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Testimony Before the District of Columbia Council
Committee on Transportation and the Environment
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Public Hearing:
Green New Deal for a Lead-Free DC Amendment Act of 2023 (B25-0192) and Lead-Free
DC Omnibus Amendment Act of 2023 (B25-0195)

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Introduction

Good morning, Chairperson Allen, and members of the Committee. My name is Makenna Osborn. I am a Policy Attorney at Children’s Law Center and a resident of the District. Children’s Law Center believes every child should grow up with a strong foundation of family, health and education and live in a world free from poverty, trauma, racism and other forms of oppression. Our more than 100 staff – together with DC children and families, community partners and pro bono attorneys – use the law to solve children’s urgent problems today and improve the systems that will affect their lives tomorrow. Since our founding in 1996, we have reached more than 50,000 children and families directly and multiplied our impact by advocating for city-wide solutions that benefit hundreds of thousands more.

Thank you for the opportunity to testify today regarding the Green New Deal for a Lead-Free DC Amendment Act of 2023 and Lead-Free DC Omnibus Amendment Act of 2023.¹ The science is clear — there is no safe level of lead exposure for children.² Children’s Law Center’s clients have experienced firsthand the devastating consequences lead exposure can have on children and their families, which is why we have advocated for years to eliminate lead hazards where children live, play and learn.³

Children’s Law Center strongly supports the Council’s efforts to develop a comprehensive and mandatory lead service line replacement (LSLR) program to remove all lead service lines from the District by 2030. We recommend that the Committee adopt

the Lead-Free DC Omnibus Amendment Act as its base bill moving forward to preserve the well-crafted technical details and model for no cost to property owners. In my testimony today I will detail why Children’s Law Center believes a LSLR mandate with no cost to residents is the best path forward to protect children and families in DC from lead exposure in their water and identify aspects of the proposed bills that Children’s Law Center believes are necessary for a successful and equitable LSLR program in DC.

No Amount of Lead in Drinking Water is Safe for Children

Exposure to lead in drinking water poses a health risk to all members of a household but it is especially dangerous for fetuses and young children.⁴ First, young children absorb four to five times as much lead ingested through drinking water as adults.⁵ Additionally, while a child’s body is still developing and growing rapidly – until around 6 years old – even low amounts of lead in their blood can cause serious and long-lasting harm.⁶ Elevated blood lead levels (EBLL)⁷ in children are associated with:

- damage to the brain and nervous system,
- delayed growth and development,
- and hearing and speech problems.⁸

These adverse health effects result in lower cognitive function and decreased ability to pay attention and control impulses, which pose lifelong challenges to a child’s ability to learn and thrive. A fetus is at risk of the same harms when a pregnant person is exposed to lead as lead in blood can cross the placenta and the transfer can subsequently continue

from an infant's ingestion of breast milk.⁹ When a pregnant person is exposed to lead it also increases the risk of miscarriage, still birth, premature birth and low birth weight.¹⁰

As most children do not have obviously observable symptoms at the time of lead exposure, it is especially important to take a preventative approach to lead in water.¹¹ Investing in full LSLR is a vital step for preventing lead exposure among children in DC. A previous study of children with EBLs in DC found that children living in homes with lead service lines (LSL) were twice as likely to have blood lead levels (BLL) of 5 to 9 µg/dL and three times as likely to have BLLs at or above 10 µg/dL as children living in homes without lead service lines.¹²

Lead contamination in water is also an issue of health equity for children and families in DC. Children living in poverty are at disproportionately high risk for lead exposure through their drinking water because 1) they are more likely to live in housing with lead service lines and other plumbing¹³ and 2) they are more likely to be undernourished, making them more susceptible to lead as bodies absorb more lead when nutrients like calcium and iron are lacking.¹⁴ Additionally, children of color, especially black children are disproportionately harmed by lead exposure. National studies have found that the average BLLs and rate of EBLs among Black children in the US are well above those of children of other races and ethnicities, regardless of family income.¹⁵

The serious and permanent adverse health effects of lead exposure, and their disproportionate impact on people of color, require an aggressive public health response

to sources of lead exposure in DC. As recommended by the Centers for Disease Control Advisory Committee on Childhood Lead Poisoning Prevention, the Council's goal should be "zero tolerance for lead hazards."¹⁶ The two LSLR bills before the Committee are an opportunity to make meaningful progress to remove lead hazards from its water infrastructure, which DC has been struggling to do for over 20 years after experiencing the most severe recorded lead in water crisis in the nation's history.¹⁷

