_{fl} = \frac{T_s + F_{om} + D_F A_{fl}}{A_{fl}(R + CLN)} \quad (1)$$

where  $T_s$  is the rate of soil track-in on footwear to a residence ( $\text{g d}^{-1}$ );  $F_{om}$  is the flux of OM onto floor surfaces ( $\text{g d}^{-1}$ );  $D_F$  is the rate of dust fall to floors ( $\text{g m}^{-2} \text{d}^{-1}$ );  $A_{fl}$  is the floor area of a residence ( $\text{m}^2$ );  $R$  is the resuspension rate of floor particles to indoor air ( $\text{d}^{-1}$ ); and  $CLN$  defines the first-order particle removal rate from floors due to cleaning activities ( $\text{d}^{-1}$ ). The equation for determining the rate of dust fall indoors is given by

$$D_F = \frac{P \text{Ach} H \text{TSP}_o \bar{v}_o}{(\text{Ach} H + \bar{v}_o)} \bar{v}_o + \frac{R M_{fl}}{(\text{Ach} H + \bar{v}_r)} \bar{v}_r \quad (2)$$

The first term represents the deposition of outdoor-derived PM that penetrates the building shell, where  $\text{Ach}$  is the air exchange rate ( $\text{d}^{-1}$ ) for a residence;  $\text{TSP}_o$  is total suspended PM in outdoor air ( $\text{g m}^{-3}$ );  $H$  is the ceiling height (m);  $P$  is the dimensionless penetration factor representing the particle removal efficiency of the building shell (where  $0 \leq P \leq 1$ ); and  $\bar{v}_o$  is the mean deposition velocity ( $\text{m d}^{-1}$ ) of outdoor-derived PM settling onto floors. The second term in Eq. 2 quantifies the deposition rate of airborne dust generated by the resuspension of floor dust by human activities (i.e., walking, cleaning, vacuuming, etc.), where  $\bar{v}_r$  is the mean deposition velocity ( $\text{m d}^{-1}$ ) of resuspended dust settling on floors. The dust fall rate can also be calculated as the product of the concentration of TSP in indoor air (denoted  $\text{TSP}_{in}$  in  $\text{g m}^{-3}$ ) and the mean deposition velocity of suspended dust particles (denoted  $\bar{v}_{in}$  in  $\text{m d}^{-1}$ ), that is,  $D_F = \text{TSP}_{in} \times \bar{v}_{in}$ .

The concentration of an outdoor-derived inorganic substance in dust fall, denoted  $C_{df}^s$  ( $\mu\text{g g}^{-1}$ ), is given by

$$C_{df}^s = \frac{\text{Ach} H C_{tsp_o}^s P \text{TSP}_o \bar{v}_o (\text{Ach} H + \bar{v}_r) + C_{fl}^s M_{fl} R \bar{v}_r (\text{Ach} H + \bar{v}_o)}{\text{Ach} H P \text{TSP}_o \bar{v}_o (\text{Ach} H + \bar{v}_r) + M_{fl} R \bar{v}_r (\text{Ach} H + \bar{v}_o)} \quad (3)$$

where  $C_{tsp_o}^s$  is the bulk concentration of the substance in suspended outdoor air particles ( $\mu\text{g g}^{-1}$ ) and  $C_{fl}^s$  is its concentration in floor dust ( $\mu\text{g g}^{-1}$ ), which can be calculated from

$$C_{fl}^s = \frac{(\bar{v}_o(C_{om}^s F_{om} + C_s^s T_s) + Ach H(C_s^s T_s + A_{fl} P C_{tsp-o}^s TSP_o \bar{v}_o))}{\bar{v}_o(F_{om} + T_s + Ach A_{fl} P TSP_o H) + Ach H(F_{om} + T_s)} \quad (4)$$

where  $C_s^s$  is the concentration of the substance in outdoor soil ( $\mu\text{g g}^{-1}$ ) and  $C_{om}^s$  is its concentration in OM ( $\mu\text{g g}^{-1}$ ). An alternative equation for determining  $M_{fl}$  that does not use  $D_F$  as an input parameter is

$$M_{fl} = \frac{(\bar{v}_r + Ach H)(\bar{v}_o(F_{om} + T_s) + Ach H(F_{om} + T_s + A_{fl} P TSP_o \bar{v}_o))}{A_{fl}(\bar{v}_o + Ach H)(CLN(\bar{v}_r + Ach H) + R Ach H)} \quad (5)$$

The product of  $C_{fl}^s$  and  $M_{fl}$  represents the loading of a substance on floor surfaces, denoted  $W_{fl}^s$  ( $\mu\text{g m}^{-2}$ ).

Contaminant inputs/outputs for floors (in  $\mu\text{g d}^{-1}$ ) via deposition from outdoor-derived air PM (denoted  $IN_{air}$ ) plus soil tracking ( $IN_{track}$ ) and subsequent removal by building exhalation of resuspended particles ( $OUT_{exh}$ ) and cleaning ( $OUT_{cln}$ ) are calculated from these formulas:

$$IN_{air} = \frac{Ach P H C_{air}^s}{(\bar{v}_o + Ach H)} \bar{v}_o A_{fl} \quad (6)$$

$$IN_{track} = C_s^s T_s \quad (7)$$

$$OUT_{exh} = \frac{M_{fl} C_{fl}^s R}{(\bar{v}_r + Ach H)} Ach H A_{fl} \quad (8)$$

$$OUT_{cln} = CLN A_{fl} M_{fl} C_{fl}^s \quad (9)$$

where  $C_{air}^s$  is the contaminant concentration in air ( $\mu\text{g m}^{-3}$ ) and equals  $C_{tsp-o}^s \times TSP_o$ .

### Parameter Estimation

Several parameters in our analytical formulation cannot be measured directly or are otherwise difficult to quantify. We have therefore developed a series of formulas that can be used in conjunction with site-specific measurements of crustal soil tracers or inorganic contaminants in indoor and outdoor media along with TSP levels in indoor and outdoor air, dust loading on floors, rate of dust fall, and ceiling height. If the air exchange rate for residences can be specified, then the penetration factor is calculated as

$$P = \frac{D_F(C_{df}^s - C_{fl}^s) - Ach H TSP_{in}(C_{fl}^s - C_{tsp-in}^s)}{Ach H TSP_o(C_{tsp-o}^s - C_{fl}^s)} \quad (10)$$

Otherwise, if P can be specified, then

$$Ach = \frac{D_f(C_{df}^s - C_{fl}^s)}{TSP_{in}H(C_{fl}^s - C_{tsp-in}^s) + PH TSP_o(C_{tsp-o}^s - C_{fl}^s)} \quad (11)$$

The resuspension rate, given P calculated from Eq. 10, is

$$R = \frac{D_f + Ach H(TSP_{in} - P TSP_o)}{M_{fl}} \quad (12)$$

Deposition velocity estimates for outdoor-derived particles and resuspended particles indoors are

$$\bar{v}_o = - \frac{D_f(C_{df}^s - C_{fl}^s)}{TSP_{in}(C_{fl}^s - C_{tsp-in}^s)} \quad (13)$$

$$\bar{v}_r = \frac{D_f(C_{tsp-o}^s - C_{df}^s)}{TSP_{in}(C_{tsp-o}^s - C_{tsp-in}^s)} \quad (14)$$

Dual measurements of the concentrations of OM and inorganic substances (i.e., crustal tracers and/or contaminants) in indoor and outdoor media together with data on building properties,  $TSP_o$ , and  $\bar{v}_o$  can be used to determine the OM flux to floors and the soil track-in rate:

$$F_{om} = \frac{Ach A_{fl} H P TSP_o \bar{v}_o (C_{fl}^s(C_{fl}^{om} - C_{tsp-o}^{om}) + C_{tsp-o}^s(C_{fl}^{om} - C_{fl}^{om}) + C_{fl}^s(C_{tsp-o}^{om} - C_{fl}^{om}))}{(\bar{v}_o + Ach H)(C_{fl}^s(1 - C_{fl}^{om}) + C_{fl}^s(C_{fl}^{om} - 1) + C_{om}^s(C_{fl}^{om} - C_{fl}^{om}))} \quad (15)$$

$$T_s = \frac{Ach A_{fl} H P TSP_o \bar{v}_o (C_{tsp-o}^s(1 - C_{fl}^{om}) + C_{fl}^s(C_{tsp-o}^{om} - 1) + C_{om}^s(C_{fl}^{om} - C_{tsp-o}^{om}))}{(\bar{v}_o + Ach H)(C_{fl}^s(1 - C_{fl}^{om}) + C_{fl}^s(C_{fl}^{om} - 1) + C_{om}^s(C_{fl}^{om} - C_{fl}^{om}))} \quad (16)$$

where  $C_{fl}^{om}$ ,  $C_s^{om}$ , and  $C_{tsp-o}^{om}$  are the concentrations of OM in floor dust, soil, and outdoor TSP ( $g\ g^{-1}$ )

### Soil Resuspension Model

Contaminants deposited onto surficial, undisturbed soils are subject to redistribution via aeolian resuspension (15), which constitutes a potential source term for the indoor environment due to infiltration of suspended particles across the exterior shell of a residence. In general, resuspension decreases with time as the deposited contaminant undergoes weathering processes (e.g., incorporation of the contaminant within a soil matrix, vertical migration in soil, etc.) that reduces the erodability of a surficial soil contaminant. The concentration of a soil contaminant in air due to resuspension can be determined from (16)

$$C_{\text{air}}^{\text{s}} = C_{\text{L}}^{\text{s}} S_{\text{f}}, \quad (17)$$

where  $C_{\text{air}}^{\text{s}}$  is the concentration of a soil contaminant in outdoor air ( $\mu\text{g m}^{-3}$ ),  $C_{\text{L}}^{\text{s}}$  is the accumulated deposition of a contaminant per unit surface area of soil ( $\mu\text{g m}^{-2}$ ), and  $S_{\text{f}}$  is the resuspension factor ( $\text{m}^{-1}$ ). The value of  $C_{\text{L}}^{\text{s}}$  can be calculated as the product of  $C_{\text{s}}^{\text{s}}$ , the soil depth applicable to resuspension,  $d$ , (m), and soil density,  $\rho$  ( $\text{g m}^{-3}$ ). For aged soil sources the value of  $S_{\text{f}}$  is approximately  $10^{-9} \text{ m}^{-1}$  (16).

