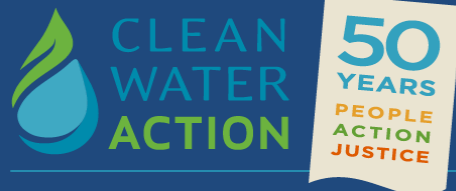


# Expanding Baltimore City's Sewage Backup Assistance Programs



October 2022



# EXECUTIVE SUMMARY

Sewage backups in homes have been increasing in frequency in Baltimore over the past two decades. However, the City has not addressed this problem as the health and environmental hazard that it is, leaving impacted residents with little support. Residents who have experienced sewage backups in their homes and environmental organizations have been sounding the alarm about the effects of sewage backups, pushing Baltimore City to take action to address this environmental injustice. As a result, the City has created two programs to support residents faced with raw sewage backing up in their homes: the Expedited Reimbursement Program (ERP) provides limited financial reimbursement, and the Sewage Onsite Support (SOS) program provides direct cleanup assistance through contractors. While these programs are important steps, both are flawed due to strict qualification criteria and lack of public awareness about the programs. Backups considered “dry weather” events - in other words, caused by conditions like blockages in the pipe system - are not covered under these programs. Yet there are more dry weather backups than wet weather backups in Baltimore, creating a major problem for residents and leaving the majority of backups unsolved. In addition to these stringent eligibility requirements, the two programs are poorly advertised to the general public, leaving both extremely underused. In 2021, the City Council directed the Baltimore City Department of Public Works (DPW) to conduct a study assessing the feasibility of expanding these two programs to address some of these shortcomings. DPW released its feasibility study in October 2021 and recommended against program expansion. This report provides background information about the issue of sewage backups in Baltimore City and the existing assistance programs, summarizes and analyzes DPW’s feasibility study, and makes recommendations for improving and expanding the support systems for residents facing this environmental hazard. It concludes that Baltimore City should maintain and improve both the ERP and SOS programs, expand these programs to include dry weather backups, and increase advertising and proactive implementation of these programs so that more residents can use these resources in the event of dangerous sewage backups in their homes.

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# Background

## Baltimore's Aging Sewer Infrastructure

Baltimore City's sewage system is over a century old. The aging pipes are cracking under pressure, and infiltration by stormwater and groundwater is leading to sewage overflows into local waterways. Baltimore City has been under a federal consent decree to upgrade its failing wastewater infrastructure since 2002.<sup>1</sup> The original deadline to eliminate all sewage overflows from the City's collection system was 2016, but additional problems were discovered in the first phase of the Consent Decree that required the agencies to negotiate new, extended terms of the agreement. In 2016, Baltimore City entered into a Modified Consent Decree with the Maryland Department of the Environment and the U.S. Environmental Protection Agency to address the chronic sewage overflow problems in Baltimore City, with a new deadline of 2030. While the City works to upgrade its sewer pipes and wastewater infrastructure through the consent decree process, it is essential that the City provide support for residents who are impacted by the effects of this aging infrastructure, particularly sewage backups.

## Sewage Backups in Residential Buildings

Sewage backups are expensive, dangerous, and traumatizing events for residents. When raw sewage spurts out from a basement-level toilet, bubbles up from a floor drain, or floods a washing machine, it presents a danger to residents' health, causes damage to homes, and requires immediate attention and resources to fix. These backups happen thousands of times each year in Baltimore and disproportionately affect Black residents due to a long history of segregation, redlining, environmental racism, and inequitable investments in infrastructure.<sup>2,3</sup>

Sewage backups can occur in wet or dry weather. When heavy rain overwhelms the city's sewer system, sewage floods backwards through the system until it reaches the nearest available outlet, whether that's an outfall into a stream, a manhole onto the street, or someone's home. Due to the climate crisis, Baltimore is experiencing more intense and more frequent rain events - and will continue to do so into the foreseeable future.<sup>4</sup>

Backups can also occur during dry weather for a variety of reasons. Sometimes blockages in a resident's private lateral line are the culprit, but often the problem lies beyond those property lines and within the City-owned mainline segments of the collection system. In some cases, the City's old, cracked pipes deteriorate and eventually collapse over time as a result of deferred maintenance. Sometimes, tree roots reach into already-cracked pipes, causing blockages and further damage to the pipes. Blockages from FOG (fats, oils, and grease), "flushable" wipes, tampons, condoms, and other things that enter our sewer pipes that shouldn't be there can also lead to backups. When there are major water main breaks in the City that send millions of gallons of fresh water into the stormwater system all at once, the effect can be much like a wet-weather sewage backup, with water leaking into the sanitary sewer system and causing a backup.