A Full Lead Service Line Replacement Mandate is Necessary to Protect Children from Harmful Lead Exposure

To protect public health in DC now and in the future, the Council must prioritize quickly and fully removing all LSLs from the District's infrastructure. As DC's experience illustrates, if water comes into contact with lead anywhere in the water infrastructure, there will always be a risk of the lead leaching or dislodging into the drinking water.¹⁸ Corrosion control practices can fail over time or if implemented improperly, and even with effective corrosion control in place, LSLs can still release lead into water when a pipe is physically disturbed.¹⁹ It is also now widely acknowledged that partial LSLR is a dangerous practice that can cause spikes in lead levels in tap water for months or years to come with limited to no long-term reduction of lead exposure.²⁰ Full lead service line replacement "is viewed as the most reliable and effective method to reduce lead in drinking water."²¹ Unfortunately, up to this point DC Water's LSLR efforts have been slow and incomplete. In 2019 the Office of the Inspector General estimated that based on the DC Water's rate of LSLRs, it would take 36 years to fully replace all remaining known

LSLs in the District.²² Children and families exposed to lead in their drinking water cannot wait that long.

Both the Green New Deal for a Lead-Free DC Amendment Act and the Lead-Free DC Omnibus Amendment Act take the crucial step of establishing making LSLR mandatory for DC Water and property owners to meet the goal of removing all LSLs in the District by 2030. A mandate from the Council was one of the primary recommendations made by the independent contractor's assessment (hereinafter "the Contractor's Report") of DC Water's Lead-Free DC Lead Service Line Replacement Plan (hereinafter "LFDC Plan").²³ Children's Law Center supports this approach as mandating replacement with a clear timeline for compliance will allow DC Water to implement a streamlined LSLR program at a neighborhood-scale (also known as "block-by-block") resulting in increased efficiency, minimized disruption to residents and decreased costs.²⁴ A similar mandate was passed by Newark, New Jersey's City Council ahead of Newark's successful replacement of over 23,000 LSLs in under three years, which has been nationally recognized as a model LSLR program.²⁵ To achieve comparable success, any LSLR mandate passed by the Council must be accompanied by 1) adequate funding and 2) robust public education.

The Mandate Must be Adequately Funded

Children's Law Center supports the Lead-Free DC Omnibus Amendment Act's commitment to replacing all LSLs, both public and private side, at no cost to property

owners.²⁶ As the Contractor’s Report advised, “[r]equirements for customers to pay, even when there is capacity for financial assistance, create unnecessary barriers and delays to the LSLR.”²⁷ An evaluation of more than 3,400 full and partial LSLRs conducted in DC between 2009 and 2018, when property owners were required to pay for private side replacement, found that more full LSLRs were carried out in census tracts with higher median household incomes and lower percentage of Black residents in both DC Water and customer-initiated replacements.²⁸ As long as a full LSLR program depends on who is willing and able to pay for it, wealthier, white customers will be more likely to participate while low-income and minority households remain at increased risk of harm from lead in their water—making disparities in health equity across DC worse.²⁹

Children’s Law Center recognizes that implementing a mandatory LSLR program with no cost to property owners will place a huge cost on DC Water and supporting District agencies. However, as the Council previously observed, “[t]he social and monetary benefits of aggressive, primary preventative measures speak for themselves when compared to treating children who have been exposed to lead and the subsequent social, behavioral and educational problems they face.”³⁰ One study estimates that the lifetime economic burden of lead exposure in DC just for children born in 2019 could be as high as \$402 million.³¹ Therefore, we encourage the Committee to think about the costs of full LSLR as an investment that will yield net societal and financial benefits to the District over time. An analysis conducted by the Robert Wood Johnson Foundation, Pew

Charitable Trusts and Health Impact Project, projected that removing lead service lines from the homes of children born in the US in 2018 would yield between \$.42 to \$1.33 in future benefits per dollar invested.³² A similar analysis focused specifically on DC found that if the District fully removed any LSLs from the homes of children born in DC in 2019, the net benefit would be \$3.4 million with a return of \$1.80 per dollar invested.³³ These benefits come from decreased health care, education and social assistance costs, and higher lifetime earning potential.

