



CLEARING THE CLOG: Adapt Infrastructure and Communications to Combat Flushable Wipes

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Sewer system blockages and overflows can lead to noncompliance with regulatory requirements, as well as significant impacts on the environment if untreated wastewater flows directly into water bodies. Even systems that have functioned well in the past can fail due factors outside of the control of wastewater utilities. The rapid increase in consumer use of non-woven “flushable” wipes is one major factor in sewer system clogs that sewer system maintenance alone can’t solve. Wastewater utilities need to adapt their infrastructure and communications to ensure reliable system performance.



THE RISE OF THE “FLUSHABLE” WIPE

Since the mid-2000s, increasing consumer use of non-woven wipes has created a new challenge for water reclamation systems. The rise of the so-called “flushable” wipe as wreaked havoc with sewer infrastructure. Utilities have been struggling for decades with fats, oils, and grease (FOG), and the combination is a recipe for serious problems.

The consumer wipes market has grown steadily since they were introduced to the market in the 2000s. Today, sales top \$2 billion and are expected to grow by 75% in the coming years. With a cost-per-wipe of just a few cents on average, that’s trillions of these clog-creating scraps of material being used every year. If even a fraction of them go down the drain, it’s no surprise that nearly every community is struggling with clogs.

WHAT MAKES SOMETHING “FLUSHABLE”?

A product labeled as flushable generally means it will clear your toilet bowl. That doesn’t mean it will clear your pipes or break down in the sewer system or at a treatment facility. New York City spends an estimated \$18.8 million annually to degrease sewer pipes, clean up sewer backups, and repair treatment plant equipment damaged by wipes. The cost globally likely rises to a billion dollars or more. While some progress is being made on both the legal and regulatory fronts, utilities are predominately left trying to deal with the day-to-day reality of that these wipes are here to stay.

“The global cost of clearing clogs caused by wipes and FOG is likely over \$1,000,000,000 per year.”

EFFICIENT PUMPS MEET “EFFICIENT” WIPES

For many years, wastewater utilities have been moving to more efficient pumps as they rehabilitate old or build new pump stations. However, upgrading to high-efficiency pumps can have unintended consequences if they become inundated with non-woven wipes. Woodard & Curran worked with the Town of Billerica, Massachusetts, to adapt their infrastructure after a move to high-efficiency pumps coincided with the rise of the “flushable” wipe to create a serious problem.

Billerica was rehabilitating its major wastewater pump stations during the mid-2000’s, installing more energy-efficient pumps just as non-woven wipes usage was increasing. During this time, pump stations were outfitted with typical non-clog pumps that historically have been the workhorses of the industry. Yet these pumps immediately proved to be no match for the quantity and type of material now being routinely introduced into the sewer system.

At that moment in time, very little was known about these non-woven wipes and the ultimate impact they would have on sewer systems. It was assumed that the pump manufacturers were somehow at fault due to changes in their designs. Further investigation determined that the wipes were the source of the problem, and that it was far from unique to Billerica.

ADAPTING YOUR INFRASTRUCTURE

First, Billerica tried to solve the problem by installing channel grinders on the two largest stations that were experiencing the most clogging issues. The grinders were the traditional coil drum channel grinders and they proved to be inadequate almost immediately. These grinders, while excellent at processing bricks, wood, and other large debris, were easily blinded by the wipes and became clogged. This would allow the wipes to bypass the grinder and end up right back in the wet well, clogging the pumps. Thankfully, just as the town was realizing that these issues were not going away anytime soon, so were the grinder and pump industries.

INFRASTRUCTURE FIX: BILLERICA, MA

Problem: high-efficiency pumps quickly clogged by non-woven wipes, and traditional coil drum grinders inadequate for the issue.

Solution: new channel grinders specifically designed to macerate wipes plus supplemental chopper pumps.

Results: increased ability to operate despite the continued presence of wipes.

The grinder manufacturers quickly came up with a new channel grinder design that was specifically targeted toward macerating wipes. The channel grinders in Billerica were replaced with the new style perforated plate channel grinders that have helped address the clogging issue. In addition, typical non-clog pumps have been supplemented with chopper pumps to provide an added degree of reliability.

Billerica's approach to adapting its infrastructure has made a significant difference in how well the community's collection system operates despite the continued presence of "flushable" wipes. Not every utility, though, is in the position to add new grinders or replace existing equipment quickly. They are forced instead to increase scheduled maintenance at problem locations throughout their systems or respond to an endless series of emergencies. Clearly, this is not a sustainable situation.