However, in these cases, the event would be classified as “dry-weather” since the source of the excess water gushing through the pipes wasn’t rainfall, but other pieces of derelict water infrastructure.

Furthermore, actions taken by the City to comply with the 2002 federal consent decree have actually increased the rate of sewage backups. When closing off overflow points that discharge sewage directly into local waterways, the City inadvertently increased the number of sewage backups in the homes of Baltimore City residents. In 2004, there were 622 reports of sewage backups. In 2015, there were over 5,000 reported.<sup>5</sup> This makes sense; closing off pipes that essentially serve as emergency relief valves without adding additional capacity to an already-crumbling system predictably led to sewage finding the next available exit: into residents’ homes. DPW has acknowledged that its action to close off the overflow valves has increased the rate of sewage backups in the city.<sup>6</sup>

## Assistance Programs for Sewage Backups

Baltimore City has established two programs to help residents who face sewage backups in their homes. The first is the Expedited Reimbursement Program (ERP), which was launched in 2018 and was a requirement under the Modified Consent Decree.<sup>7</sup> The ERP provides limited financial reimbursement for the costs of cleaning and disinfection after a sewage backup that occurs due to a wet-weather, capacity-related event. While the ERP was an important first step in providing support to residents impacted by sewage backups, it is deeply insufficient:

- The ERP caps reimbursements at \$5,000, even though backups can easily cost \$10,000 or more to remediate;<sup>8</sup>
- It does not include property damage, which is one of the most expensive impacts of sewage backups; and
- Residents whose backups occur during dry weather events are not eligible.
- The program is also significantly underused. During the first year of the program, 311 records indicate that over 4,500 residents reported sewage backups to the city, yet only 74 people applied for the reimbursement program.

Due to these flaws in the ERP, Blue Water Baltimore, Clean Water Action, the Environmental Integrity Project, impacted residents, community associations, and religious organizations advocated for the City to provide direct cleanup assistance to residents who experience sewage backups in their homes.

In March 2021, Baltimore City launched the Sewage Onsite Support (SOS) program to provide this direct cleanup service.<sup>9</sup> The SOS program is intended to remove the administrative and public health burden from residents experiencing a qualified sewage backup by deploying licensed contractors directly to their homes. In theory, a resident makes a report of a sewage backup to 311, and that report is referred to DPW so that inspectors can assess the cause of the backup. If DPW inspectors conclude that the backup was caused by a wet-weather, capacity-

related event, then DPW offers direct cleanup, disinfection, and disposal services to the impacted resident via contractors. The SOS program is more equitable and more protective of public health than the ERP because it does not require residents to pay for costs upfront, and it reduces the likelihood that they'll become sick when trying to clean up the sewage themselves. However, the SOS program is also significantly underused – DPW only provided 14 cleanups from March 2021 - November 2021<sup>10</sup> – and it maintains the same narrow eligibility restrictions as the ERP, continuing to exclude residents whose backups occur in dry weather.

Recognizing that the City's two assistance programs are insufficient, City Councilman Kristerfer Burnett introduced Ordinance 21-044 in May 2021 requiring DPW to conduct a study on the feasibility of expanding the ERP and the SOS programs.<sup>11</sup> This study estimated the cost of expanding both programs to assist residents who experience backups during wet *and* dry weather events. It also included an analysis of obstacles that DPW believes would impede the expansion of the programs to cover dry weather events.

## Analysis of DPW's Feasibility Study

### Key Findings on Current Program Performance

DPW released the feasibility study required by CB21-044 in November 2021.<sup>12</sup> The study provides a comprehensive assessment of the ERP and SOS programs to date. It shows that **far more dry weather backups occur every year in Baltimore City than wet weather backups**. In 2020, 371 backups caused by conditions in the main sewer line occurred during wet weather, while 1,563 occurred during dry weather.<sup>13</sup> This means that the majority of residents who experience sewage backups as a result of problems in City-owned pipes are automatically ineligible for both the ERP and SOS programs under the current program criteria:

- To qualify for the SOS program, Baltimore City homeowners or tenants must report the backup to 311 “as soon as it is discovered,” and then “the City must determine that the damage is caused by a capacity-related wet weather event.”<sup>9</sup>
- To qualify for the ERP, the backup must have been caused by a “capacity-related wet weather event” after April 6, 2018, when the program went into effect. ERP applicants are no longer required to report backups to 311, though they are encouraged to do so.<sup>7</sup>
- Baltimore City defines a “capacity-related wet weather event” as a backup that “occurs when at least ¼ inch of precipitation is recorded within a 24-hour period that causes the sewer lines to surcharge or overflow.”<sup>7</sup> However, MDE has called DPW's definitions of wet and dry weather events into question.<sup>14</sup>