The Mandate Must Be Partnered with Robust Public Education

As DC's Lead Service Line Planning Task Force (Task Force) observed, in DC "[t]here is a lack of understanding in the general public about the dangers of lead and the urgency for lead service line replacement."³⁴ To encourage timely and voluntary compliance with the LSLR mandate, residents and property owners must have sufficient knowledge of the dangers of lead in their drinking water and a clear explanation of the process for replacement. Both LSLR bills include provisions related to public education throughout the LSLR process and require communications to be inclusive for low-literacy audiences and translated for non-English speaking households.³⁵ These provisions are vital to the success of DC's LSLR efforts and should be maintained in the final bill.

Even when LSLs are replaced, there are still lead fixtures, such as faucets and showerheads, in homes that can expose children to lead.³⁶ Lead can enter drinking water when plumbing materials such as chrome-plated brass faucets and plumbing with lead

corrode.³⁷ Therefore, Children’s Law Center recommends that the Committee further strengthen protection of DC residents in the final LSLR bill by adding requirements for community outreach and education regarding risks associated with lead fixtures in the home and how they can be remediated. This is an important factor in the ongoing District-wide effort to remove all lead hazards.

Prioritize Lead Service Line Replacement for Those Most at Risk of Lead Exposure

One reason we recommend moving forward with the Lead-Free DC Omnibus Amendment Act of 2023 as the base LSLR bill for the Committee’s consideration is its inclusion of a detailed priority schedule.³⁸ The suggested priority schedule incorporates several important recommendations made by Safe Water Engineering in their independent assessment of the LFDC Plan including using the census block group rather than census tract scale and assigning priority to children under 6 years old rather than 18 years old.³⁹ This approach will ensure that blocks with young children vulnerable to lead exposure are prioritized in DC Water’s implementation of the LSLR program. Children’s Law Center also recommends that the priority schedule in the final bill be further strengthened by adding data on blood lead levels in children to the prioritization criteria, as recommended by the DC Lead Line Task Force and used in other jurisdictions.⁴⁰ Neighborhoods with higher blood lead levels should be prioritized for LSLR to remove a potential source of lead exposure.

The bill also uses the more precise factors of percentage of Black households and median income in a census block group for prioritization instead of the Area Deprivation Index (ADI) employed in DC Water's current priority schedule. This is a vital change because, as the DC Lead Line Task Force observed, the ADI, which is made up of 17 socioeconomic indicators, includes factors that are not relevant for LSLR prioritization and does not include race.⁴¹ It is important that DC Water expressly prioritize based on a neighborhood's racial composition because race is closely correlated with risk of lead exposure. Black Americans have the highest mean blood lead levels and black children, regardless of household income and other social indicators, experience higher rates of elevated blood lead levels.⁴² Children's Law Center hopes the Committee will keep these aspects of the priority schedule in the final legislation as these will "allow for a more efficient modeling scheme that will be more equitable and transparent to stakeholders."⁴³

Additionally, as part of prioritizing the protection of children under 6 years old from lead exposure, the Committee's final legislation should prohibit or limit the extensions a property owner can receive for LSLR compliance when a pregnant person or child under 6 years old lives in a home. Both the Lead-Free DC Omnibus Amendment Act and Green New Deal for a Lead-Free DC currently have provisions that allow DC Water to extend the deadline for a property owner to independently complete LSLR or register for DC Water's LSLR program.⁴⁴ Under the Lead-Free DC Omnibus Amendment Act, property owners who elect to complete replacement on their own are required to do

so within one year of receiving notice from DC Water that they have a LSL.⁴⁵ However, the bill gives DC Water discretion to grant those owners an extension of up to two years if the owner demonstrates that they have “made good faith effort to comply with the act.”⁴⁶ As a result, a young child living in a property granted an extension could be exposed to lead in their drinking water for three years after DC Water identifies the LSL. Children living in homes where a property owner elects independent replacement face the same health risks from lead contaminated water as those living in homes enrolled for replacement by DC Water and should receive the same prioritization.

