

# Green Bay, WI Expands Usage of SmartCover Systems in Multiple Innovative Applications to Monitor Flow, Prevent Spills and Track Dynamic Weather Events

## SmartCover Brings Smart Sewer Solutions to Tiletown, USA

**Who:** Green Bay, WI

**Profile:** The City of Green Bay has deployed SmartCover since 2016 to help manage changing water levels within its sanitary sewer and stormwater collection systems. In response to significant weather events in recent years, Green Bay has expanded the usage of SmartCover technology to address rapidly changing water levels during heavy rainfall episodes.

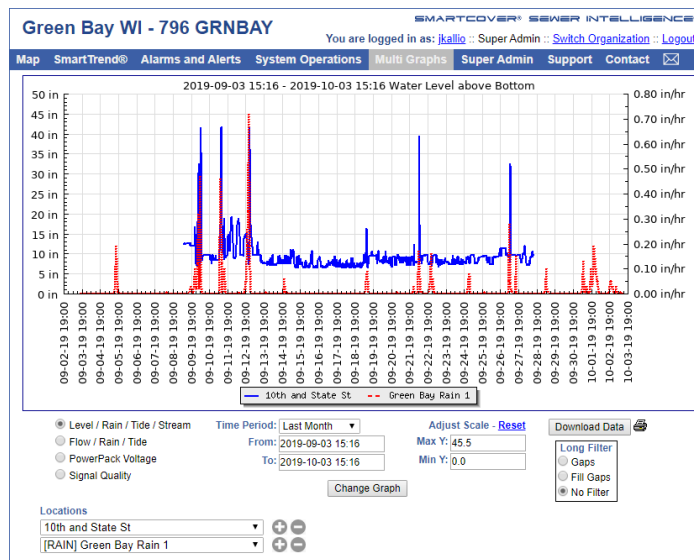


**The Challenge:** Green Bay initially began deploying SmartCover systems in order to get real-time visibility of several manhole locations as they grappled with the need for an estimated \$150 million in sewer/storm water infrastructure repairs and upgrades.

Even as the collection of data has helped Green Bay get a much better picture of when and where water infiltrates the system during flood events, it also became clear that they needed more information about dynamic level changes due to infiltration from rivers.

**River Level Monitoring:** In addition to the units deployed at key manhole locations, Green Bay deployed SmartCover to monitor the East River and Fox River to gain visibility of how upstream flow and river level changes impact downstream flooding in the sewer and stormwater collection systems.

In particular, the East River monitoring uses an innovative configuration in which the SmartCover unit is hung below the Mason Street Bridge to monitor the water level below. During very significant rainfall events, the bridge-mounted unit played an important role in identifying river level changes. The East River registered “high” at 74 inches below the sensor and rose to just seven inches below the bridge at one point.



By monitoring the rapid rise and fall of the East River, combined with data from the Fox River, Green Bay was able to correlate river level changes with storm water infiltration into the collection system. The ability to aggregate and analyze data from the SmartCover system is helping Green Bay more clearly understand the dynamic relationship between upstream flows and downstream infiltration impacts.

### **Dual Sensors Provide Visibility During Rain Events**

While rapid rain infiltration has been identified as the cause for many SmartCover high-level alarms and subsequent submerging of sensors, the data showed sites were not submerged for extended periods of hours or days at a time. However, the loss of visibility even for short periods of time hamper the ability to understand these rapid changes and to make real-time decisions on how to allocate valuable resources.

SmartCover SubSonic Dual Sensor extends visibility throughout the entire manhole from the bottom of the channel to the cover -- with full dynamic range of manholes, it combines the accuracy of ultrasonic with the wide range of a pressure sensor. Green Bay now has access to a pressure sensor to detect water level changes from the outset with continued coverage beyond the point when the ultrasonic sensor becomes submerged. This extended visibility provides valuable data during inflow and infiltration (I&I) water surges when heavy rainfall hits Tiletown, USA.

### **Results:**

According to David Wiesman, Superintendent at the City of Green Bay, "Rapidly rising river levels have historically presented significant challenges with regard to spills. Our ongoing use of SmartCover, along with our adaptive deployment approach, is enabling Green Bay to respond quickly with data-based decisions for managing inflow and infiltration, as well as gain insights into longer term planning, maintenance and capital improvement decisions."

### **Read or Watch News About Green Bay's Innovative Use of SmartCover:**

- [Green Bay Press Gazette](#)
- [Action News ABC-2TV](#)