

You'll Never Get Rid of It All, but...

by Steve Grimm,
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These are probably the eight words I hate to hear the most. Actually, it's the words that come after "BUT" that bother me, but when I hear those first eight words my blood pressure begins to rise. I'm referring, of course, to inflow and infiltration (I&I), and the words that come after "BUT" are usually something like "But, we can design you a plant that will handle the flow". I know I'm starting to sound like a broken record, but in my opinion, and this is just my opinion, not the opinion of New York Rural Water, not the opinion of any regulatory agency and not the opinion of any funding agency, it is my opinion alone, that I&I is not taken seriously. Many of our treatment plants have undergone some sort of upgrade in the past 40 years, yet the collection systems have been, for the most part, ignored. We are now faced with a two-fold problem. Many of our treatment facilities are outdated and having trouble meeting ever increasingly stringent permit limits, AND our collection systems leak like the proverbial sieve. So where do we spend the money? Do we put it in the ground where no one can see it, or do we put it towards a shiny new plant that can handle the storm flows? It's a tough decision. I'm serious. Collection system work is not popular. It disrupts traffic, local commerce and creates noise, dust, and messes to peoples' yards. Treatment plant work is basically out of sight out of mind. Fewer complaints to deal with. Tempting.

As I said earlier, this is my opinion, and mine alone. In my opinion, the money should be spent in both places. Serious attention to I&I can result in lower capital costs for treatment plant upgrades, since the upgrades to the collection system will reduce storm flows, therefore, reducing the need for a larger facility. These larger facilities are often under-loaded, making them very difficult to operate during normal flows. Allow me to illustrate, theoretically, of course.

Let's pretend we have a facility that is currently designed and permitted to handle 500,000 gallons per day (0.500 MGD). During a severe storm event (sudden snow melt, severe rainstorm) the plant tops out at 2 million gallons. The twelve-month certifiable average flow, the flow that is reported to the Department of Environmental Conservation (DEC) annually, is 210,000 gallons per day (0.210 MGD). With the plant operating at less than 50% capacity usually, does it really make sense to seek a permit modification to increase the discharge limit and plant capacity to 1 million gallons per day and virtually ignore the collection system? The plant will still be in violation during these storm events, and you are going to have to address the I&I. The larger plant becomes more difficult to operate during "normal" flows simply because there is not enough "food" and hydraulic push through the plant. It becomes an operators' nightmare.

This isn't rocket science. Proper wastewater treatment depends on food (poop), volume (tank size, detention time), mass (amount of bugs) and flow (average daily). Mess with one

and you mess with all of them. They are all inter-related.

Bottom line. Bigger is not always better. Or the solution. Talk to your operators. Listen to them. Talk to us. That's what we're here for. 💧