COMMUNICATION IS KEY

For those of us in the industry, it feels obvious that wipes shouldn't be flushed, and that FOG goes in the trash, not down the drain. Many people, however, simply don't know these rules. Educating them is essential to combating the double menace of non-woven wipes and FOG. Outreach programs are also cheaper than infrastructure solutions. Upgrading a pump station with grinders and less clog-prone pumps will likely cost tens of thousands of dollars. With most utilities managing budgets very carefully, it may be difficult or impossible to fund those projects quickly.



Take the example of York, Maine, a beach community in the south of the state, and one small lift station that services a small residential neighborhood, including a community of residents 55 years and older. This station was the most frequently clogged in York's collection system, requiring multiple inspections and weekly de-ragging during the summer months and only somewhat less frequent maintenance through the rest of the year. Because clearing the clogs takes about two and a half hours of work for at least two staff members, the maintenance time amounts to as much as five extra hours of work per week totaling thousands of dollars in labor every year. That does not account for the additional wear and tear on the pumps, which can cause them to fail years before their expected useful life.

OUTREACH FROM SCRATCH: YORK SEWER DISTRICT

Problem: high volume of wipes causing frequent clogs at certain pump stations, costing thousands of dollars in staff time

Solution: proactive outreach including focus group with affected community and custom bill insert development

The district decided that an outreach effort directly to the community would also provide an opportunity to conduct a bit of "focus group," to help refine outreach materials. At the meeting, it was clear that participants were unaware of the challenges posed by FOG and flushed wipes. Attendees were asked for feedback on potential messages to residents on the subject. Their input clearly identified the need for a clear "ask," such as disposing of wipes in the trash or scraping FOG into a can and throwing it away, which the York Sewer District used to form the core of its outreach to all its users.

So, while infrastructure upgrades are expensive, outreach like media posts, on the other hand, cost only time, and relatively little time at that. Inserts can be added to bills or planned mailings for a few extra dollars and probably won't even increase the postage cost. Taking signage or flyers to community events is another easy way to engage users, and you probably already have them on your schedule. School groups and treatment facility tours, for example, are excellent opportunities to connect with engaged and receptive audiences. Kids often find the stories of clogs fascinating because they're "gross" and are willing messengers that will take information home and share it with their families and caregivers. All these elements of good outreach are affordable and can be combined with things you're already doing.

“Upgrading a pump station to cope with wipes can cost tens of thousands of dollars. The elements of good outreach are affordable and easily combined with other work you are already doing.”

MORE EDUCATION MEANS FEWER CLOGS

The connection between an educated user base and the frequency of clogs is one that we instinctively understand. If people know that flushing wipes is bad, they will do it less, which means clogs occur less frequently and that directly impacts your operations. Sending out fewer crews to clean out clogs or un-jam pumps means they can focus on other important tasks. It might even save you overtime.

Fewer clogs also mean more consistent services, which in turn can help bolster your reputation with users. A better relationship with residents and other stakeholders might open the door for opportunities in the future or make it easier to ask for financial support down the road.

RULES OF GOOD OUTREACH

In Woodard & Curran’s experience working with communities on outreach programs, we have developed a few simple rules. There is no single correct way to plan or implement your outreach, but there are guidelines you can follow to improve your chance of success.

COMMITMENT AND CONSISTENCY

Before you print your mailers or schedule your events, you need to lay the foundation for success by committing to outreach as an ongoing program. Just as importantly, you need to have the buy-in of your staff, because they will all be a part of making it a success. Your team will likely already be on board with the idea of stopping wipes from entering your system but take the time to make it clear that by engaging in the outreach program they will have a direct impact on its success. They are, after all, the people most likely to get questions about the issue, and they should be armed with the information to give clear and consistent answers.

KEEP IT SIMPLE

Working with communities on outreach campaigns, we’ve learned that keeping the message simple is important. Explanations of how wipes and FOG behave in a collection system, or how clogs develop, usually cause folks to tune out before you get to the important step of asking them to change behavior. For most residents, what matters is not what’s in the pipes, but the impact it has on their life, their wallet, or their community and environment. They care about the impacts of sewer blockages, not the details of how they are created.



Keeping messages brief and to-the-point is also essential. A lengthy mailer or a bill insert featuring long paragraphs is much more likely to be ignored. Each communications piece, whether it's a door-hanger, a poster, an image on social media, or the classic bill insert, should focus on a single message and state it clearly and concisely. Avoid packing more information in simply because you have the space.