### Model Assessment

As a means of analyzing the factors controlling the transfer of soil and airborne contaminants to residential environments, we used the assessment framework to reconstruct transport mechanisms associated with residential locations in the U.S. and The Netherlands. Information on the U.S. residences is from the National Human Exposure Assessment Survey (NHEXAS) involving six Midwestern states (17) and a study of Pb contamination involving residences in Sacramento, CA (18). Residences in The Netherlands were from a neighborhood near a secondary Pb smelter in the city of Arnhem (19). A detailed description of the multi-media sampling performed for each study is provided in the Supporting Information.

## Results and Discussion

### Transport Parameters

We used monitoring data collected for the NHEXAS Midwest and Arnhem residences to estimate both building (i.e., penetration factor and air exchange rate) and transport parameters (i.e., resuspension rate and particle deposition velocities) utilizing Eqs. 10–14. The NHEXAS data set included information on the smoking status of households, which we used to identify nonsmoking households that had data on the concentrations of As in both indoor dust and airborne TSP. Analyses of the relevant concentration data indicated that they can be represented by lognormal probability distributions (See Supporting Information). The geometric mean (GM) concentrations of TSP in indoor and outdoor air were  $2.8 \times 10^{-5}$  and  $2.4 \times 10^{-5} \text{ g m}^{-3}$ , respectively, while the associated As concentrations in the suspended PM ( $C_{\text{tsp, in}}^{\text{s}}$  and  $C_{\text{tsp, o}}^{\text{s}}$ ) were  $15 \mu\text{g g}^{-1}$ . The geometric mean rate of dust fall ( $D_{\text{F}}$ ) was  $3.0 \times 10^{-3} \text{ g m}^{-2} \text{ d}^{-1}$  and the related As content of dust fall ( $C_{\text{df}}^{\text{s}}$ ) was  $7.4 \mu\text{g g}^{-1}$ . The dust loading on floors ( $M_{\text{fl}}$ ) was  $0.28 \text{ g m}^{-2}$ . Clayton et al. (17) estimated a median concentration of As in the floor dust of NHEXAS residences ( $C_{\text{fl}}^{\text{s}}$ ) as  $5.8 \mu\text{g g}^{-1}$ . For comparison, the GM concentration of As in soils ( $C_{\text{s}}^{\text{s}}$ ) in the eastern U.S. is  $4.8 \mu\text{g g}^{-1}$  (20) — a factor of 5.6 lower than its concentration in airborne particles. The elevated value of  $C_{\text{tsp, o}}^{\text{s}}$  likely reflects the impact of atmospheric As emissions from fossil fuel combustion (21).

Assuming a ceiling height of 2.4 m (default value for all analyses) and an air exchange rate equal to  $8.6 \text{ d}^{-1}$  for houses in the climate zones associated with Midwestern states (22), the estimated value of  $P$  is 0.96 (from Eq. 10). The deposition velocity for outdoor-derived particles infiltrating the residences ( $\bar{v}_{\text{o}}$ ) is equal to  $18.6 \text{ m d}^{-1}$  (Eq. 13), whereas the deposition velocity predicted for resuspended particles ( $\bar{v}_{\text{r}}$ ) is  $175 \text{ m d}^{-1}$  (Eq. 14). The deposition velocity for  $\text{TSP}_{\text{in}}$  ( $\bar{v}_{\text{in}}$ ) is  $107 \text{ m d}^{-1}$  and the estimated resuspension rate ( $R$ ) is  $0.011 \text{ d}^{-1}$  (Eq. 12). The value for  $P$  is near its upper limit of 1, which means that the ambient As-bearing aerosols were able to effectively penetrate the building shells of the residences surveyed. The estimated value of  $\bar{v}_{\text{o}}$  for outdoor-derived particles falls within the range of 14 to  $26 \text{ m d}^{-1}$  reported in Thatcher and Layton (1) for particles 1 to  $5 \mu\text{m}$  in diameter, which corresponds to the sizes of most crustal elements in airborne particulates (23). Our estimate of  $\bar{v}_{\text{r}}$  is also within the range of 135

and  $234 \text{ m d}^{-1}$  they reported for the larger particles associated with resuspension (i.e., 10 to  $25 \text{ }\mu\text{m}$  and  $> 25 \text{ }\mu\text{m}$  in diameter, respectively). We also note that our reconstructed value for R is a daily value, and thus resuspension rates for active, nonresting hours of residents will be higher (24).

The Arnhem study provided data on the Pb composition of indoor and outdoor TSP as well as indoor dusts for about 100 houses in a single neighborhood. Study results were undifferentiated by smoking status of the households, and the ratio of  $\text{TSP}_{\text{in}}$  ( $1.20 \times 10^{-4} \text{ g m}^{-3}$ ) to  $\text{TSP}_{\text{o}}$  ( $6.40 \times 10^{-5} \text{ g m}^{-3}$ ) was 1.88, compared with a ratio of about 1.17 for the smoke-free Midwestern residences. To compensate for smoking emissions, we divided the reported dust fall rate of  $7.7 \times 10^{-3} \text{ g m}^{-2} \text{ d}^{-1}$  (which is dominated by resuspended dust particles) by  $107 \text{ m d}^{-1}$  (deposition velocity of  $\text{TSP}_{\text{in}}$  for the Midwest housing) to obtain an adjusted  $\text{TSP}_{\text{in}}$  value of  $7.2 \times 10^{-5} \text{ g m}^{-3}$ . We also increased the value of  $C_{\text{isp. in}}^{\text{s}}$  from  $2.29 \times 10^3$  to  $3.6 \times 10^3 \text{ }\mu\text{g g}^{-1}$  to account for the decreased mass of suspended PM in indoor air. The reported GM loading of dust on floors was  $0.255 \text{ g m}^{-2}$ , while the concentrations of Pb in floor dust, dust fall, and  $\text{TSP}_{\text{o}}$  were 482,  $1.00 \times 10^3$ , and  $6.4 \times 10^3 \text{ }\mu\text{g g}^{-1}$ , respectively (See Supporting Information).

The reconstructed Ach value for the Arnhem residences of  $10.8 \text{ d}^{-1}$  (from Eq. 11, with  $P = 1$  to represent older, non-energy efficient housing) falls within the 10<sup>th</sup> and 50<sup>th</sup> percentile Ach values (7 and  $14 \text{ d}^{-1}$ ) reported for a sample of Dutch homes (25). The computed indoor deposition velocities ( $17.8$  and  $206 \text{ m d}^{-1}$  for  $\bar{v}_{\text{o}}$  and  $\bar{v}_{\text{r}}$ ) are comparable to the results for the NHEXAS residences, but the estimated resuspension rate of  $0.031 \text{ d}^{-1}$  is considerably higher. One explanation for this difference is the vacuum cleaning that occurred “once every 1 or 2 days” in the Arnhem residences (19). Vacuuming produces a significant increase in airborne PM that is greater than  $10 \text{ }\mu\text{m}$  in diameter (26,27), and the elevated value of  $\bar{v}_{\text{r}}$  for the Arnhem residences may reflect this fractionation process. Differences in the types of flooring between the Arnhem and NHEXAS Midwest residences further complicate comparisons between the resuspension characteristics of the housing. In addition, the mass loading data for the NHEXAS residences were based on wipe samples of flat floor surfaces, but resuspended dust from carpeted surfaces undoubtedly contributed to indoor TSP levels as well. Carpets retain more dust than bare floors (28) and resuspension rates for carpeting are also greater than for bare floors (24).