Protect and Empower Tenants Affected by Lead Service Lines

Each year, Children’s Law Center works with hundreds of tenant families whose pediatric medical provider has identified a non-medical barrier to a child’s well-being, including when a family needs help forcing their landlord to remediate health-harming conditions in rental housing. Based on this experience we believe it is vital that DC’s LSLR program recognize the unique vulnerabilities tenants face related to lead exposures in their homes by including tenants, not just property owners, in all outreach and education and empowering tenants to pursue LSLR at their home. Therefore, Children’s Law Center supports Section 110 of the Lead-Free DC Omnibus Amendment Act, which 1) enables tenants to submit the right of entry form for a property to facilitate smooth access to the property for replacement, 2) requires landlords to reimburse tenants for temporary relocation expenses incurred during the replacement, and 3) creates a right of action for

tenants in multi-unit residential properties if their landlord does not comply with certain timelines of mandatory LSLR.⁴⁷ The Lead-Free DC Omnibus Amendment Act also importantly makes clear that the bill and all requirements for LSLR apply to properties owned by the District of Columbia Housing Authority (DCHA) to ensure that public housing residents receive the same timely protection from LSLR as other DC residents.⁴⁸ Additionally, if the final bill does include any cost to property owners, like the copayment proposed in the Green New Deal for a Lead-Free DC Amendment Act, we urge the Committee to ensure it also includes a provision prohibit landlords from passing that cost on to tenants in any way.⁴⁹

Provide Free Filters and Maintenance to Affected Households

Children's Law Center believes it is crucial that any LSLR bill passed by the Council includes provisions requiring DC Water to provide free certified lead reducing filters and education on filter use to all households with potential LSLs as soon as possible through six months after the household's LSLR is complete. Even with a full LSLR, lead particles loosened during the construction process can cause temporary increases in lead levels in home's drinking water. Therefore, it is best practice for a water utility to supply households with a water filter certified to remove lead for at least six months following the replacement.⁵⁰ We strongly support Section 108 of the Lead-Free DC Omnibus Amendment Act, which requires DC Water to provide occupants of households with potential LSLs with filters certified for lead reduction within 14 days of notifying the

property owner of LSLs and continue to provide filter cartridge replacements until six months after LSLR — all at no cost to owners or occupants.⁵¹ Note that the Green New Deal for a Lead-Free DC Amendment Act would only DC Water to provide filters until their LSLs are replaced.⁵² The Lead-Free DC Omnibus Amendment Act also includes a valuable extra protection for low-income children and families by making filters available “to all enrollees in the Special Supplementation Nutrition Program for Women, Infants, and Children and the Supplemental Nutrition Assistance Program, regardless of whether the enrollee’s resident is served by a lead service line.”⁵³ We urge the Committee to keep this provision in the final bill.

It is also imperative to provide clear instructions for filter use and maintenance to all affected households. Filters that are improperly installed, have hot water run through them, or that have expired cartridges can be less effective at removing lead and give families a false sense of protection.⁵⁴ The Lead-Free DC Omnibus Amendment Act currently accomplishes this by requiring DC Water and the Department of Energy and Environment (DOEE), in partnership with CBOs, to include “access to and proper usage of lead filters” in its public education and outreach campaigns and specifically supply this information as part of the notice to the owners of all properties with known LSLs or service lines of unknown composition.⁵⁵ We support the inclusion of these provisions in the final LSLR bill and recommend that the Committee strengthen them by expressly

requiring DC Water to supply education to households on filter use and maintenance when they initially supply the filter under Section 108.

Conclusion

Thank you for the opportunity to testify today and for this Committee's leadership on implementing a full LSLR program in DC. Children's Law Center looks forward to working with the Committee to create a single, strengthened bill that protects children and families from lead contaminated drinking water. I welcome any questions you may have and would be happy to discuss our comments further in the future.

¹ See, B25-0192 - Green New Deal for a Lead-Free DC Amendment Act of 2023, legislative text, *available at*: <https://lims.dccouncil.gov/Legislation/B25-0192>; B25-0195 - Lead-Free DC Omnibus Amendment Act of 2023, legislative text, *available at*: <https://lims.dccouncil.gov/Legislation/B25-0195>.

² World Health Organization, *Lead Poisoning*, (August 31, 2022), *available at*: <https://www.who.int/news-room/fact-sheets/detail/lead-poisoning-and-health>.

³ See, e.g., Christina M. Simpson, Children's Law Center, *Testimony Before the District of Columbia Council Committee on Transportation & the Environment*, (September 27, 2022), *available at*:

<https://childrenslawcenter.org/wp-content/uploads/2022/09/Simpson-Lead-9-27-22-Testimony.pdf>;

Charles (Buck) Logan, Children's Law Center, *Testimony Before the District of Columbia Council Committee on Transportation & the Environment*, (November 18, 2019), *available at*: <https://childrenslawcenter.org/wp-content/uploads/2021/07/CLC-Testimony-on-Lead-Bill-B23-407-11132019.pdf>.