FOCUS ON THE “ASK”

Your outreach should focus on how people's behavior (flushing wipes, for example) leads to problems or on how a change in behavior can have positive impacts. For example, ask residents to scrape and can their cooking grease. Pair this with warnings that wipes and other materials can cost homeowners significant money in household plumbing repairs or cleanup after a backup, or the potential impact of sewer overflows on their rates, you have a recipe for more effective communication.

THE DOS & DON'TS OF GOOD OUTREACH

DO:

- » Keep messages to residents simple
- » Talk about impacts on economy, environment, and their wallet
- » Make an “ask” and include clear calls to action
- » Use multiple channels – mailings, social media, newspaper, etc.
- » Know your audience & tailor your message and format

DON'T:

- » “Bury the lead” with a long introduction
- » Spend time on descriptions of how clogs are created

KNOW YOUR AUDIENCE & USE MULTIPLE CHANNELS

Depending on the demographics of your community, you may find that certain types of communications are more effective. In general, older residents will likely prefer printed mailers to web-based communications. Different social media networks also have unique demographic profiles. For example, Facebook users are older on average than Twitter or Instagram users. If you have a high number of short-term rentals in your community, then nice-looking posters that landlords can put in their units could be very effective. Your program should take these factors into consideration, and you can even tailor your approach neighborhood by neighborhood.

It is also important to get your messages out through more than one communication channel. You residents will have a diverse set of preferences about how they receive information and you will have to meet them where they are and leverage every method at your disposal.

Addressing sewer system clogs caused by “flushable” wipes can cost wastewater utilities thousands of dollars per year and deplete already limited maintenance budgets. Utilities should consider not only adapting their infrastructure to more reliably handle non-woven wipes, but also developing a public outreach program to prevent these wipes from entering the sewer system in the first place. There is no one-size-fits-all approach when it comes to public outreach, but utilities can improve their chance of success by following the guidelines outlined here. Communication is key to changing people's behavior to have positive impacts on system performance over time.

FREE OUTREACH TOOLS

READY-TO-USE GRAPHICS

Included with this toolkit are three sets of free-to use graphics (one example below) that can help get you started on a wipes and FOG outreach program. Please feel free to use them on your website, distribute them on social media, or use the ready-to-print versions to send to customers or hand out at events. We hope that this gives you a jump-start in your race to reduce wipes use in your community.



OUTREACH EXAMPLES

There are a number of utilities and organizations across the country and world who are building outreach programs on this subject. Here are just a few examples:

-  [Trash It. Don't Flush It.](#)
-  [Wipes Clog Pipes](#)
-  [Don't Flush That!](#)
-  [Toilets Are Not Trashcans](#)
-  [The Unflushables](#)

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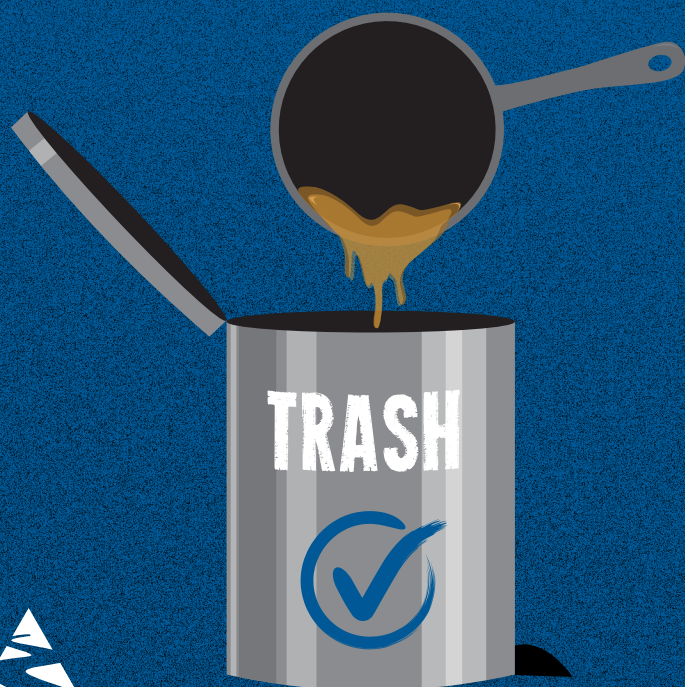
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STOP THE CLOG! DON'T DUMP FOG

Don't pour fats, oils, and grease
(aka, FOG) down the drain!