### Estimates of OM fluxes and Soil Track-in

Indoor dust is a mixture of soil tracked into a residence, PM derived from ambient outdoor air, and importantly, OM inputs from various sources. A prominent feature of indoor dust is its OM content, with levels of about 40 wt% in residential housing (3,29). We estimated the values of  $F_{\text{om}}$  and  $T_{\text{s}}$  for the Midwest residences using Eqs. 15 and 16 based on a reference OM content of floor dust ( $C_{\text{fl}}^{\text{om}}$ ) of  $0.4 \text{ g g}^{-1}$ ;  $A_{\text{fl}}$  equal to  $110 \text{ m}^2$ ; OM contents of  $\text{TSP}_{\text{o}}$  ( $C_{\text{tsp. o}}^{\text{om}}$ ) and soils ( $C_{\text{s}}^{\text{om}}$ ) equal to 0.13 and  $0.02 \text{ g g}^{-1}$ ; respectively (see Supporting Information);  $C_{\text{om}}^{\text{s}}$  equal to zero; and other input parameters as previously defined. The resulting estimates of  $F_{\text{om}}$  and  $T_{\text{s}}$  are  $0.074$  and  $0.099 \text{ g d}^{-1}$ , respectively. The amount of soil tracked into residences, as measured by accumulations on entry way mats, is a complex function of housing occupancy, weather and soil conditions, etc.(11,30). Our analysis of soil track-in data (see Supplemental Information) indicates that a lognormal distribution with a geometric mean value of  $0.1 \text{ g d}^{-1}$  (geometric standard deviation (GSD) = 3) can be used to characterize soil-to-house transfers via foot traffic. The reconstructed track-in value of  $0.099 \text{ g d}^{-1}$  for the Midwest residences compares favorably with the value based on soil tracking measurements. Less is known about the composition of OM in house dust on a weight basis, however, skin particles and organic fibers appear to be major constituents. For example, skin cells are constantly shed from people (31) and they are high in N (32), which suggests that exfoliated skin is a potential source of the elevated N content of house dust (33). Scanning electron microscopy of house

dust samples has shown that dust contains many fibers ranging from less than 10 to over 100  $\mu\text{m}$  in size, which are largely destroyed using high-temperature oxidation—indicating that they are predominantly organic in composition (34).

### Contaminant Inputs and Removal

Accumulation of contaminants on floors and other surfaces depends on the magnitude of contaminant inputs to a residence and subsequent removal by cleaning and exhalation of resuspended particles from the building. We used the input-output relationships defined in Eqs 6–9 along with the  $A_s$  media concentrations, and the transport and housing parameters developed for the Midwest residences to determine  $A_s$  inputs to and outputs from their floor surfaces. Soil track-in accounted for  $0.48 \mu\text{g d}^{-1}$  of  $A_s$  input to floors, while floor deposition of  $A_s$  in outdoor PM derived from infiltration amounted to  $0.67 \mu\text{g d}^{-1}$  (58% of total). The primary parameter controlling removal of floor dust is the cleaning loss rate (CLN), equal to  $0.0053 \text{ d}^{-1}$  (derived from Eq. 1). The associated residence time of floor particles ( $\tau = (R + \text{CLN})^{-1}$ ) is 61 d, which is less than an 85 d residence time based on a simulated weekly cleaning scenario presented in Qian et al. (10), but greater than a  $29 (\pm 1)$  d residence time given in Allott et al. (3) for a house in the U.K. where vacuum cleaning occurred on almost a daily basis. Significantly, over 80% of the  $A_s$ -bearing floor dust was removed by cleaning. Although particle resuspension and then building exhalation to outdoor air constitutes a relatively minor removal pathway for floor particles, resuspension-deposition serves as the primary redistribution mechanism of floor dust and contaminants in the indoor environment—accounting for more than 90% of the deposition flux of particles. Meyer et al. (35) found that dust loading rates in a sample of German residences were directly related to the number of occupants, supporting the linkage between resuspension and deposition processes.

Sutton et al. (18) conducted a study of Pb contamination at residences in Los Angeles, Oakland, and Sacramento, CA, from 1987 to 1991 and found that Pb in paint was a poor predictor of Pb in indoor dust. To evaluate the potential magnitude of Pb in outdoor air as an alternative source of Pb in the Sacramento residences, we reconstructed the inputs of airborne Pb to floors ( $\text{IN}_{\text{air}}$ ) and inputs of Pb from soil track-in ( $\text{IN}_{\text{track}}$ ) for the years 1982 and 1992. These years encompass a period during which Pb emissions to the atmosphere decreased significantly due to the phase out of leaded gasoline. Parameter values for  $A_{\text{ch}}$ ,  $P$ ,  $A_{\text{fl}}$ , and  $\bar{v}_o$  used to compute  $\text{IN}_{\text{air}}$  (Eq. 6) are  $11 \text{ d}^{-1}$ , 1,  $110 \text{ m}^2$ , and  $18 \text{ m d}^{-1}$ , respectively, while the values of  $C_{\text{air}}^s$  for 1982 and 1992 are 0.30 and  $0.020 \mu\text{g m}^{-3}$  (see Supporting Information). The resulting estimates for  $\text{IN}_{\text{air}}$  dropped from  $350 \mu\text{g d}^{-1}$  in 1982 to  $24 \mu\text{g d}^{-1}$  in 1992. To bracket the range of soil track-in rates, we used rates of 0.05, 0.1, and  $0.2 \text{ g d}^{-1}$ . With  $C_s^s$  equal to  $234 \mu\text{g g}^{-1}$  (18), the alternative  $\text{IN}_{\text{track}}$  values are 12, 23, and  $47 \mu\text{g d}^{-1}$  of Pb. Figure 2 plots the fractions of total Pb input to floors attributable to Pb derived from outdoor air (i.e.,  $\text{IN}_{\text{air}} / (\text{IN}_{\text{track}} + \text{IN}_{\text{air}})$ ). Airborne inputs of Pb to floors in 1982 were likely derived from both direct automotive emissions as well as secondary emissions from soil resuspension (36). By 1992, though, soil resuspension alone could account for airborne Pb because the associated resuspension factor of  $1 \times 10^{-9} \text{ m}^{-1}$  calculated from Eq. 17 (with  $C_{\text{air}}^s$  equal to  $0.020 \mu\text{g m}^{-3}$  and  $C_L^s$  equal to  $1.9 \times 10^7 \mu\text{g m}^{-2}$  based on  $C_s^s = 234 \mu\text{g g}^{-1}$  (18),  $d = 0.05 \text{ m}$ , and  $\rho = 1.6 \times 10^6 \text{ g m}^{-3}$  (37)) is consistent with an aged soil source (16).

### Uncertainty/Sensitivity Analyses

Variation in the concentrations of an inorganic substance in house dust depends largely on the nature and magnitude of its sources together with modifying factors involving occupant characteristics as well as dust and building properties. To illustrate, lead loading on floors is a key determinant of blood-lead levels in children (7) and because contaminant loading ( $W_{\text{fl}}^s$ ) is the product of  $M_{\text{fl}}$  and  $C_{\text{fl}}^s$ , the variability in  $W_{\text{fl}}^s$  is a function of the variances in the two input



parameters. Assuming that  $C_{fl}^s$  and  $M_{fl}$  are statistically independent and lognormally distributed, the variance in  $W_{fl}^s$  is equal to  $(\ln \text{GSD } W_{fl}^s)^2 = (\ln \text{GSD } C_{fl}^s)^2 + (\ln \text{GSD } M_{fl})^2$ . The GSDs of  $W_{fl}^s$  and  $C_{fl}^s$  for Pb in the dusts of the Sacramento residences were 4.4 and 2.3, respectively (18), and thus the GSD of  $M_{fl}$  is calculated as 3.4. Based on these GSD values, 68% of the variance in  $W_{fl}^s$  is accounted for by the variability in  $M_{fl}$  and the remaining 32% is associated with  $C_{fl}^s$ . This apportioning of variance is consistent with the dominant role of human factors in controlling  $M_{fl}$  via soil track-in, OM fluxes, resuspension, and cleaning activities.

To analyze the influence of model parameters on  $W_{fl}^s$  as well as the As content in dust fall, we conducted sensitivity analyses of the changes in these parameters using data for the Midwest residences. The analyses are based on low-to-high deviations from base-case values for the relevant input parameters. For all of the model parameters except P, we used the 10th and 90th percentiles of the parameter-specific lognormal distributions to represent the low and high values, while the GM defined the base-case values (See Supporting Information for parameter values). We assigned a P value of 0.95 for the base case and 1 for its upper limit, and used a value of 0.9 to define the lower limit. As shown in Fig. 3, the cleaning rate is the most important parameter controlling  $W_{fl}^s$  (calculated using Eq. 4 for  $C_{fl}^s$  and Eq. 5 for  $M_{fl}$ ) due in part to our specification of a broad spectrum of cleaning rates. Soil track-in is another human-related parameter that exerts a strong influence on As accumulation on floors. Additional parameters controlling  $W_{fl}^s$  listed in order of importance are the concentration of As in soil, the resuspension rate, As in outdoor TSP, and floor area. Interestingly,  $W_{fl}^s$  is insensitive to changes in the flux of OM to floors because it simultaneously reduces the As concentration in floor dust (by dilution) and increases dust loading. In contrast, the As content of dust fall (from Eq. 3) is most sensitive to changes in the measured As content of floor dust (and indirectly its controlling parameters such as soil track-in, OM loading, etc.), resuspension-related parameters (i.e., R and  $M_{fl}$ ), and parameters involving the airborne transfer of As to the indoor environment (i.e.,  $C_{TSP-o}$ , Ach, and  $TSP_o$ ).

### Parameter Characterization

An important consideration regarding soil track-in is the fractionation caused by differential particle adherence to and deposition from footwear because it can produce a significant misalignment between the concentration of a contaminant measured in outdoor soil and in the soil actually tracked indoors (38,39). Dust adhering to soles of the footwear of people entering a museum, for example, exhibited a bimodal distribution with peaks at 28 and 64  $\mu\text{m}$ , while the greatest depletion of particles (measured on exiting the museum) was in the 50 to 64  $\mu\text{m}$  in size range, with smaller losses extending to about 150  $\mu\text{m}$  (30). The mass transfer of a soil contaminant on footwear will thus depend on the chemical content of such “trackable” particles, which is controlled in part by the source(s) of soil contamination.

