

Innovating Urban Flood Management: From Chicago's Rainblocker to the Sewer Sentry System

May 2, 2024



In the face of climate change and urbanization, managing stormwater has become a critical challenge for cities worldwide. Chicago's innovative approach to flood mitigation, the "Rainblocker" inlet control valve system, has set a precedent in controlling rainwater and preventing sewer backups. This FEMA-recognized solution ([source](#)) offers us valuable insights into urban resilience. However, with Sewer Sentry, cities now have an opportunity to employ an even more effective, cheaper, and faster solution to manage stormwater effectively.

Chicago's Pioneering Rainblocker Program

Chicago, a city with a storied history and infrastructural challenges resulting from its swampy foundations, has faced recurrent battles with flooding. In 1997, a significant flood event affected 35,000 residents, spurring city officials to seek cost-effective and efficient flood prevention methods. The solution was an inlet control valve system that regulated the inflow of stormwater into the sewer system during peak rainfall, slowing down water and leveraging

streets as temporary holding areas. This Rainblocker program received a substantial \$7.8 million boost from FEMA's Hazard Mitigation Grant Program and proved effective in subsequently reducing flooding in pilot areas.

While Chicago's efforts to mitigate sewer backup represent a significant stride in urban flood control, Sewer Sentry offers a technologically advanced alternative. It's not only more cost-effective, but also faster to implement. The system is designed to provide a robust solution to prevent excess inflow of rainwater, similar to Chicago's Rainblocker but optimized for efficiency and ease of use.

Cost-Effectiveness

The Sewer Sentry system is a cost-conscious solution designed to alleviate budgetary pressures. It stands out as a more affordable option compared to traditional systems. The Rainblocker program, while successful, carried a price tag of \$75 million ([source](#)). In comparison, Sewer Sentry offers substantial savings—with less financial input required for comparable, if not superior, results.

Rapid Implementation

A major selling point for Sewer Sentry is the speed of installation. As urban centers cannot afford extended disruptions, a rapid-deployment system like Sewer Sentry minimizes downtime and gets vital infrastructure up and running quickly. This contrasts with traditional programs that may require more complex and time-consuming installation procedures.

Efficiency

Sewer Sentry works by ensuring that inflow is meticulously controlled—a principle similar to Chicago's strategy to slow down rainwater. However, Sewer Sentry's approach ([source](#)) is unique in its efficiency. Its design, honed through extensive research and development, addresses inflow from a variety of angles. Combined with the fact that it requires no active management during storm events, Sewer Sentry becomes a superior choice for cities seeking dependable results with minimal oversight.

Community and Environmental Impact

The city's focus on community involvement, such as promoting the disconnection of downspouts by homeowners, aligns with Sewer Sentry's philosophy of proactive engagement. Sewer Sentry enhances this community focus by providing a solution that not only protects private property but also contributes to the overall environmental health of the urban setting. By decreasing sewer overflows, Sewer Sentry helps maintain clean waterways and mitigates pollution.

Performance During Extreme Weather Events

Chicago's program has been tested by severe weather, with 80-year-storm events, like the one on August 2, 2001, challenging the system's capacity. While the Rainblocker valves demonstrated efficacy by halving the number of basement flooding calls, Sewer Sentry's potential in such circumstances is even more promising. It's built to handle extreme volumes of water without extensive overland flooding, reducing the strain on both the system and the community in disastrous weather conditions.

Chicago's Rainblocker program deserves commendation for its forward-thinking and impactful design. Yet as technology advances, emerges as the next step in urban flood management—a step that all storm-prone cities should consider taking. It offers higher efficiency, reduced costs, faster deployment, and increased environmental benefits without compromising on the core goal: keeping communities safe from flooding.

As we acknowledge the success of Chicago's approach, it's essential to keep striving for improvement—Sewer Sentry encapsulates this ethos. It stands not as a dismissal of past efforts but as a natural evolution, leveraging lessons learned to achieve even greater heights in flood management. For cities like Chicago and for urban centers around the globe, Sewer Sentry represents the future—a brighter, drier, and more resilient urban landscape.