⁴ Elevated blood lead levels in adults are associated with several adverse health effects including decreased kidney function, increased blood pressure and increased risk of hypertension. National Institute of Environmental Health Sciences, *Lead*, (August 31, 2022), *available at*:

<https://www.niehs.nih.gov/health/topics/agents/lead/index.cfm#:~:text=Lead%20exposure%20is%20linked%20to%20many%20health%20effects,semen%2C%20such%20as%20lower%20sperm%20counts%20and%20motility>. "Toxic effects of [lead] have been observed in every organ system." United States

Department of Health and Human Services, Agency for Toxic Substances and Disease Registry, *Toxicological Profile for Lead*, p. 4, (August 2020), *available at*:

<https://www.atsdr.cdc.gov/toxprofiles/tp13.pdf>;

⁵ World Health Organization, *Lead Poisoning*, (August 31, 2022), *available at*: <https://www.who.int/news-room/fact-sheets/detail/lead-poisoning-and-health>.

⁶ Altarum, VALUE of Lead Prevention, *Lead Service Line Replacement*, (2019), *available at*:

<http://valueofleadprevention.org/lsl-details.php>; United States Department of Health and Human

Services, Agency for Toxic Substances and Disease Registry, *Toxicological Profile for Lead*, p. 4, (August 2020), available at: <https://www.atsdr.cdc.gov/toxprofiles/tp13.pdf>.

⁷ An elevated blood lead level (EBLL) is one that is above the blood lead reference value set by the Center for Disease Control and Prevention (CDC) to “identify children with blood lead levels that are higher than most children’s levels.” The CDC’s current blood lead reference value is 3.5 micrograms per deciliter (µg/dL). Centers for Disease Control and Prevention, *Blood Lead Reference Value*, <https://www.cdc.gov/nceh/lead/data/blood-lead-reference-value.htm>.

⁸ Centers for Disease Control and Prevention, *Health Effects of Lead Exposure*, (September 2, 2022), available at: <https://www.cdc.gov/nceh/lead/prevention/health-effects.htm>.

⁹ United States Department of Health and Human Services, Agency for Toxic Substances and Disease Registry, *Toxicological Profile for Lead*, p. 4, (August 2020), available at: <https://www.atsdr.cdc.gov/toxprofiles/tp13.pdf>.

¹⁰ See Department of Energy & Environment (DOEE), *Lead and Your Health*, available at: <https://doee.dc.gov/node/9032>; World Health Organization, *Lead Poisoning*, (August 31, 2022), available at: <https://www.who.int/news-room/fact-sheets/detail/lead-poisoning-and-health>; World Health Organization, *Lead Poisoning*, (August 31, 2022), available at: <https://www.who.int/news-room/fact-sheets/detail/lead-poisoning-and-health>.

¹¹ Centers for Disease Control and Prevention, *Health Effects of Lead Exposure*, (September 2, 2022), available at: <https://www.cdc.gov/nceh/lead/prevention/health-effects.htm>.

¹² Mary Jean Brown et al., *Association between children’s blood lead levels, lead service lines, and water disinfection, Washington, DC, 1998–2006*, 111 *Environmental Research* 67 (2011), available at: [Association between children’s blood lead levels, lead service lines, and water disinfection, Washington, DC, 1998–2006 - ScienceDirect](#)

¹³ Health Impact Project, *10 Policies to Prevent and Respond to Childhood Lead Exposure: An Assessment of the Risks Communities Face and Key Federal, State, and Local Solutions*, p. 11, (August 2017), available at: https://altarum.org/sites/default/files/uploaded-publication-files/HIP_Childhood_Lead_Poisoning_report.pdf.

¹⁴ World Health Organization, *Lead Poisoning*, (August 31, 2022), available at: <https://www.who.int/news-room/fact-sheets/detail/lead-poisoning-and-health>.

¹⁵ Health Impact Project, *10 Policies to Prevent and Respond to Childhood Lead Exposure: An Assessment of the Risks Communities Face and Key Federal, State, and Local Solutions*, p. 9, (August 2017), available at: https://altarum.org/sites/default/files/uploaded-publication-files/HIP_Childhood_Lead_Poisoning_report.pdf.

¹⁶ Centers for Disease Control and Prevention, Advisory Committee on Childhood Lead Poisoning Prevention, *Low Level Lead Exposure Harms Children: A Renewed Call for Primary Prevention*, p. 34, (January 4, 2012), available at: https://www.cdc.gov/nceh/lead/ACCLPP/Final_Document_030712.pdf.