They can combine to
create huge blockages in
the sewers, leading to
overflows that cost
thousands to fix and
damage the environment.



STOP THE CLOG! DON'T DUMP FOG



Cooking oils congeal in your pipes and cause clogs. Scrape, can, and trash your fats, oils, and grease.

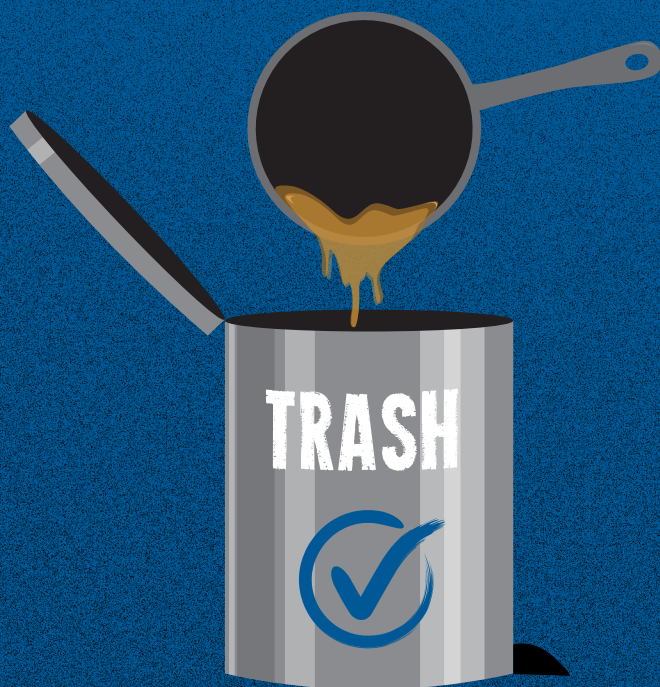


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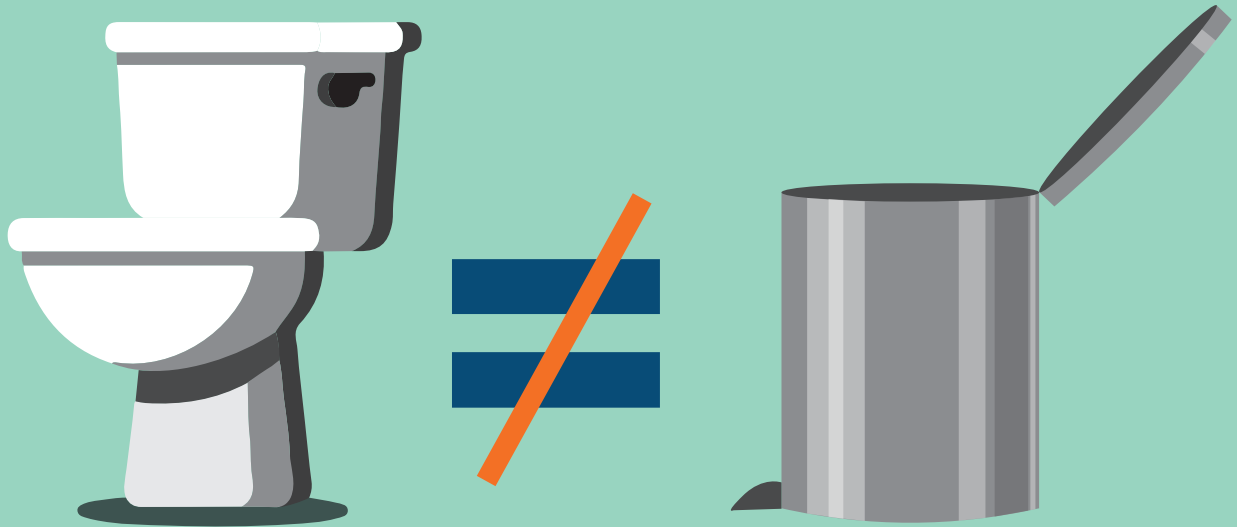