DPW's feasibility study demonstrates that **the SOS program is more effective than the ERP**. The table on page 12 of the study shows that DPW has used the SOS program to clean up 14 backups over the course of 9 months (March - Nov 2021), an average of about 1.5 backups per month.<sup>15</sup> By comparison, DPW granted between 2-9 applications per year under the ERP,<sup>16</sup> an average of 0.17 to 0.75 backups per month. Plus, as noted above, the SOS program helps



residents avoid costs and reduces the likelihood that residents will risk their health to clean up sewage themselves. However, these numbers also demonstrate that **both programs remain significantly underused.**

Under the current program criteria, the 172 backups that occurred in the mainline during wet weather in 2021 would all potentially be eligible for the SOS or ERP programs. But DPW only cleaned up 14 backups and approved 7 ERP applications during this time, leaving the vast majority of the narrow group of people who may actually be eligible for the programs without any assistance. DPW says that it automatically inspects the cause of all 311 reports of sewage backups to identify who is eligible for the SOS program.<sup>15</sup> If this is indeed the case, then there is no clear explanation for why DPW only offered 17 cleanups (14 were accepted and completed) when 172 backups occurred in the mainline during wet weather in 2021. Unlike the ERP, under which the impacted resident must take the first step of seeking out information about the program and submitting an application, it is DPW's responsibility to inform the resident and take the initial steps in the SOS program. Under the current program criteria, it seems that far more than 17 cleanups should have been offered in 2021.

Additionally, the study shows that **the number of ERP applications fluctuates over time, but it consistently underrepresents the number of people who likely could have benefitted from the program.**<sup>16</sup> DPW attributes a short-term decline in ERP applications to the launch of the SOS program,<sup>17</sup> but the number of ERP applications ticked up again in FY22. Regardless of the rationale, the low number of cleanups offered through the SOS program makes it clear that the SOS is not providing assistance to all residents in need and is therefore not an adequate replacement of the ERP. Rather, the disturbingly low number of ERP applications year after year demonstrates that aspects of the program implementation must be improved. The ERP does not work if residents don't know it exists. Specifically, **advertisements and outreach related to this program are not as effective as DPW claims.**

In 2019, our organizations presented specifically about sewage backups and the ERP more than 50 times at community associations and tabled at a number of community events. Anecdotally, most or all community associations that NGOs presented to had not heard about the program from DPW first, which draws into question DPW's claim that the agency's outreach is responsible for 73% of applications received that year.<sup>18</sup> In fact, we and individuals in our networks frequently saw outdated, inaccurate information being distributed by DPW at community events throughout 2019 that indicated that DPW was not liable for costs associated with sewage backups and that impacted individuals should contact the Law Department alone. Furthermore, DPW admitted in a November 2019 hearing on sewage backups that outreach for the ERP had not been effective.<sup>19</sup>

One of the simplest ways to inform residents of the ERP is to ensure 311 operators tell all callers who report sewage backups about the program. However, information about the ERP is not currently part of 311 operators' scripts:

Good day. Please share your name, phone number, back-up location, time and date of the backup. We will have an inspector assess the location, coordinate cleanup if appropriate and desired and provide additional steps that may be considered. An investigator will be in touch with you shortly.<sup>20</sup>

Anecdotally, residents regularly report interactions with 311 operators who do not inform them about the ERP. The table below demonstrates how few residents are currently applying for the ERP or being offered SOS assistance after calling 311. Because the ERP was launched in 2018, and the SOS program was launched in 2021, there is no data for applications to the ERP or cleanups offered through the SOS prior to their respective launch dates. These boxes are marked “n/a.”

Fiscal Year	# of wet-weather backups caused or contributed to by mainline <sup>21</sup>	# of ERP applications processed by DPW <sup>16</sup>	# of SOS cleanings offered by DPW <sup>15</sup>	% of households with a potentially qualifying backup that were not served by ERP or SOS
FY2022*	unknown	25	4	unknown
FY2021	253	39	17	197 (78%)
FY2020	558	22	n/a	536 (96%)
FY2019	401	61	n/a	340 (85%)
FY2018	715	14	n/a	701 (98%)
FY2017	341	n/a	n/a	n/a
FY2016	163	n/a	n/a	n/a

\*FY2022 figures reflect data in DPW’s report on Ordinance 21-044, published in October 2021. Some discrepancies are possible because of data presented in calendar vs fiscal years.