¹⁷ Between 2001 and 2004 DC experienced the nation’s most severe lead in water crisis – in terms of the number of homes impacted, the levels of lead found, and the length of time residents were exposed. In 2000, a change in the water treatment chemicals used at the Washington Aqueduct inadvertently caused increased leaching of lead from the District’s lead service lines into the drinking water of DC residents. See Neal Augenstein, *Before Flint: D.C.’s drinking water crisis was even worse*, WTOP News, (April 4, 2016), available at: <https://wtop.com/dc/2016/04/flint-d-c-s-drinking-water-crisis-even-worse/>; Routine testing by DC’s Water and Sewer Authority (WASA), the predecessor to DC Water, revealed an increase in lead levels as early as 2001 and by the summer of 2003, two-thirds of the over 6,000 residences tested by WASA had tap water with lead levels above the Environmental Protection Agency’s (EPA) 15 parts per billion (ppb) threshold when water utilities are required to take corrective action. Despite these

alarmingly high numbers, WASA did not notify impacted residents of the testing results until November 2003 and kept the lead problem from city leaders. The severity of lead contamination in DC's drinking water was not made public until a January 2004 exposé published by the Washington Post. See David Nakamura, *Water in D.C. Exceeds EPA Lead Limit*, Washington Post, (January 31, 2004), available at:

<https://www.washingtonpost.com/archive/politics/2004/01/31/water-in-dc-exceeds-epa-lead-limit/1e54ff9b-a393-4f0a-a2dd-7e8ceedd1e91/>.

¹⁸ In 2004 WASA launched an accelerated LSLR program with the goal of replacing all lead service lines in the District by 2010. However, their work was limited to public side replacements, relying on property owners to pay for any private side replacement. As few owners could afford the several thousand dollars a replacement cost, most replacements carried out under the program were partial. Unfortunately, these partial replacements only exacerbated the lead contamination in DC's drinking water and WASA halted this initial accelerated LSLR program in 2008 after "data indicat[ed] partial replacement caused higher levels of lead in drinking water for at least several months." Rebecca Renner, *Reaction to the Solution: Lead Exposure Following Partial Service Line Replacement*, 118 Environmental Health Perspectives 5, p. A205, (May 2010), available at: <https://ehp.niehs.nih.gov/doi/epdf/10.1289/ehp.118-a202>.

¹⁹ Caroline Pakenham, Roya Alkafaji, and Deborah Philbrick, *Municipal Strategies for Full Lead Service Line Replacement: Lessons from Across the United States*, 4 Illinois Municipal Policy Journal 1, p. 123, (2019), available at: https://las.depaul.edu/centers-and-institutes/chaddick-institute-for-metropolitan-development/research-and-publications/Documents/IMPJ_121-139_Municipal_Strategies_Lead_Service_Replacement_copy%5b1%5d.pdf.

²⁰ Environmental Defense Fund and American University School of Public Affairs, *Lead Pipes and Environmental Justice A study of lead pipe replacement in Washington, DC*, p. 3, (March 2020), available at: https://www.edf.org/sites/default/files/u4296/LeadPipe_EnvironJustice_AU%20and%20EDF%20Report.pdf.

²¹ Altarum, VALUE of Lead Prevention, *Lead Service Line Replacement*, (2019), available at: <http://valueofleadprevention.org/lsl-details.php>.

²² District of Columbia Office of the Inspector General, *DC Water's Procedures for Monitoring Lead in Drinking Water Could be Improved*, p. 10, (April 2019), available at: <https://oig.dc.gov/sites/default/files/Reports/OIG%20Final%20Report%20No.%2018-1-04LA%20--%20DC%20Water%20Procedures%20for%20Monitoring%20Lea...pdf>.

²³ *Independent Verification and Validation of DC Water's Lead Free DC Lead Service Line Removal Plan: FINAL REPORT*, Safe Water Engineering, LLC, p. 36, (September 2022), available at: <https://lms.dccouncil.gov/downloads/LIMS/51294/Introduction/RC24-0221-Introduction.pdf?Id=146215>.

²⁴ *Id.* at 37.

²⁵ Newark initially planned for replacing 1,000 LSLs to take nine months but found that in practice, using a block-by-block approach, 1,000 LSLs could be replaced in 180 days. *Independent Verification and Validation of DC Water's Lead Free DC Lead Service Line Removal Plan: FINAL REPORT*, Safe Water Engineering, LLC, p. 68, (September 2022), available at:

<https://lms.dccouncil.gov/downloads/LIMS/51294/Introduction/RC24-0221-Introduction.pdf?Id=146215>.