AVOID A CLOG! DON'T DUMP FOG



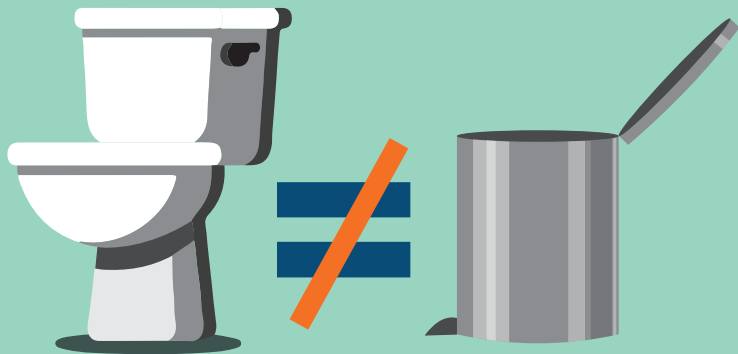
Scrape, can, and
trash fats, oils, and
grease. Dumping them
down the drain leads
to clogs, backups, and
ruined vacations.

DON'T TREAT YOUR **TOILET** LIKE A **TRASHCAN**



*Only the 3 Ps — **pee, poop, and toilet paper** — are safe to flush. Anything else can clog pipes and sewer lines leading to:*

- » Thousands of dollars in plumbing repairs
- » Sewer overflows that hurt the environment
- » Costly repairs that can raise your water bill

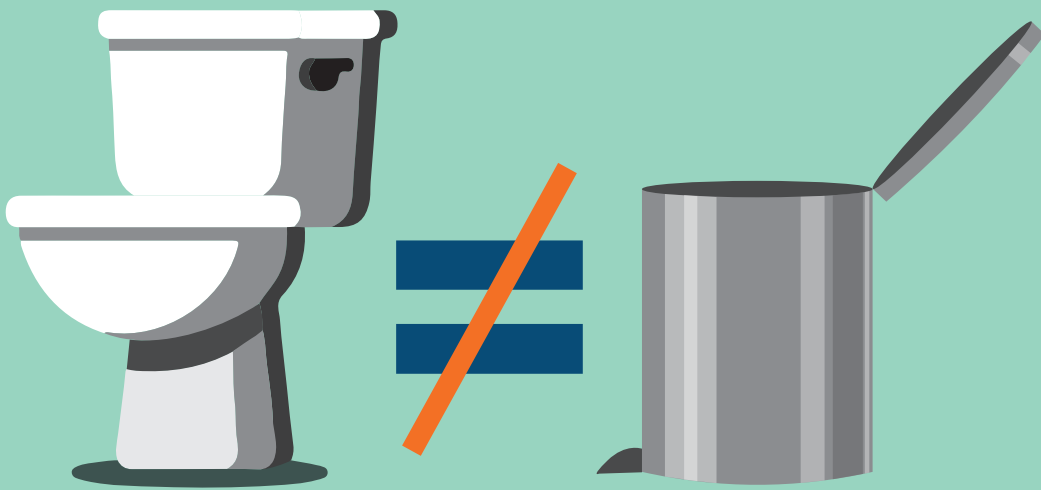


DON'T TREAT **TOILETS** LIKE **TRASHCANS**

*Wipes clog pipes
and sewers,
costing thousands
to clear and repair.*



THIS **TOILET** IS **NOT** A **TRASHCAN**



Only **pee, poop, and toilet paper** are safe to flush. Never flush wipes, feminine hygiene products, or other trash.



WIPES CLOG PIPES!

“Flushable” wipes don’t break down in your pipes or in sewers, leading to clogs that **cost you money** and hurt the environment.



Wipes can get caught in your plumbing leading to backups and expensive repairs



Wipes damage wastewater treatment systems, costing you extra money in future rate increases



Wipes create sewer overflows, which can dump untreated sewage into the environment

An illustration of a grey U-shaped pipe. The left vertical section contains a green liquid. The bottom curve of the pipe is blocked by a white, crumpled paper-like substance. A grey line extends from the right side of the pipe, framing the text.

WIPES CLOG PIPES!

“Flushable” wipes don’t break down in your pipes and can cause clogs that **cost thousands to repair.**

An illustration of a grey vertical pipe with a horizontal section. A large white circle with a dashed border is positioned above the horizontal section. Inside the horizontal section, there is a clog made of yellow and white paper-like material. A green liquid is shown at the bottom of the vertical section of the pipe. The text 'WIPES CLOG PIPES!' is written in blue and green capital letters to the right of the pipe.

WIPES CLOG PIPES!

“Flushable” wipes don’t break down in your pipes and can cause clogs that **cost thousands to repair.**

WIPES CLOG PIPES!

Nothing ruins
your visit like a
sewer backup!



Don't flush wipes, feminine hygiene products,
or other trash down the toilet.