Source of data: DPW report on Ordinance 21-044. Number of wet-weather backups caused or contributed to by mainline conditions (sum of those caused by “Mainline (Public System)” and “Mainline and Lateral (Public and Private system combined)”<sup>21</sup> Number of ERP applications processed by DPW.<sup>16</sup> Number of SOS cleanings offered by DPW.<sup>15</sup>

These figures show that, independent of any discussion of expanding eligibility for these programs, DPW and other involved city agencies must do more to ensure that all currently eligible residents actually have access to these important assistance programs.



## Key Findings about Program Expansion

In their feasibility study, DPW recommends against expanding the ERP and SOS programs beyond their current scope.<sup>22</sup> The agency makes three key arguments against program expansion: funding, capacity, and liability.

To assess the feasibility of expanding the ERP and SOS programs, DPW estimated the costs associated with expanding the two programs based on the average annual number of sewage backups over the past six years, distinguishing between those caused solely by conditions in the mainline (public system), those caused solely by conditions in the lateral (private system), and those caused by conditions in both the mainline and lateral parts of the system simultaneously. If, as we recommend, Baltimore City were to expand these programs to cover all sewage backups caused or contributed to by conditions in the mainline (excluding those solely caused by conditions in the lateral/private portion of the system), *and* if every single qualifying household used the ERP program, DPW's data indicates that the ERP program would cost \$4.3 million.<sup>23</sup> Under the same qualifications, DPW's data indicates that the SOS program would cost \$7.5 million.<sup>24</sup> Since each individual qualifying household would only use the SOS or the ERP, not both, we can assume that the total maximum possible cost of expanding both programs would be around the average of the two projections (or, put another way, the cost if half of qualifying households used the ERP and half used the SOS): \$5.9 million.

At present, the Modified Consent Decree requires DPW to allocate \$2 million per year for the ERP. DPW has also chosen to allocate an additional \$2.5 million annually for the SOS program.<sup>25</sup> That means that there should be \$4.5 million budgeted in FY23 for assistance to residents impacted by sewage backups. Therefore, expanding both programs at a potential maximum cost of \$5.9 million would require roughly \$1.4 million in additional funding. For reference, that is about 0.25% of the police department's FY23 budget.

DPW currently uses wastewater enterprise funds for the ERP and SOS programs and argues that expanding the programs would transform them into "social programs," which is not allowed under the City Charter.<sup>26</sup> If this is true, why can't DPW fund the ERP and SOS programs using a different source that is not subject to these restrictions? This raises the more legitimate argument against program expansion that DPW makes: ratepayers should not be further burdened with water and wastewater rate increases.<sup>27</sup> But raising water bills is not the only way to pay for program expansion. Baltimore City can use state and federal resources, including funds from the American Rescue Plan Act (ARPA) and the Infrastructure Investment and Jobs Act (IIJA), to cover any additional costs that might be incurred in expanding the ERP and SOS programs.

Second, DPW's concerns around contractor capacity<sup>28</sup> seem easily addressed and also present an opportunity to create jobs for residents. If the SOS program is expanded and the current number of contractors cannot meet the demand, then the City can develop an in-house training program, similar to existing programs like YH<sub>2</sub>O,<sup>29</sup> to increase the number of qualified local

contractors. Such a program would be a valuable extension of the success of the YH<sub>2</sub>O program and would create a new pipeline of skilled workers meeting one of the city's many public health needs.

Third, DPW refers to a link between the scope of the ERP and/or the SOS programs and liability decisions in court cases under general liability/negligence principles.<sup>22</sup> There appear to be no case decisions or other law establishing a link between the City's liability in court for negligence and its voluntary decision to help residents with basement sewage backups through these programs. While the City does have a legal obligation under the Modified Consent Decree to provide assistance via the ERP for wet weather capacity-related sewage backups, that requirement relates to compliance with the federal Clean Water Act and is not connected to liability for negligence.

DPW also warns that ERP and SOS program expansion could require the City to pay for sewage backup damages affecting multiple households as a result of "any sudden, unforeseeable, and catastrophic events such as a major failure in a pumping station or sinkhole collapse."<sup>28</sup> These types of catastrophic public infrastructure failures are in fact the exact situations where the City should provide as much support to residents as possible, not skirt responsibility.

## Conclusion & Recommendations

Since DPW released its feasibility study in 2021, the agency submitted a "Long-term plan for building backups" to the Maryland Department of the Environment and the Environmental Protection Agency. In this plan, DPW proposes replacing the ERP with the SOS program, arguing that the SOS is more effective.<sup>30</sup> While we agree that the SOS program is on the whole a better solution than the ERP, we have significant concerns about getting rid of the ERP based on the findings in the feasibility study and from firsthand accounts from residents.