See also, Meg Baker, *Newark Lead Service Pipe Replacement Project Expected To Be Done Years Ahead Of Schedule*, CBS New York (CBS2), (November 9, 2021), available at:

<https://www.cbsnews.com/newyork/news/newark-nj-lead-service-pipe-replacement-ahead-of-schedule/>;

Press Release, New Jersey Governor's Office, *Mayor Baraka and Governor Murphy Welcome Vice President Harris and U.S. EPA Administrator Regan to City to Highlight Success of Lead Line Replacement Program*,

(February 11, 2022), available at: <https://www.newarknj.gov/news/mayor-baraka-and-governor-murphy-welcome-vice-president-harris-and-u-s-epa-administrator-regan-to-city-to-highlight-success-of-lead-line-replacement-program>.

²⁶ Lead-Free DC Omnibus Amendment Act of 2023, Sec. 104, line 304-06, legislative text, p. 12, available at: <https://lims.dccouncil.gov/Legislation/B25-0195>.

²⁷ *Independent Verification and Validation of DC Water's Lead Free DC Lead Service Line Removal Plan: FINAL REPORT*, Safe Water Engineering, LLC, p. 36, (September 2022), available at: <https://lims.dccouncil.gov/downloads/LIMS/51294/Introduction/RC24-0221-Introduction.pdf?Id=146215>.

²⁸ Environmental Defense Fund and American University School of Public Affairs, *Lead Pipes and Environmental Justice A study of lead pipe replacement in Washington, DC*, p. 6-7, (March 2020), available at: https://www.edf.org/sites/default/files/u4296/LeadPipe_EnvironJustice_AU%20and%20EDF%20Report.pdf.

²⁹ *Id.* at 8.

³⁰ Council of the District of Columbia, Committee on Public Works and the Environment, *Committee Report on B17-0936, the Lead Hazard Prevention and Elimination Act of 2008*, p. 2-3, (November 21, 2008), available at: <http://lims.dccouncil.us/Download/19361/B17-0936-CommitteeReport1.pdf>.

³¹ Altarum, *VALUE of Lead Prevention, District of Columbia*, (2019), available at:

<http://valueofleadprevention.org/calculations.php?state=District%20Of%20Columbia>.

³² Health Impact Project, *10 Policies to Prevent and Respond to Childhood Lead Exposure: An Assessment of the Risks Communities Face and Key Federal, State, and Local Solutions*, p. 34, (August 2017), available at:

https://altarum.org/sites/default/files/uploaded-publication-files/HIP_Childhood_Lead_Poisoning_report.pdf.

³³ Altarum, *VALUE of Lead Prevention, District of Columbia*, (2019), available at:

<http://valueofleadprevention.org/calculations.php?state=District%20Of%20Columbia>.

³⁴ Washington, DC, Department of Energy & Environment, *Draft D.C. Lead Line Task Force Council Report*, p. 8, (June 2022), available at:

https://doee.dc.gov/sites/default/files/dc/sites/ddoe/service_content/attachments/20220714%20Lead%20Task%20Force%20Report%20draft_clean.pdf.

³⁵ Lead-Free DC Omnibus Amendment Act of 2023, Sec. 113(a)(1), line 612, legislative text, p. 26, available at: <https://lims.dccouncil.gov/Legislation/B25-0195>; Green New Deal for a Lead-Free DC Amendment Act of 2023, Sec. 6015a(a)(1), line 133-37, p. 6, legislative text, available at:

<https://lims.dccouncil.gov/Legislation/B25-0192>.

³⁶ United States Environmental Protection Agency, *Basic Information about Lead in Drinking Water*, (January 27, 2023), available at: <https://www.epa.gov/ground-water-and-drinking-water/basic-information-about-lead-drinking-water>.

³⁷ *Id.*

³⁸ Lead-Free DC Omnibus Amendment Act of 2023, Sec. 105, legislative text, p. 16-18, available at:

<https://lims.dccouncil.gov/Legislation/B25-0195>

³⁹ *Independent Verification and Validation of DC Water's Lead Free DC Lead Service Line Removal Plan: FINAL REPORT*, Safe Water Engineering, LLC, p. 21, (September 2022), available at:

<https://lims.dccouncil.gov/downloads/LIMS/51294/Introduction/RC24-0221-Introduction.pdf?Id=146215>.

