DUKE'S
ROOTED IN INNOVATION

MICRO-DETECTION OF I/I

Track Infiltration and Inflow quickly and cost effectively.

Duke's deploys the most advanced technology (iTracker® Wi-Fi Enabled Sensors and iTracking® software) to micro-detect infiltration and inflow (I/I), to quickly isolate the line segments within a basin that are contributing excess I/I to minimize SSES services and start working on optimizing your sewer system.

iTracker® sensors, installed and calibrated within minutes, monitor wastewater collection system performance on a continual basis without the requirement for confined-space entry, antennas or repetitive maintenance.

Chasing down Infiltration and Inflow is time consuming and costly. The key is to find specific areas that are contributing major points of entry. Most models detect the problem within a few miles, but the cost of comprehensive rehab rarely pays off.

The sensors and software deduct the lines in the area that aren't contributors and identifies specific areas to address. These units, weighing just 1.9 pounds, provide instant feedback after even the smallest rain event. The unit - accessed by a tablet or smartphone - indicates whether the line was affected by rain or groundwater, allowing you to relocate the iTrackers to pinpoint the specific lines that allow I/I. Once the severe issues in your system are located, the units then provide low- and high-flow alarm notifications before there is an issue. Custom algorithms compare dry days to rain events providing at-a-glance charts, graphs and reports showing volumes of RDII, groundwater I/I contributions and total I/I flows in gpm.

Micro-detection of I/I is the benchmark to making your city or town a Smart Wastewater System.

CASE IN POINT

Proof of iTracking® I/I Micro Detection Technology – Jefferson County, Alabama*

WHAT:

- Multiple entry points for RDII in larger pipes and 8" lines comprising many of the micro-basins.
- Most sites showed little or basically no response to what is considered to be a major 3" rain event, two showed sizable increases during each rain event.

RESULTS:

- With only 14 iTracker sensors, the iTracking technology was capable of monitoring and performing a full I/I analysis of 13 micro-basins plus a "micro-segment" analysis of two of the 13 micro-basins all the way down to a set of adjacent manholes.
- Actual time expended on all three phases plus developing analytical reports came to a total of 48 hours.

CONCLUSION:

Evidence of major infiltration into a 15" section was discovered with the majority located between two manholes. Cameras were immediately dispatched and it was quickly determined that the large volumes of I/I were due to faulty laterals.

* *Eastech Flow Controls, Inc. Jefferson County Pilot, May 21, 2018

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