Information on soil and dust transport processes as well as data on particle adherence to hands supports the use of two basic particle size classes to characterize soils and dusts: a fine fraction consisting of particles  $\leq 60 \mu\text{m}$  in size and a coarse fraction  $>60$  to  $150 \mu\text{m}$ . Particles in the fine fraction preferentially adhere to hands (40,41) and footwear, and importantly, they coincide with the resuspendable dust particles on floor surfaces. Moreover, Edwards et al. (42) found that more than 99% of the dust particles deposited on glass slides placed in four New Jersey houses were under 50  $\mu\text{m}$  in size. Deposition velocities calculated for resuspended dust in the NHEXAS Midwest and Arnhem residences (i.e., 175 and 206  $\text{m d}^{-1}$ ) coincide with these particle sizes as well. Use of the 60  $\mu\text{m}$  cut point demarcating fine particles is also consistent with resuspension experiments conducted with bulk soil samples that demonstrate

that soil size fractions  $< 75 \mu\text{m}$  produce the highest yields of suspended PM less than  $10 \mu\text{m}$  in aerodynamic diameter (43).

Although particle adherence to skin and resuspension potential of the coarse fraction of soils/dusts are less than for the fine fraction, the coarse particles may still be important from an exposure standpoint in cases where a contaminant is preferentially enriched on them (44). Coarse particles tracked into a residence are redistributed on floor surfaces along with the finer fraction by foot traffic (45) and together these two fractions account for over 60% of the dust mass on floors (46,47). The concentrations and particle masses associated with the two size fractions can be used to calculate mass-weighted concentrations representing model parameters (e.g.,  $C_s^s$  and  $C_f^s$ ).

One benefit of the dust model is that it establishes the utility of measuring both outdoor TSP and its composition along with soil constituents in order to simulate indoor dust contamination. Heretofore, relationships between dust contaminants, related human exposures, and outdoor contaminants have been evaluated mainly by empirical methods (48,49). Because air and soil track-in transport pathways can now be analyzed in terms of their individual contributions to dust contamination, risk-management strategies that are pathway specific can also be devised. Additionally, the dust model as currently formulated provides the context for investigating data gaps concerning relationships between human-related factors (e.g., household demographics, cleaning practices and methods, etc.), housing properties (e.g., floor area and coverings, indoor furnishings, etc.) and dust contamination. Further studies are needed as well to evaluate alternative sampling methods for determining the amount of resuspendable dust on various floor surfaces, dust fall rates, and importantly, the duration/frequency of sampling needed to capture time-varying (e.g., seasonal) changes in dust levels and contamination.

## Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

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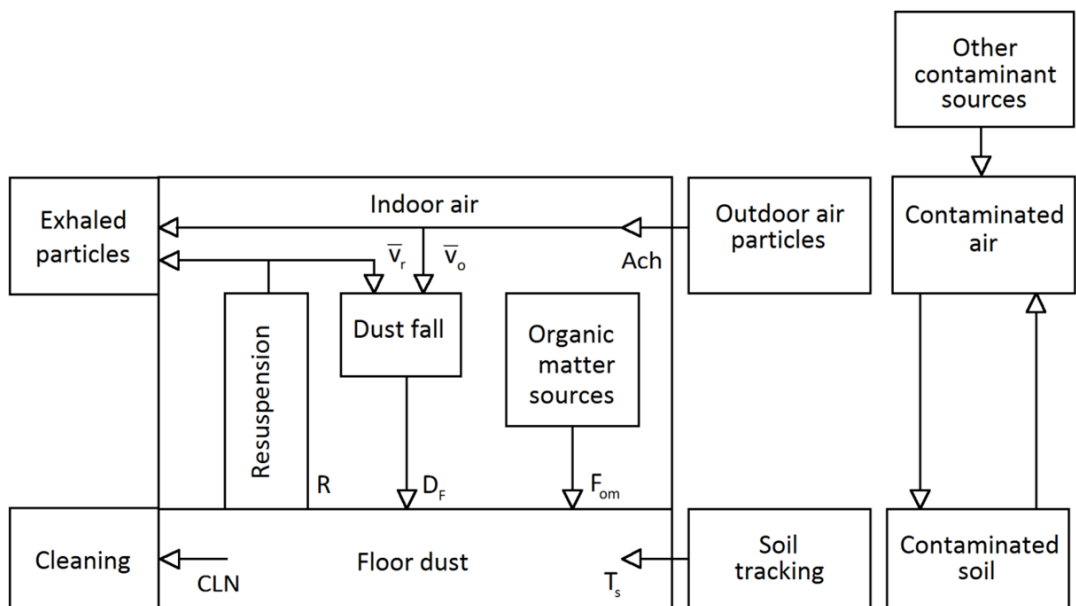
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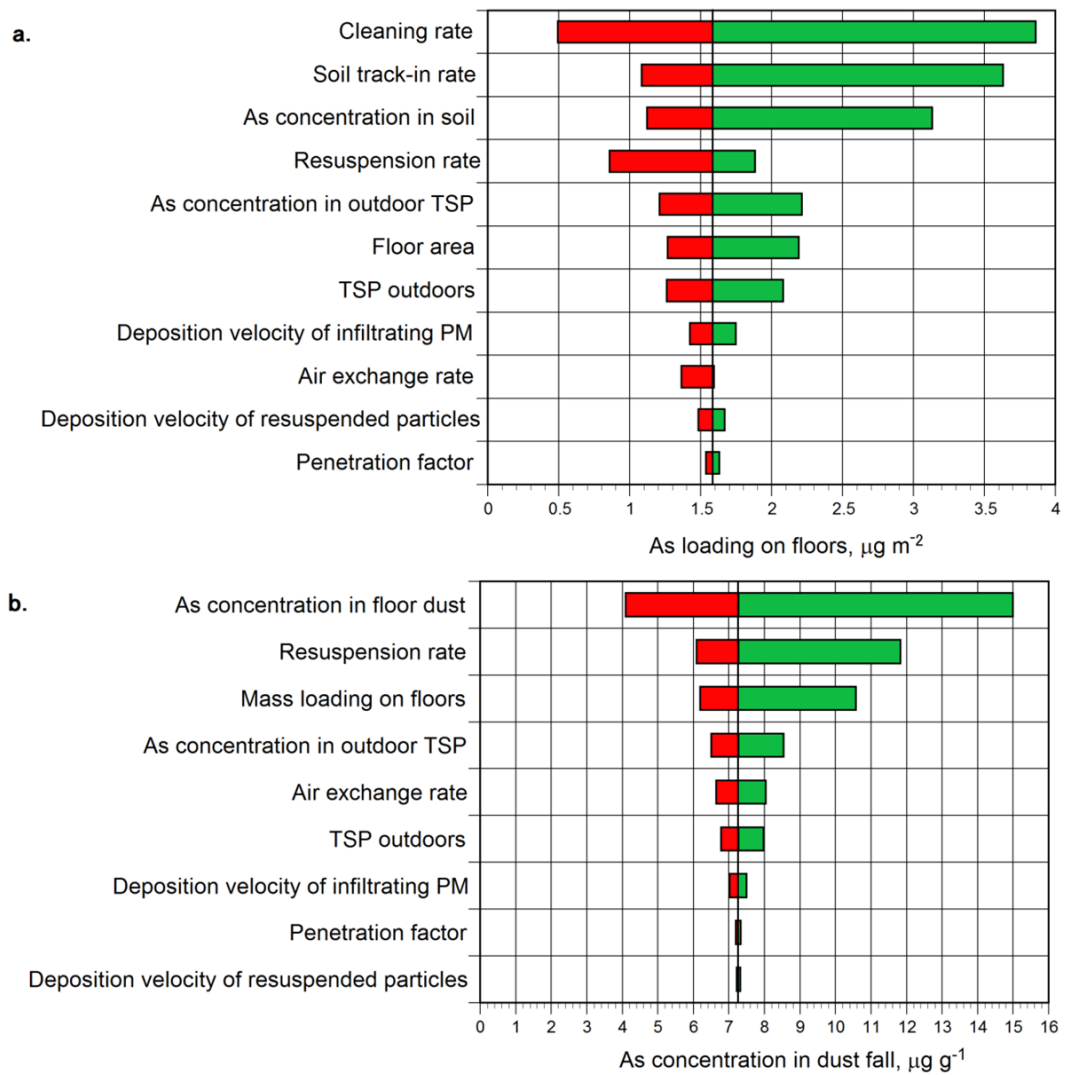
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**FIGURE 1.** Conceptual diagram depicting the movement of contaminated soil and airborne particulates into a residence, subsequent mixing with organic matter in floor dust, redistribution indoors via resuspension, and removal by cleaning and exhalation with building air. The variables are defined as:  $CLN$  is the first-order particle removal rate from floors due to cleaning activities,  $R$  is the resuspension rate of floor particles to indoor air,  $D_f$  is the rate of dust fall to floors,  $F_{om}$  is the flux of organic matter onto floor surfaces,  $T_s$  is the rate of soil track-in on footwear into a residence,  $Ach$  is the air exchange rate, and  $\bar{v}_r$  and  $\bar{v}_o$  are the mean deposition velocities for resuspended particles and outdoor-derived air particles, respectively.

