Team ID: UG19

H2O Optimist

Team Member Name	Year	Major
Member 1: Alyssa Souza	2025	Sustainability Management
Member 2: Jackson Martin	2025	International Business
Member 3: Isaiah Reid	2025	International Business
Member 4: Peyton Moncrieffe	2026	Global Studies and Sustainability Management
Member 5: Jillian Crowder	2026	International Business

Advisor(s): Astrid Schmidt-King

Topic Title: Wrestle for Water: Inclusive Solutions to Combat Contamination

Audience: Baltimore City Department of Public Works, Baltimore City Council, Board of Estimates, and the mayor

Sustainable Development Goal

SDG # (6) : Clean Water and Sanitation: Ensure Availability and Sustainable Management of Water and Sanitation For ALL

Executive Summary

Baltimore is one of the oldest cities in the United States, and its large population has faced consistent challenges in ensuring both affordability and access to clean water. More than 275,000 public and private water pipes in Baltimore City and Baltimore County need to be checked for lead. Due to Baltimore City's outdated water infrastructure, it faces challenges in maintaining a reliable water supply to all residents. As a result, water mains in various neighborhoods are being rehabilitated or replaced. If the issue of equitable water access in urban developments goes unaddressed, there will be cascading impacts on Baltimore's human population, specifically regarding health, education, and the workforce. Clean water offers protection from health risks such as waterborne diseases, infections, and severe dehydration. When children lack access to safe water, they often face challenges maintaining concentration in classes and extreme cases miss school, which can hurt their future societal contributions. A reliable water supply is crucial to economic prosperity, without access to clean water people and industries may face financial hardships that impact their ability to participate in the community. This underscores the necessity of proactive measures to ensure the availability of uncontaminated water, which serves as a cornerstone for the health, education, and productivity of Baltimore's population.

By redirecting city resources towards enhanced monitoring of water quality, employing water quality scientists, and acquiring testing equipment, Baltimore can ensure early detection and mitigation of water contaminants. Infrastructure renewal is essential for maintaining the city's water distribution system's safety and efficiency. This process involves assessing and repairing outdated and damaged components, modernizing water treatment plants with the latest technologies, and implementing green infrastructure solutions to reduce stormwater runoff. Additionally, fostering CSR partnerships between the government, private sector, and non-profit organizations can play a critical role in improving water quality and accessibility. Encouraging local businesses to invest in water projects, such as new treatment facilities and conservation education programs, through tax incentives and collaborative projects will bolster efforts to protect water sources and enhance public health.