Additionally, in July 2022, DPW released the most recent Modified Consent Decree (MCD) Quarterly Report, which shows an increase in ERP applications but not in assistance provided. In FY22, there were 54 ERP applications and zero of these applications were approved.<sup>31</sup> It is notable that DPW has been required to set aside a total of \$8 million for the ERP since 2018 and has only paid reimbursements of \$21,019.41 to date.<sup>32</sup> This amounts to 0.26% of the total funds allocated for this program. In four years, only 18 people in the entire City of Baltimore have received assistance through the ERP.

Based on DPW's feasibility study, public hearings on the ERP and SOS programs, DPW's proposal to replace the ERP with the SOS program, and the most recent MCD quarterly report, Blue Water Baltimore and Clean Water Action have six key recommendations for Baltimore City:

1. **The City should maintain both assistance programs.** The SOS program is meant to provide immediate cleanup support to residents, but the ERP is an important backstop in

cases where the City's policies for responding to backups and offering assistance do not happen in practice. The extremely low number of cleanups offered during the first eleven months of the SOS program demonstrate that the SOS program is not nearly as proactive as DPW maintains. In addition, if a resident is not offered cleanup through the SOS, then the resident is forced to pay for a cleanup on their own to address the immediate issue. For these incidents, there must still be an ERP so residents can recoup these costs in a timely manner. The slow-moving General Claims process is not an acceptable alternative; that's why the ERP was created in the first place.

2. **DPW should expand both the SOS and the ERP to cover dry weather backups that are caused by any conditions in the public system, not only wet-weather backups.** The feasibility study confirmed that significantly more dry-weather backups occur every year in Baltimore City than wet-weather backups, meaning that the majority of residents who experience sewage backups due to conditions in the public system – over which they have no control – are automatically ineligible for both the ERP and SOS programs. DPW is currently required to set aside \$2 million annually for the ERP. It has also included \$2.5 million in its FY23 budget for the SOS program, bringing the total budgeted to \$4.5 million. As described in this report, the cost of expanding the SOS and ERP programs to cover both wet- and dry- weather backups caused by conditions in the mainline or combined between the mainline and lateral line, if every qualifying household used the programs, is approximately \$5.9 million. The City could close any potential funding gap with state and federal resources such as ARPA and IJJA.
3. **The City should improve the implementation of both programs, focusing on increased advertising and outreach and 311 operator training.** ERP applications have fluctuated over time, and the highest number was received in FY19, the same year that NGOs did a blitz of outreach about the program. 311 operators should be trained to inform callers about *both* programs and how to use them. Additionally, the City can improve awareness of the programs by adding a pop-up about the programs to the online water billing system, including a single line of text on printed water bills, putting up billboards and signs on buses advertising the programs, integrating information about sewage backups and assistance into the City's Red Alert system, issuing robocalls to residents, and partnering with other agencies such as the Health Department that have demonstrated success in social media communication.
4. **DPW should improve the ERP by removing the arbitrary \$5,000 cap on reimbursement and providing reimbursement for both property loss AND cleanup costs.** Residents can face \$10,000+ in damages after sewage backups, and cleanup costs can make up just a fraction of those expenses. Replacing furniture, hot water heaters, furnaces, and other valuables stored in basements and lower levels often comes with the biggest costs. \$5,000 is not adequate to provide residents with the full cleanup services and support that's needed. The reimbursement program should allow funds to be used for property damage, too.

5. **DPW should improve the SOS program by providing more protections for residents' property.** Our organizations have heard from several residents who have used the SOS program that contractors dispatched to clean up sewage backups in their homes threw away their property without any consultation. Contractors should be required to get resident permission prior to throwing away property.
6. **DPW should proactively use its Hydraulic Model to identify residents that may have experienced a capacity-related sewage backup due to wet weather, even if those residents haven't reported a backup to 311.** DPW should conduct proactive outreach to these residents through door knocking, door hangers, direct mailers, and via water bill inserts to let them know about the SOS and ERP programs every time there is a wet-weather event that may have triggered such a backup.

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## Acknowledgements

This report was researched and written by Taylor Smith-Hams and Alice Volpitta of Blue Water Baltimore and Jennifer Kunze of Clean Water Action. Thanks to Leah Kelly of the Environmental Integrity Project, Blue Water Baltimore interns Alex Norbrook and Olivia Yazigi, and Clean Water Action intern Nitya Aggarwal for your contributions to this report.

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