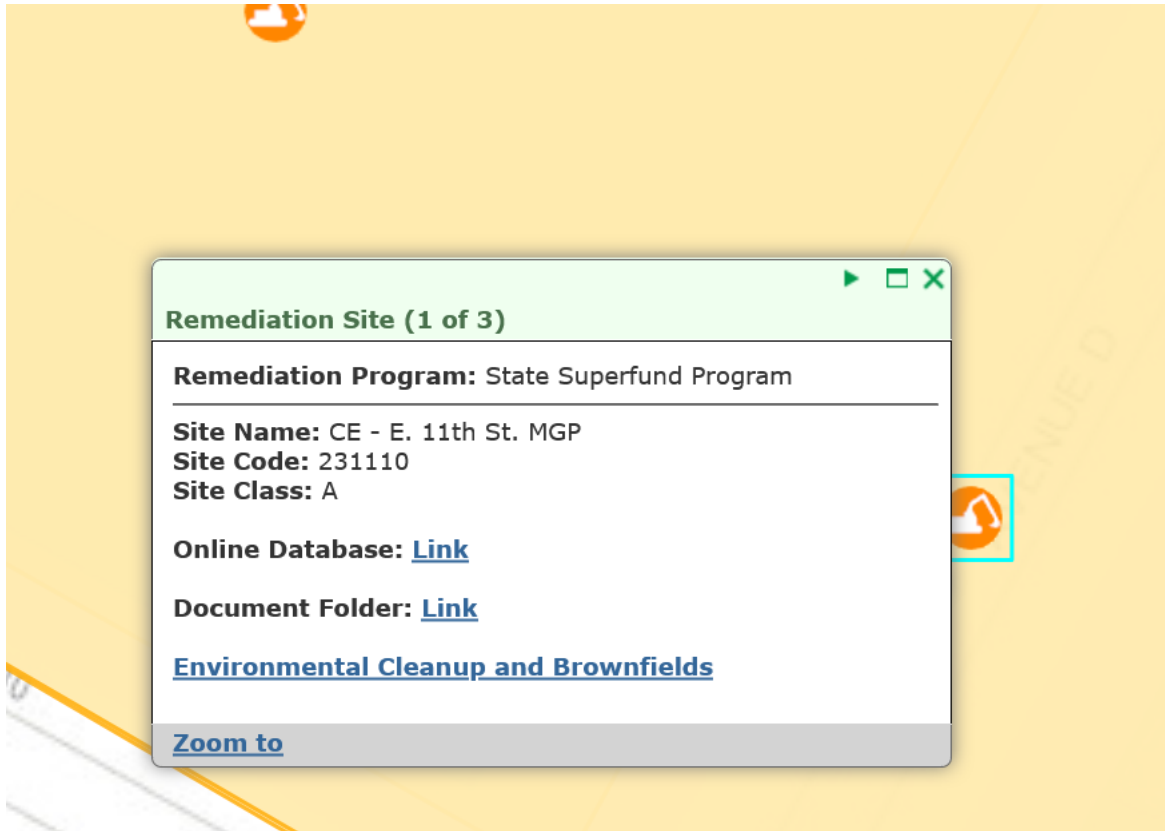


**FIGURE 2.** Reconstruction of the contributions of outdoor air Pb to total Pb in floor dust for three scenarios of soil track-in to Sacramento residences.



**FIGURE 3.** Sensitivity analysis of the parameters controlling the (a) predicted level of As loading on floors for Midwest residences and (b) the concentration of As in dust fall. Model responses are determined for low and high values of input parameters, as described in the Supporting Information.

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report

exceeded the unrestricted use SCO in each surface soil sample. Other inorganics which are present at concentrations above their respective unrestricted use SCO include arsenic and silver. P.42

Nickel,

arsenic, cyanide, copper, cadmium, zinc, chromium, lead, mercury, and silver were detected in at least one groundwater sample collected during the RI. P.48

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Remedial

Investigation Report

East 11th Street Works Site

6.2.6 Arsenic

Arsenic in soil may be transported by wind and runoff, and may leach into subsurface soil (ATSDR, 2000b)" Transport and partitioning of arsenic in water depends upon its chemical form (i.e., oxidation state) and other materials present (ATSDR, 2000b).

Arsenic may be present in soluble form in the water column, or adsorbed onto



sediments or soils. Groundwater arsenic concentrations are generally controlled by adsorption rather than mineral precipitation (ATSDR, 2000b). P 53

contact. However, the majority of these soils are vegetated, which likely mitigates any potential exposures. The highest potential for exposure would be for children playing in exposed soil areas. Exposure of most receptors to subsurface soils is unlikely because these receptors are not expected to be involved in intrusive activities. However, construction workers may be exposed to subsurface soils during future construction/excavation activities. Note that surface soils were not collected at the Haven Plaza and the East River Park properties.

Potential inhalation of vapors and/or particulates from surface soils – Surface soil COPCs are primarily non-volatile constituents (i.e., PAHs, metals). Human receptors may be exposed to COPCs in surface soils via inhalation of particulates from areas of exposed soil; however, the majority of the onsite soils are vegetated, which most likely mitigates the potential for soil particulates to become airborne. Further, because there are no ongoing activities at the site, there is likely little potential for dust generation. Because VOCs (i.e., BTEX) were detected in subsurface soils at the site, there is potential for exposure of construction workers to COPCs via inhalation of vapors during construction/excavation activities. Potential exposures could be mitigated by use of personal protective equipment.P55

Analytical data indicate that VOCs (BTEX), SVOCs (primarily PAHs), and several metals are present in site subsurface soils at concentrations exceeding NYSDEC SCOs. The potential for exposure to COPCs in subsurface soils is most likely limited to construction workers engaged in intrusive activities, although potential exposures could be mitigated through the use of personal protective equipment.P56

Sample ID: Sample Depth (feet bgs): Date Collected:	Unrestricted Use SCOs	Units	SS-130 - 0.2 06/09/04	SS-140 - 0.2 06/09/04	SS-150 - 0.2 06/09/04	SS-160 - 0.2 06/09/04	SS-170 - 0.2 06/09/04	SS-180 - 0.2 06/09/04	SS-190 - 0.2 06/09/04	SS-200 - 0.2 06/09/04	SS-220 - 0.2 08/18/04	SS-230 - 0.2 08/18/04	SS-240 - 0.2 08/18/04	SS-250 - 0.2 08/18/04	SS-260 - 0.2 08/18/04
<b>Metals</b>															
Arsenic	13	mg/kg	54.4	33.1	46.8	32.3	14.3	7.21	7.98	5.63	8.76 J	10.7 J	12.1 J	15.5 J	6.9 J
Barium	350	mg/kg	61.5	84.1	50.4	137	246	121	99.7	253	82.3	87.7	181	109	105
Cadmium	2.5	mg/kg	1.13	1.38	0.769	1.53	1.96	1.64	1.04	1.37	0.054 U	0.053 U	0.212 J	0.057 U	0.055 U
Chromium	1*	mg/kg	16.7	16.3	14.5	19.2	17.9	19.9	22.5	17.6	26.1 J	35.1 J	34.2 J	22.9 J	23.9 J
Chromium	30^	mg/kg	16.7	16.3	14.5	19.2	17.9	19.9	22.5	17.6	26.1 J	35.1 J	34.2 J	22.9 J	23.9 J
Lead	63	mg/kg	98.8	101	78.8	97.7	578	123	238	265	376	429	711	246	364
Mercury	0.18	mg/kg	0.5 J	0.36 J	0.54 J	0.52 J	1.2 J	0.53 J	0.46 J	0.48 J	0.37 J	0.41 J	0.46 J	0.44 J	0.25 J
Selenium	3.9	mg/kg	0.355 U	0.583 J	1.69	0.35 U	0.344 U	0.564 J	0.554 J	0.864 J	1.84	2.34	2.28	1.49	1.62
Silver	2	mg/kg	0.344 J	0.397 J	0.119 J	0.33 J	3.1 J	0.611 J	0.624 J	0.661 J	0.31 J	0.334 J	0.132 UJ	0.262 J	0.126 UJ
<b>Cyanide</b>															

## Soils and Health: Closing the Soil Knowledge Gap

Howard W. Mielke Ph.D.

