

# Sewer Treatment Plant Infrastructure Renewal



## Budget Amendment

Aaron Dondale, Manager of Public Works  
Committee of the Whole Meeting  
6 July, 2021



MUNICIPALITY *of the*  
COUNTY *of* KINGS

# Agenda

- Household Cleaning Wipes Debris in Wastewater
- Local Impact
- Ongoing Projects within the Municipality
- Vertical Augers
- Recommendation to Council

# PPE and Disposable Wipes – Big Business!

- For most of 2020, face masks were the No. 1 most-searched products on Amazon.  
<https://www.marketwatch.com/story/pretty-much-everyone-has-them-on-sale-as-sales-drop-the-nationwide-rush-to-buy-face-masks-is-finally-over-11621876242>
- ... increased older population in all worldwide locations has resulted into promising sales opportunities in the market.  
<https://www.prnewswire.com/news-releases/ongoing-covid-19-pandemic-projected-to-boost-sales-in-surgical-masks-market-states-tmr-301228193.html>
- [London] spends millions of dollars a year addressing the fallout from flushable wipes, which are responsible for nine out of 10 sewer clogs  
<https://www.satulaboratory.com/2019/03/18/wet-wipes-have-long-history-but-concept-is-evolving/>
- The global wipes market is expected grow from \$39.6 billion in 2020 to \$41.69 billion in 2021 (...) The market is expected to reach \$48.17 billion in 2025 at a CAGR of 4%.  
<https://www.globenewswire.com/news-release/2021/04/27/2217546/0/en/Wipes-Global-Market-Report-2021-COVID-19-Growth-And-Change-To-2030.html>
- Future Market Insights' recent report on the antimicrobial wipes market predicts a double-digit growth during the 2020-2030 forecast period.  
<https://www.prnewswire.com/ae/news-releases/anti-microbial-wipes-usage-surges-amid-covid-19-finds-a-future-market-insights-study-301097052.html>



# Are Wet Wipes Wrecking the World's Sewers?

The battle over what it means to be “flushable”

By Matt Kessler

# Bus-sized fatberg weighing 40 tonnes cleared from London sewer

**Blockage in Greenwich prompts Thames Water to reissue warning about waste disposal**

## Exclusive: NYC Waging Costly War Against ‘Fatbergs’

Department Of Environmental Protection Officials Imploring City Residents To Not Flush Wipes And Grease Down The Toilet

February 20, 2019 at 11:59 pm Filed Under: [Baby Wipes](#), [Lisa Rozner](#), [Local TV](#), [New York](#), [NYC Department of Environmental Protection](#)

NEWS & FEATURES

# Clogging the System: The Feud Over Flushable Wipes

*While scientists test claims about bathroom wipes, industry and watchdog groups point fingers over sewer clogs.*

*Top: Washington Suburban Sanitary Commission Facility technician Steve Thomas catches “flushable” wipes before they can clog sewer equipment in Greenbelt, Maryland. Visual: Jonathan Newton / The Washington Post / Getty Images*

Transportation

# A nasty pandemic problem: More flushed wipes are clogging pipes, sending sewage into homes

New Brunswick

## COVID-19 playing role in Saint John sewage backups



People flushing disinfectant wipes down their toilets playing havoc with system.



[Connell Smith](#) · CBC News · Posted: Apr 29, 2020 7:00 AM AT | Last Updated: April 29, 2020



# Canadian Water and Waste Water Association

*All of us in the wastewater sector understand the harmful impact that so-called flushable products have on our municipal wastewater systems. From additional maintenance, to equipment damage, to clogs and system failures to contamination of sludge, this issue is costing Canadian municipalities over \$250 million each year.*



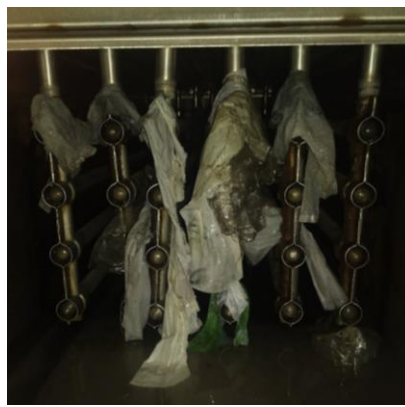
# Local Impact

- Lift Stations
  - Wipes clog pumps, creating excessive wear and tear on the pump, excessive energy usage, and excessive noise to residents (e.g. AT3, CK1)
  - Secondary wet well flowline clogged with wipes, leading to backups in sewer lines (Hantsport, Holme's Hill; ~1 km backup)



# Local Impact

- Lagoons
  - Wipes and hygiene products remain suspended in water column (neutrally buoyant) and accumulate around diffusers, leading to inadequate aeration of the lagoons. Leads to low oxygen content; septic ponds; odor.
  - Wipes and hygiene products do not biodegrade, accumulate in the lagoon, and rot; odor.
  - Treatment plant performance no longer in compliance with BOD and TSS limits set forth by NSE.



Today's wastewater contains a high amount of inorganic trash and debris, which has been further compounded by the COVID-19 Pandemic.

The high amount of inorganic trash and debris is leading to excessive wear and tear on our infrastructure; driving up our maintenance costs; negatively impacting treatment plant performance; contributing to odors in our communities.





# Ongoing Projects

- Hants Border Bacterial Treatment
- Aylesford Diffusors
- AT2, CK1 Improvements
- Replacement filtration screens for RGT
- Auger filtration (Hants Border, Canning, Aylesford, Aldershot, Waterville)
- Regional Desludge Project
- Asset Management Software
- SCADA Project
- RG7 Improvements
- GW Water Towers
- GW New Well Field
- RG4 Pump Rebuild
- Trojan 3000 Beta Test
- New EPW Building
- Traffic Control
- Lift Station Upgrades (CG4, GW11, GW10, HB2, GW7, GW9, RG8, CK4, AD2, CB2, AT3)



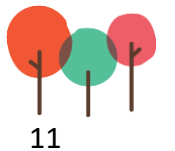
# Inert Waste Filtration

- Remove waste inert from the treatment process chain
  - Improve treatment process performance
  - Improve sludge quality
  - Improve overall appearance of the final effluent
  - Reduce maintenance and operation costs associated with wear and damage to infrastructure
- Many filtration options exist (bars, screens, rakes, rotary drums, augers, ...)

# Local Filtration Infrastructure

Plant Location	Filtration	Installed	
Falmouth	Auger Screen	2008	
Wolfville	Auger Screen	2020	
Regional	Drum Screens	pre-2000	Modification underway
Waterville	Bar Screens	Pre-2000	Modified
Berwick	Drum Screens	pre-2000	Modified
Greenwood	Auger Screen	~2015	
Middleton	Auger Screen	2012	
Annapolis Royal	Auger Screen	2021*	

- Local relevant industry has adopted auger screens for inorganic debris management



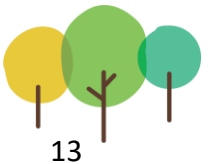
# Auger Screens



- Local NS support
- Safety Considerations
- Ease of Maintenance
- Modular Design

# Recommendation

*That Municipal Council reallocate \$850,000 from sewer reserves to expedite the design and installation of new screening equipment and related infrastructure due to the ongoing operational impact to the treatment facilities and public concerns over odours.*



# Discussion

