RH BORDEN

Case Study: A targeted Approach

Madisonville, KY

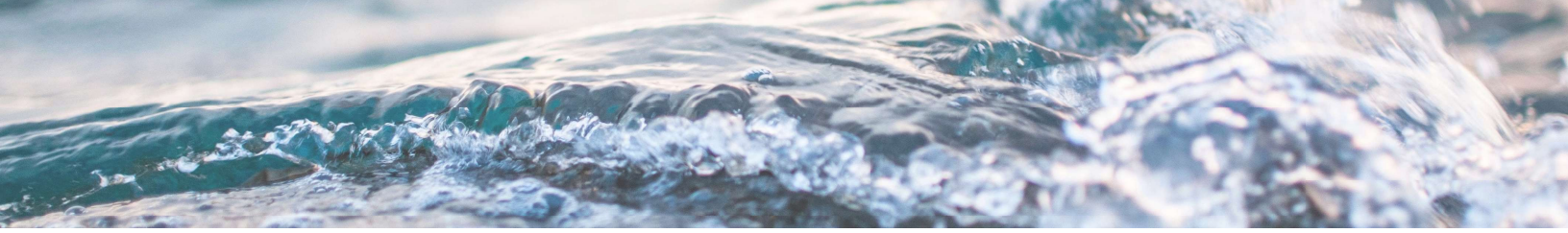
Madisonville, KY I&I Assessment: A Targeted Approach

Madisonville, KY, partnered with RH Borden to identify and mitigate infiltration and inflow (I&I) in its wastewater system using the BASINiQ I&I Assessment program. This advanced approach significantly reduced costs and accelerated results, pinpointing major I&I sources within one or two manholes or a few hundred feet of pipe—without smoke testing, expensive flow meters, or confined space entry.

BASINiQ
• INFLOW / INFILTRATION •

Comprehensive Data Collection and Analysis

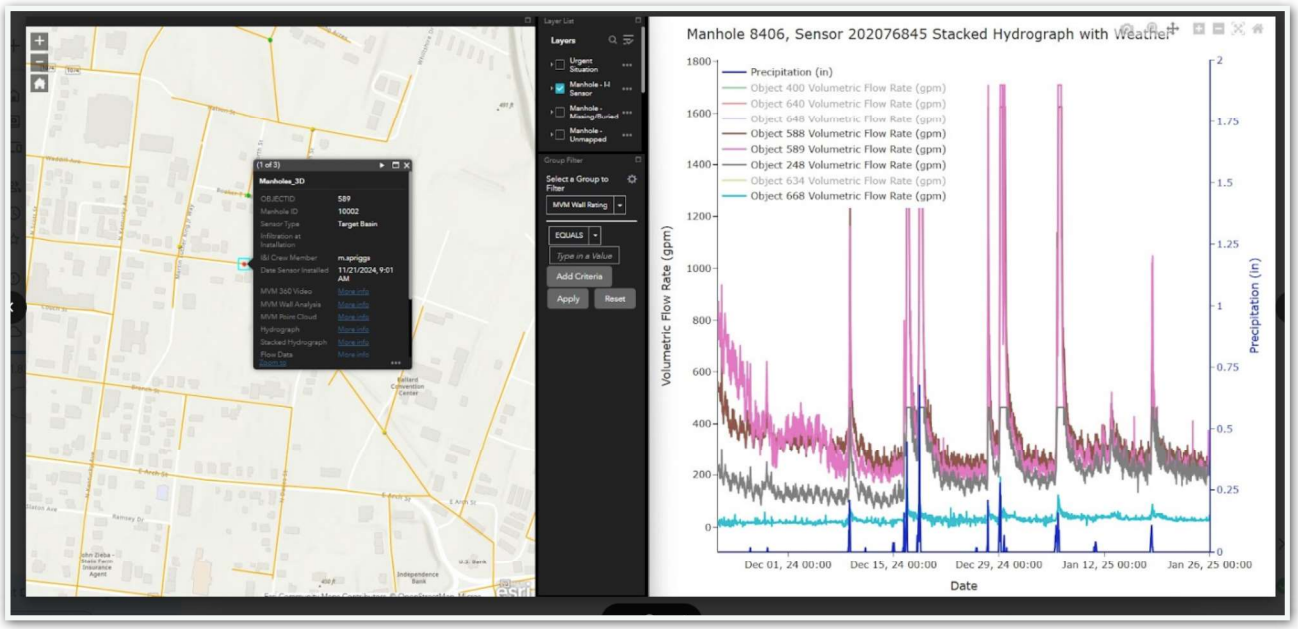
The study involved placing 22 sensors across major and targeted basins, paired with weather data, to accurately locate I&I sources. The analysis prioritized basins by severity, allowing Madisonville to focus capital improvements on the most affected areas. A degraded manhole was identified as a major infiltration source, with 360-degree video confirming missing bricks and large cracks. Addressing this issue will prevent millions of gallons of excess daily flow, reducing treatment costs and extending infrastructure lifespan.



Strategic Benefits and Cost Savings

By utilizing RH Borden's GIS Dashboard, Madisonville gained valuable infrastructure insights, allowing for:

- **Efficient Resource Allocation:** Targeting repairs in high-impact areas.
- **Deferred Maintenance:** Postponing work in basins with minimal infiltration.
- **Operational Cost Reductions:** Preventing unnecessary flow reduces treatment expenses.



The **BASINIQ** study also enabled the creation of digital twins to assess manhole degradation, supporting long-term planning. Madisonville's proactive, data-driven approach serves as a model for other municipalities seeking efficient I&I management solutions.