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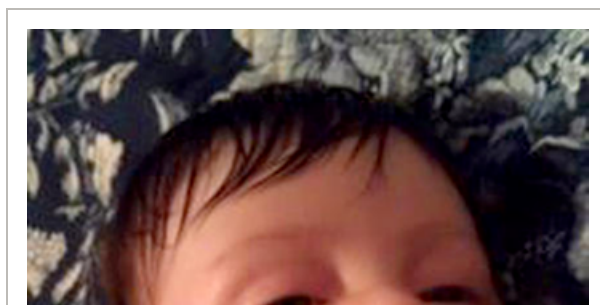
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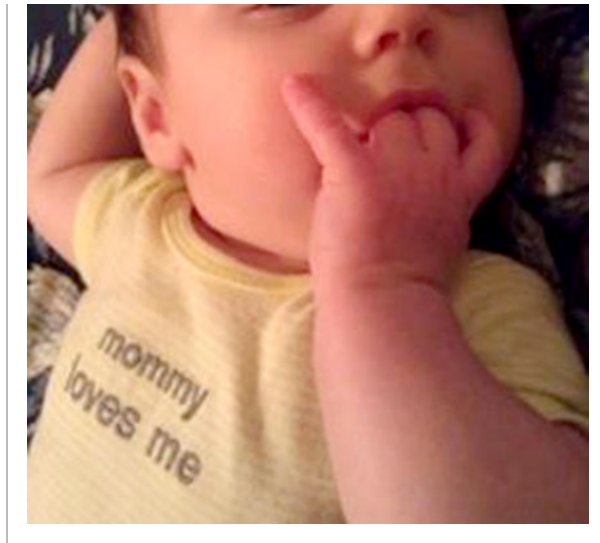
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The U.S. has a Clean Air Act and Clean Water Act. The missing environmental component, soil, results in a knowledge gap that has a profound influence on the lives of children. The national issue of children's lead exposure illustrates the effect of the soil knowledge gap. Clinicians have evaluated low lead exposure impacts on children and throughout one's lifespan. The medical impacts range from learning and behavioral problems to some of the most difficult and expensive chronic health conditions known to medicine, including kidney failure requiring dialysis, hypertension and heart disease, diabetes, and many nervous system dysfunctions including Alzheimer's disease. In response to clinical findings, the Centers for Disease Control and Prevention recognize that there is no known safe level of lead exposure for humans (USCDC, [11](#)). To complicate the problem, the ordinary medical method for intervention, which focuses on lead-based paint, is deemed ineffective. Moving forward with primary prevention of children's exposure to lead requires essential knowledge about human biology, urban contamination, and soil.

## Hand-to-Mouth Behavior Is an Innate Human Trait

Children's behavior is controlled by a specific DNA-directed hand-to-mouth behavior (Fig. [1](#)). The behavior begins in the womb during early gestation and continues after birth (Desmurget et al., [2](#)). Simply stated, hand-to-mouth behavior is hard-wired into the human brain, and the exposure vulnerability to lead dust of infants, toddlers, and young children is tied to that fact. "The motor repertoire of infants is narrow. Yet newborns can accurately bring their hands toward their mouth for self-feeding, thumb-sucking, or perioral exploration, thus showing fine coordinated movement synergies between the hand and mouth.....these gestures of high ethological value are selectively encoded in the human brain and represented as integrated primitives within the precentral gyrus, a key region for sensorimotor processing" (Desmurget et al., [2](#)). An essential requirement for preventing children's exposure to lead is the need for clean air, water, and soil.





**Figure 1**

[Open in figure viewer](#)

Children's behavior is controlled by a specific DNA-directed hand-to-mouth behavior.

## Ordinary Medical Intervention Is Ineffective

The usual medical strategy for intervention focuses on education and household dust cleanup. Cochrane Collaboration provides critical reviews for evaluating the effectiveness of medical interventions. A recent Cochrane evaluation was performed on education and household interventions for preventing children's lead exposure. The Cochrane report unequivocally states that the existing intervention method is ineffective at reducing children's blood lead levels (Yeoh et al., [15](#)). The corollary is that there is no known intervention for primary prevention of lead dust. The lack of effective intervention means that even when diagnosed, children endure continuing lead poisoning. The lifelong medical and societal consequences are enormous (Bellinger, [1](#)).



An essential requirement for preventing children's exposure to lead is the need for clean air, water, and soil. *Photo courtesy of Flickr/Susy Morris.*

The situation is even more alarming because lead intervention is triggered by blood lead findings, and children are being used for testing lead residues in the environment. This violates national and international standards for the treatment of human subjects. According to World Medical Association (14) criteria, if a method is shown to be ineffective, then the medical community must revise the intervention to prevent harm. The U.S. treatment protocols are thus doubly culpable because not only do they employ children's blood lead as an indicator of lead contamination, but they also use an ineffective intervention method to prevent children from further harm.

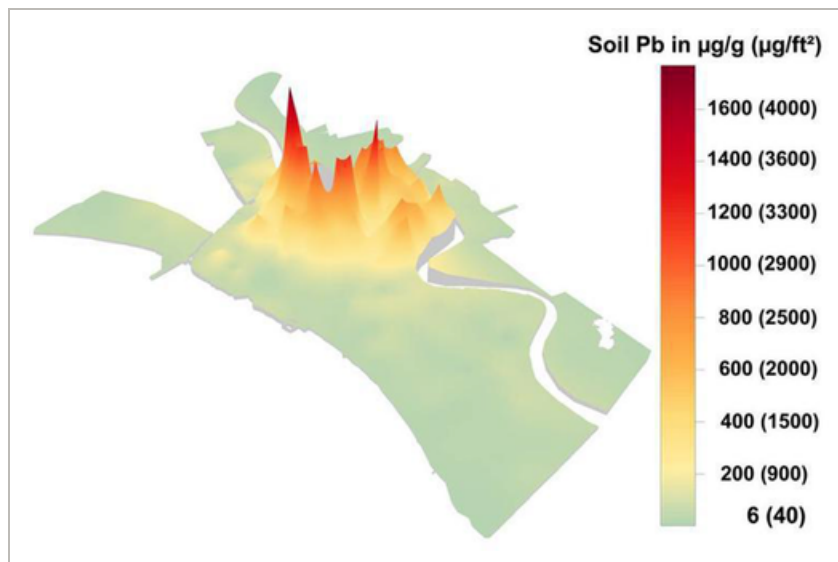
## Soil Is a Potent Reservoir of Lead Dust

While lead-based paint is believed to be the major source of interior dust, seasonal changes in children's blood lead do not support that perception. In Detroit and other cities, blood lead is lowest toward the end of winter after children have been cooped up inside (and presumably exposed to household paint) and highest during the late summer and early fall when the children are outside and in contact with soil (Zahran et al. 16). Urban soil has become severely lead contaminated, especially in inner cities (Filippelli and Laidlaw 3; Mielke et al. 9).

Soil ingestion is recognized as common among humans (Starks and Slabach, 10). When ingestion is involved, a factor of 10 is normally used for a margin of safety (USEPA, 13; USDHHS, 12). Assuming ingestion and adding the margin of safety, the USEPA soil lead standard should be reduced from 400 mg/kg to 40 mg/kg. Some states and many nations have promulgated soil lead standards at or below 100 mg/kg (Jennings, 4).

Accumulated lead residues in soil are a source of lead aerosols. During seasonally drier periods such as late summer and fall, lead dust resuspension from contaminated soil is directly associated with fluctuations in blood Pb (Laidlaw et al., 5, 6). Empirical research shows that if the goal is to prevent Pb exposure  $\geq 10$   $\mu\text{g}/\text{dL}$  for children living in a community, then the median soil lead must be  $< 80$  mg/kg (Mielke et al., 8). Given the current CDC 5  $\mu\text{g}/\text{dL}$  blood lead reference value, the soil Pb standard must be revised sufficiently downward to ensure a margin of safety that protects most children from the risks of inadvertent exposure to soil reservoirs of lead dust.

One major issue is that outdoor lead is being measured in units of lead content per weight of soil whereas interior dust is measured in units of lead per surface area. The interior standard is 40 micrograms per square foot. When measured outdoors in units of lead per surface area it is daunting to discover that the U.S. soil standard of 400 mg/kg (ppm) is equivalent to surface loading of about 1,500  $\mu\text{g}/\text{ft}^2$  (Mielke et al., 7). The standard measurement used to describe outdoor soil is ineffective as a guideline for safety because it fails to clearly communicate how much lead children can obtain on their hands from the soil surface (see Fig. 2).



## Figure 2

[Open in figure viewer](#)

Three-dimensional map of New Orleans showing both soil lead in  $\mu\text{g/g}$  and  $\mu\text{g}/\text{ft}^2$ . Note the large difference between the usual soil measurement and the lead loading in  $\mu\text{g}/\text{ft}^2$  of the soil surface. The U.S. lead loading standard of the interior floor is  $40 \mu\text{g}/\text{ft}^2$ , and this compares with the lead loading of  $1,500 \mu\text{g}/\text{ft}^2$  when the soil lead meets the U.S. soil standard of  $400 \mu\text{g/g}$  or ppm (Mielke et al., 7).

## Conclusions

The soil knowledge gap among health practitioners is related to the failure to understand essential characteristics about human biology in the context of the air–water–soil nexus of children's environmental health. In the case of the lead exposure issue, closing the soil knowledge gap at least requires: Acknowledging the innate vulnerability of less than three-year-old children to lead residues in their environment including, air, water, and soil; conceding the failure of current lead-based paint intensive interventions for preventing exposure of children; underscoring soil loading vs. lead content as part of risk analysis; upgrading standards to use at least a factor of 10 to protect children; exploiting federal resources such as the USDA and the U.S. Geological Survey to map urban soils; recognizing the value of low lead soils that exist outside of every city as an essential resource for revitalizing urban lands to create safe areas for the youngest citizens; and accepting clean soil along with air and water as critical components of the long-term goal of resolving national health issues.

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NEW YORK

## Eric Adams said their water was safe. Public housing residents say they're getting sick.

After a tenant in Manhattan was treated for arsenic poisoning, she and her neighbors are demanding tests of their tap water.



Residents at the Jacob Riis Houses in Manhattan were told in 2022 that tests of their water showed unsafe levels of arsenic, only for the New York City Housing Authority to reverse course and attribute the finding to a lab error. | Spencer Platt/Getty Images

By **MAYA KAUFMAN**

05/07/2024 07:00 AM EDT



NEW YORK — After waking up each morning with swollen eyes and hair falling out in clumps, New York City public housing resident Sheletha Hill landed in a hospital emergency room with suspected arsenic poisoning in March.

