# A LITTLE BIT OF LEGWORK GOES A LONG WAY

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It's the end of April, and as I sit here watching it rain and see all the sewage overflow reports popping up on NY-Alert, my phone keeps ringing. The voices are all different but the requests are the same. "We need some televising!" or "How soon can we schedule some smoke testing?" My response is "We can certainly put you on the schedule BUT we (you) have some legwork to perform prior to the televising or smoke testing".

In order to get the maximum benefits of televising or smoke testing from our (yours and mine) limited resources of time and manpower, we need direction. It makes no sense to throw darts at a map and then investigate where the darts land. By doing a little legwork first you can find that direction by narrowing down the areas to be investigated, allowing us (NYRWA and you) to concentrate on actual, or highly suspect, problem areas.

You may already have some of the most useful information on hand and not even realize it. Those pesky pump station hour meters. You record those hours daily, weekly, monthly, whatever. Those hours tell a story. During normal weather conditions the pumps run this much, dry weather this much, and wet weather, this much. It doesn't get any easier. If you see a spike in wet weather run times, then investigate further. If not, then you have eliminated that area. I was working with a POSS (we all know what those are, right?) that had several sewer sheds serviced by pump stations, all pumping to the main trunk line. By reviewing the pump run times of each pump station we were able to eliminate three of the sewer sheds as problem areas, allowing us to concentrate on the sewer sheds that showed an increase in run times during wet weather. Direction!

You may have heard me say you need to chase the flow. This is where a little bit of time and legwork is required, but the results are worth it. In order to chase flows, you have to get out into the collection system after a rain event. Contrary to popular belief, you don't have to be out there in the middle of a downpour. You can if you like, but it's not necessary. Chasing flows is a systematic process that not only weeds out non-problem areas but also helps prioritize problem areas. All you need is a manhole hook. Start at the first intersecting manhole closest to the treatment plant. I call an intersecting manhole one where sewer lines from side streets, easements, etc. join the main or trunk sewer. Determine the direction of the heaviest flow, taking into consideration how much of the system that line serves. Go to the next intersecting manhole in that direction. Repeat. It's that simple. I was working with a system where we chased the flow. We were televising some sewer main when a nice little 1.3 inch rainfall occurred. The flow jumped so that televising was impossible. We chased the flow instead. We followed the flow, popping manholes, until, low and behold, we lost it! We now had an area isolated for further investigation. It took about an hour to isolate that section of main, but in the end, we were able to concentrate on a smaller identified problem area. Direction!

This last bit of legwork is more time consuming. We tend to look for that one big breach in our collection system, the storm sewer cross connection, break in the sewer line stream crossing or even sump pumps, and we often overlook the condition of the manholes. Over the years I have seen more and more manhole issues as being major contributors to I&I flows. Manhole inspections play an important part in giving us direction. All you really need for manhole inspections is a manhole hook, a good flashlight and an inspection form. NYRWA has a manhole inspection form if you need one. Pop the manhole and document the condition. Are there any visible leaks? Are there water stains indicating potential I&I? Look around the barrel section joints and pipe entrances and exits. Don't forget the trough. It's best to do these inspections in the spring when the water table is typically higher. We were chasing flows in a system one spring not long ago. The initial manhole inspections were conducted over the winter when the ground was frozen. We popped this one manhole that, when inspected earlier that winter, was not leaking. With the groundwater high, this same manhole had at least five individual leaks along the barrel sections as well as major leaks around the pipe entrance and exit. We estimated that one manhole was contributing in excess of eight gallons per minute of flow. DIRECTION!

By doing a little bit of legwork first, you break down problem areas into more workable sections. Further investigation of these smaller areas via smoke testing and televising will now yield more meaningful data. Please contact us if you would like more information or assistance with conducting this legwork and to schedule smoke testing or televising. 💧💧💧