⁴⁰ *Id.* at 19-20; Washington, DC, Department of Energy & Environment, *Draft D.C. Lead Line Task Force Council Report*, p. 24, 26, (June 2022), available at:

https://doee.dc.gov/sites/default/files/dc/sites/ddoe/service_content/attachments/20220714%20Lead%20Task%20Force%20Report%20draft_clean.pdf.

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- ⁴¹ Washington, DC, Department of Energy & Environment, *Draft D.C. Lead Line Task Force Council Report*, p. 24-25, (June 2022), *available at*: https://doee.dc.gov/sites/default/files/dc/sites/ddoe/service_content/attachments/20220714%20Lead%20Task%20Force%20Report%20draft_clean.pdf
- ⁴² *Id.* at 24-25; Brandi M. White, Heather Shaw Bonilha & Charles Ellis Jr., *Racial/Ethnic Differences in Childhood Blood Lead Levels Among Children <72 Months of Age in the United States: A Systematic Review of the Literature*, 3 *Journal of Racial and Ethnic Health Disparities*, 145–53, (2016), *available at*: <https://link.springer.com/article/10.1007/s40615-015-0124-9>.
- ⁴³ Washington, DC, Department of Energy & Environment, *Draft D.C. Lead Line Task Force Council Report*, p. 25, (June 2022), *available at*: https://doee.dc.gov/sites/default/files/dc/sites/ddoe/service_content/attachments/20220714%20Lead%20Task%20Force%20Report%20draft_clean.pdf.
- ⁴⁴ Lead-Free DC Omnibus Amendment Act of 2023, Sec. 103(b)(5), line 216 legislative text, p. 9, *available at*: <https://lms.dccouncil.gov/Legislation/B25-0195>; Green New Deal for a Lead-Free DC Amendment Act of 2023, Sec. 6015e(c)(1)(B)(2), p. 8, legislative text, *available at*: <https://lms.dccouncil.gov/Legislation/B25-0192>.
- ⁴⁵ Lead-Free DC Omnibus Amendment Act of 2023, Sec. 103(b)(1)(A), line 172, legislative text, p. 7, *available at*: <https://lms.dccouncil.gov/Legislation/B25-0195>.
- ⁴⁶ *Id.* at line 216-19.
- ⁴⁷ *Id.* at line 505-48.
- ⁴⁸ *Id.* at line 541-47.
- ⁴⁹ Green New Deal for a Lead-Free DC Amendment Act of 2023, Sec. 6015d(a)(1)(2)(A), line 90-94, p. 4, legislative text, *available at*: <https://lms.dccouncil.gov/Legislation/B25-0192>.
- ⁵⁰ CDM Smith, *Lead Service Line Replacements*, *available at*: <https://www.cdmsmith.com/en/Client-Solutions/Insights/LCR-Lead-Service-Line-Replacement>; *Independent Verification and Validation of DC Water's Lead Free DC Lead Service Line Removal Plan: FINAL REPORT*, Safe Water Engineering, LLC, p. 57, (September 2022), *available at*: <https://lms.dccouncil.gov/downloads/LIMS/51294/Introduction/RC24-0221-Introduction.pdf?Id=146215>.
- ⁵¹ Lead-Free DC Omnibus Amendment Act of 2023, Sec. 108, line 458, legislative text, p. 20, *available at*: <https://lms.dccouncil.gov/Legislation/B25-0195>.
- ⁵² Green New Deal for a Lead-Free DC Amendment Act of 2023, Sec. 6015d(a)(1)(2)(B), line 95-96, p. 5, legislative text, *available at*: <https://lms.dccouncil.gov/Legislation/B25-0192>.
- ⁵³ Lead-Free DC Omnibus Amendment Act of 2023, Sec. 108(d), line 486-89, legislative text, p. 21, *available at*: <https://lms.dccouncil.gov/Legislation/B25-0195>.
- ⁵⁴ United States Environmental Protection Agency, *How to Make Your Home Lead-Safe*, (September 13, 2022), *available at*: <https://www.epa.gov/lead/how-make-your-home-lead-safe>.
- ⁵⁵ Lead-Free DC Omnibus Amendment Act of 2023, Sec. 113(a)(1), line 609-15, legislative text, p. 26, *available at*: <https://lms.dccouncil.gov/Legislation/B25-0195>.