A urine sample showed arsenic levels of 117 micrograms per liter — more than double [the threshold](#) triggering a report to the state — and Hill was treated in an emergency room for “symptoms concerning for arsenic toxicity,” according

to medical records she shared with POLITICO.

Hill is not alone: Several similarly ailing neighbors at the Jacob Riis Houses in Manhattan's East Village, a sprawling complex run by the New York City Housing Authority, share her concern that their tap water is to blame.

That presents a problem for Mayor Eric Adams, a Democrat who declared the tap water at Riis Houses [safe to drink](#) in 2022, following another water contamination scare.

Decades [of neglect and mismanagement](#) within the massive housing system have turned New York City into one of the nation's largest slumlords — with many of the nearly half-million residents living in crumbling buildings, with [broken boilers](#), [faulty elevators](#) and [lead paint](#). The circumstances have saddled Adams and his predecessors with a crisis that appears all but unsolvable for future mayors.

Public housing residents throughout the city have been raising concerns about unsafe living conditions — including possible water contamination — for years. The situation grew so dire, a judge appointed a federal monitor in 2019. The housing authority's handling of resident complaints since then poses a new political and managerial challenge for Adams.



Residents and activists gather outside of the Jacob Riis Houses for a protest against the living conditions at the public housing unit on September 14, 2022, in New York City. | Spencer Platt/Getty Images

The mayor is still awaiting the findings of a city Department of Investigation probe into that 2022 incident, prompted by Riis Houses residents complaining

of cloudy and foul-smelling water. Initial tests were [positive for unsafe levels of arsenic](#), but city officials blamed the findings on a [lab error](#) and said retesting found little to no trace of arsenic.

Barbara Brancaccio, executive vice president and chief communications officer for NYCHA, said the housing authority stands by its 2022 test results showing there was never any arsenic in the water at Riis Houses.

“The process has been investigated and put through rigorous evaluation, with robust public transparency, and there is no arsenic in the water,” she said in a statement.

Some of the housing authority’s toughest critics remain skeptical.

“NYCHA’s track record on health and safety has historically been cause for concern—a consequence of local mismanagement and federal disinvestment,” Rep. Ritchie Torres, a Bronx Democrat who grew up in public housing, said in a statement when presented with POLITICO’s findings. “It is in the nature of all institutions to cover up rather than come clean, and NYCHA is no exception to the rule of self-preservation.”

Torres told POLITICO the housing authority “has an obligation to thoroughly test the water at Riis Houses and ensure that there is no arsenic endangering the health and safety of its residents.”

City Hall spokesperson William Fowler said hundreds of water samples, including from inside apartments and rooftop water tanks, have “conclusively shown no water quality concerns at Riis Houses” and noted that arsenic cannot be tasted, seen or smelled in water.

“Let’s be abundantly clear: there is no arsenic, nor has there ever been any arsenic in the city’s water supply, including the water provided at Riis Houses,” Fowler said in a statement.

Hill and her neighbors said they have tried to avoid drinking the water ever since the testing fiasco and now want NYCHA to revisit the issue.

Hill’s doctors have similarly raised alarm.

“It is critical that the water in her building be tested immediately for arsenic and that appropriate measures be taken to avoid any further exposure for residents of the building,” a doctor at NYU Langone Medical Center’s emergency department wrote in a March 1 note provided to Hill and reviewed by POLITICO.

Hill, who developed sores on the soles of her feet and tingling and numbness in her fingers, said she sent NYCHA the note in March. But no one ever tested her water and instead, an agency official sent her a [memo from 2022](#) stating that “unsafe levels of arsenic are not, and were never, present in the water supply at Jacob Riis Houses.”

In April, she filed suit in housing court demanding that the housing authority test her apartment’s water, and a judge has since ordered an inspection.



A sign directs people to water as residents and activists gather outside of the Jacob Riis Houses for a protest against the living conditions at the public housing unit on September 14, 2022, in New York City. | Spencer Platt/Getty Images

An investigation by the former federal monitor appointed to oversee NYCHA, Bart Schwartz, faulted a [broken water pump](#) and an inattentive, inexperienced superintendent for the debacle at Riis Houses, where about 4,000 people live. But the investigation does not appear to have broached the fundamental question of what was or was not in the dirty water that spurred residents’ complaints.

Schwartz, through a spokesperson, declined an interview request.

The saga at Riis Houses prompted NYCHA to establish an [office of water quality](#), which is responsible for identifying and addressing possible contaminants. Brancaccio said the city Department of Environmental Protection, out of an abundance of caution, tested the water supply from a nearby city water main in the first week of April and did not detect arsenic.

Nevertheless, residents and elected officials are voicing a familiar concern — that conditions at the housing authority are deteriorating to the point of causing physical harm to residents. Former mayors Mike Bloomberg and Bill de Blasio were similarly unable to fix problems at the housing authority, despite [increasing funding](#), [hiring a nationally renowned housing leader](#) and tapping into an Obama-era [program to partner with private developers](#).

Adams inherited [an agreement](#) signed by de Blasio that requires the city to spend \$2.2 billion over a decade to fix living conditions for some 361,000 residents of the housing authority's 335 developments.

That deal stemmed from a Justice Department investigation in 2018 that found NYCHA [endangered tenants](#) by covering up its failures to address lead paint and other hazards. The scandal put a national spotlight on public housing tenants' [living conditions](#) and prompted former President Donald Trump's administration to install a federal monitor to oversee the housing authority's compliance with required reforms. A [new monitor](#) started in February, after Schwartz's five-year contract expired.

The water testing in 2022 failed to persuade Hill and other Riis Houses tenants that the foul-smelling, brown water they said still sometimes spouts from their faucets is safe. Hill showed POLITICO videos of cloudy water tainted with brown flecks coming from her sink and faucets.

"Everyone is afraid to use the water," Daphne Williams, the Riis Houses' tenant association president, said in an interview. "We're looking at the particles in the water. We're looking at the color of the water."



### Eric Adams unveils improved budget picture

BY JOE ANUTA | APRIL 24, 2024 07:09 PM

Hill and three of her neighbors told POLITICO they believe the water is to blame for their deteriorating health in recent months. All four described similar symptoms: a burning itch, digestive problems, joint pain and hair loss, among other issues.

"I don't think they've been straight up with us," Mildred Gonzalez, one of Hill's next-door neighbors, said in an interview.

All four said they refuse to drink their tap water — when, they said, they can afford to buy bottled water — but avoiding it entirely is impossible.

Gonzalez, who is 61, said her eyes turn red and she develops rashes after showering. Sabrina Dingle, a lifelong Riis Houses resident, said her skin burns and itches after she showers. Her hair started falling out around the same time as Hill's.

"It felt like my hair was on fire," Dingle said.

Carlos Viner said he recently gave his dog tap water instead of bottled water and it prompted a bout of diarrhea. Dingle said the same happened to her dog on a recent day when she could not afford to buy bottled water.

Health and public housing officials have been quick to invoke other possibilities.

A letter to Hill from the state Department of Health said arsenic levels similar to hers "have been associated with eating fish and other seafood containing arsenic," which is "much less harmful than other forms of arsenic." Hill said allergies prevent her from eating either. Nor does she smoke tobacco, another common source of arsenic exposure.

Meanwhile, a number of other potentially hazardous contaminants lurk close to home.

At the complex one afternoon in April, as residents trickled in wheeling carts of bottled water, gusts of wind carried the smell of sewage.



### Facing record housing shortage, New York Democrats finally take action

BY JANAKI CHADHA | APRIL 22, 2024 05:00 AM

Hill recently moved back into her apartment after several weeks in a hotel room booked by NYCHA, which had been conducting abatement work for asbestos found in her floor tiles, testing records show. She normally leaves the windows open to dilute the persistent smell of mold and mildew, she said, but lately the outdoor air is even worse, blowing dustlike particles onto her window sills.

The Riis Houses site was previously home to a manufactured gas plant, causing underground contamination that will soon undergo a cleanup plan overseen by the state Department of Environmental Conservation. Department officials say a separate, ongoing cleanup project related to Hurricane Sandy is [not impacting drinking water quality](#).


The residents who spoke to POLITICO said NYCHA should retest the water in their apartments and bring in medical professionals to evaluate everyone in the complex. Hill said the situation calls for Adams to return to Riis Houses, where in 2022 he was filmed [drinking the water](#) from one resident's kitchen sink.

“He needs to come back and see what’s happening,” Hill said, “because this is real.”

FILED UNDER: NEW YORK, WATER, ERIC ADAMS

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NEW YORK

## Eric Adams said their water was safe. Public housing residents say they're getting sick.

After a tenant in Manhattan was treated for arsenic poisoning, she and her neighbors are demanding tests of their tap water.



Residents at the Jacob Riis Houses in Manhattan were told in 2022 that tests of their water showed unsafe levels of arsenic, only for the New York City Housing Authority to reverse course and attribute the finding to a lab error. | Spencer Platt/Getty Images

By **MAYA KAUFMAN**  
05/07/2024 07:00 AM EDT



**NEW YORK** — After waking up each morning with swollen eyes and hair falling out in clumps, New York City public housing resident Sheletha Hill landed in a hospital emergency room with suspected arsenic poisoning in March.

A urine sample showed arsenic levels of 117 micrograms per liter — more than

double the threshold triggering a report to the state — and Hill was treated in an emergency room for “symptoms concerning for arsenic toxicity,” according to medical records she shared with POLITICO.

Hill is not alone: Several similarly ailing neighbors at the Jacob Riis Houses in Manhattan’s East Village, a sprawling complex run by the New York City Housing Authority, share her concern that their tap water is to blame.

That presents a problem for Mayor Eric Adams, a Democrat who declared the tap water at Riis Houses safe to drink in 2022, following another water contamination scare.

Decades of neglect and mismanagement within the massive housing system have turned New York City into one of the nation’s largest slumlords — with many of the nearly half-million residents living in crumbling buildings, with broken boilers, faulty elevators and lead paint. The circumstances have saddled Adams and his predecessors with a crisis that appears all but unsolvable for future mayors.

Public housing residents throughout the city have been raising concerns about unsafe living conditions — including possible water contamination — for years. The situation grew so dire, a judge appointed a federal monitor in 2019. The housing authority’s handling of resident complaints since then poses a new political and managerial challenge for Adams.



Residents and activists gather outside of the Jacob Riis Houses for a protest against the living conditions at the public housing unit on September 14, 2022, in New York City. | Spencer Platt/Getty Images

The mayor is still awaiting the findings of a city Department of Investigation probe into that 2022 incident, prompted by Riis Houses residents complaining of cloudy and foul-smelling water. Initial tests were positive for unsafe levels of arsenic, but city officials blamed the findings on a lab error and said retesting found little to no trace of arsenic.

Barbara Brancaccio, executive vice president and chief communications officer for NYCHA, said the housing authority stands by its 2022 test results showing there was never any arsenic in the water at Riis Houses.

“The process has been investigated and put through rigorous evaluation, with robust public transparency, and there is no arsenic in the water,” she said in a statement.

Some of the housing authority’s toughest critics remain skeptical.

“NYCHA’s track record on health and safety has historically been cause for concern—a consequence of local mismanagement and federal disinvestment,” Rep. Ritchie Torres, a Bronx Democrat who grew up in public housing, said in a statement when presented with POLITICO’s findings. “It is in the nature of all institutions to cover up rather than come clean, and NYCHA is no exception

to the rule of self-preservation.”

Torres told POLITICO the housing authority “has an obligation to thoroughly test the water at Riis Houses and ensure that there is no arsenic endangering the health and safety of its residents.”

City Hall spokesperson William Fowler said hundreds of water samples, including from inside apartments and rooftop water tanks, have “conclusively shown no water quality concerns at Riis Houses” and noted that arsenic cannot be tasted, seen or smelled in water.

“Let’s be abundantly clear: there is no arsenic, nor has there ever been any arsenic in the city’s water supply, including the water provided at Riis Houses,” Fowler said in a statement.

Hill and her neighbors said they have tried to avoid drinking the water ever since the testing fiasco and now want NYCHA to revisit the issue.

Hill’s doctors have similarly raised alarm.

“It is critical that the water in her building be tested immediately for arsenic and that appropriate measures be taken to avoid any further exposure for residents of the building,” a doctor at NYU Langone Medical Center’s emergency department wrote in a March 1 note provided to Hill and reviewed by POLITICO.

Hill, who developed sores on the soles of her feet and tingling and numbness in her fingers, said she sent NYCHA the note in March. But no one ever tested her water and instead, an agency official sent her a memo from 2022 stating that “unsafe levels of arsenic are not, and were never, present in the water supply at Jacob Riis Houses.”

In April, she filed suit in housing court demanding that the housing authority test her apartment’s water, and a judge has since ordered an inspection.



A sign directs people to water as residents and activists gather outside of the Jacob Riis Houses for a protest against the living conditions at the public housing unit on September 14, 2022, in New York City. | Spencer Platt/Getty Images

An investigation by the former federal monitor appointed to oversee NYCHA, Bart Schwartz, faulted a broken water pump and an inattentive, inexperienced superintendent for the debacle at Riis Houses, where about 4,000 people live. But the investigation does not appear to have broached the fundamental question of what was or was not in the dirty water that spurred residents' complaints.

Schwartz, through a spokesperson, declined an interview request.

The saga at Riis Houses prompted NYCHA to establish an office of water quality, which is responsible for identifying and addressing possible contaminants. Brancaccio said the city Department of Environmental Protection, out of an abundance of caution, tested the water supply from a nearby city water main in the first week of April and did not detect arsenic.

Nevertheless, residents and elected officials are voicing a familiar concern — that conditions at the housing authority are deteriorating to the point of causing physical harm to residents. Former mayors Mike Bloomberg and Bill de Blasio were similarly unable to fix problems at the housing authority, despite increasing funding, hiring a nationally renowned housing leader and tapping into an Obama-era program to partner with private developers.

Adams inherited an agreement signed by de Blasio that requires the city to spend \$2.2 billion over a decade to fix living conditions for some 361,000 residents of the housing authority's 335 developments.

That deal stemmed from a Justice Department investigation in 2018 that found NYCHA endangered tenants by covering up its failures to address lead paint and other hazards. The scandal put a national spotlight on public housing tenants' living conditions and prompted former President Donald Trump's administration to install a federal monitor to oversee the housing authority's compliance with required reforms. A new monitor started in February, after Schwartz's five-year contract expired.

The water testing in 2022 failed to persuade Hill and other Riis Houses tenants that the foul-smelling, brown water they said still sometimes spouts from their faucets is safe. Hill showed POLITICO videos of cloudy water tainted with brown flecks coming from her sink and faucets.

"Everyone is afraid to use the water," Daphne Williams, the Riis Houses' tenant association president, said in an interview. "We're looking at the particles in the water. We're looking at the color of the water."



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Name: MINNETTA BLOW (PLEASE PRINT)

Address: 1034 ST MARK AV

I represent: SENIOR

Address: \_\_\_\_\_

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Name: Renee Keitel (PLEASE PRINT)

Address: \_\_\_\_\_

I represent: Save Section 9

Address: \_\_\_\_\_

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Date: 5-7-24

Name: Essie Duggan (PLEASE PRINT)

Address: \_\_\_\_\_

I represent: \_\_\_\_\_

Address: Mt. Ararat Center, RD Bronx, NY



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Date: 05-07-24

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Name: VIRA FATUROVA

Address: [redacted] Kandalia Ave

I represent: \_\_\_\_\_

Address: \_\_\_\_\_

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Name: Brian Hanan

Address: \_\_\_\_\_

I represent: NYCHA EVP For Intergov

Address: \_\_\_\_\_

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Name: Jonathan Gouveai

Address: \_\_\_\_\_

I represent: NYCHA EVP for Real Estate

Address: Development

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Name: Aixa Torres

Address: JAMES ST

I represent: Alfred F Smith RP/CDD

Address: \_\_\_\_\_

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Name: Kristie Ortiz

Address: \_\_\_\_\_

I represent: Brooklyn Legal Services Corp. A

Address: \_\_\_\_\_

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(PLEASE PRINT)

Name: Chel Kuperman

Address: \_\_\_\_\_

I represent: Alfred e Smith Resident Assoc

Address: \_\_\_\_\_

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Name: GUYA MCGOWAN - FRENCH

Address: [REDACTED] Blyn 11212

I represent: Woodson Senior

Address: [REDACTED] Blyn 11212

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Date: 5/7/22

**(PLEASE PRINT)**

Name: Carmen Feliciano

Address: [REDACTED]

I represent: Security Matters

Address: [REDACTED] Blyn NY 11212

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in favor  in opposition

Date: 5-9-24

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Name: DIGBY JOHNSON

Address: [REDACTED] Powell St

I represent: Woodson HOCSO

Address: [REDACTED] Powell St

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Name: LAWRENCE SOMMERVILLE

Address: [REDACTED] SAINT MARKS AVE

I represent: MT ARFA R 51

Address: \_\_\_\_\_

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Name: TERRY CAMPUZANO

Address: [REDACTED] EAST 1ST Street NYC [REDACTED]

I represent: Moltzer Tower

Address: [REDACTED] East 1st St. NYC 10009 [REDACTED]

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Name: Eva Trimble

Address: \_\_\_\_\_

I represent: NYCHA COO

Address: \_\_\_\_\_

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(PLEASE PRINT)

Name: Shaan Mavani

Address: \_\_\_\_\_

I represent: NYCHA Chief Asset & Capital

Address: Management Officer

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Name: Annika Lescott-Martinez

Address: \_\_\_\_\_

I represent: NYCHA EVP & CFO

Address: \_\_\_\_\_

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Date: \_\_\_\_\_

(PLEASE PRINT)

Name: Lisa Bova-Hiatt

Address: \_\_\_\_\_

I represent: NYCHA CEO

Address: \_\_\_\_\_

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Date: 5/7/24

(PLEASE PRINT)

Name: Metin N Sarci (Meh-teen) (Sar-see)

Address: [redacted] Riverside Dr NY, NY 10031

I represent: N/A

Address: \_\_\_\_\_

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in favor  in opposition

Date: 5-7-2024

(PLEASE PRINT)

Name: Albert Vignan T.A President

Address: [redacted] Jackson St [redacted]

I represent: \_\_\_\_\_

Address: \_\_\_\_\_

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5832  in favor  in opposition

Date: \_\_\_\_\_

(PLEASE PRINT)

Name: Zulay Velazquez

Address: [redacted] 201-2014

I represent: Self

Address: [redacted]

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