

Recycled Street Sweepings Pilot Program

Roads, Parks and Fleet Department



Presented By: Jacob Reid, Senior Operations Technologist



Where it all Started.

Roads, Stormwater and Rail Operations Branch Staff started last fall in the quest to answer some big questions.

- How much Winter Sand do we put down on City Streets each winter season?
- Of that sand, how much do we recover the following year? (through street sweeping, cleaning half of the City's catch basins and other storm infrastructure)
- Of the street sweepings collected, was any of it contaminated?

If so, what do we need to do with it?

If not, what should we do with it?

It's not contaminated, but it's still a waste. What are the options?

- Disposal at City landfill - \$625,000
- Disposal at a Soil Treatment Facility - \$580,000 + Haulage
- Disposal by Private Waste Companies - ~\$480,000
- **Street sweepings Reuse - \$40,000 + disposal of “overs”**



From the numbers, it looks like a purely financial decision. It's not though! Here's where the science and engineering makes this idea a reality. Without it, this pilot wouldn't have been an option.

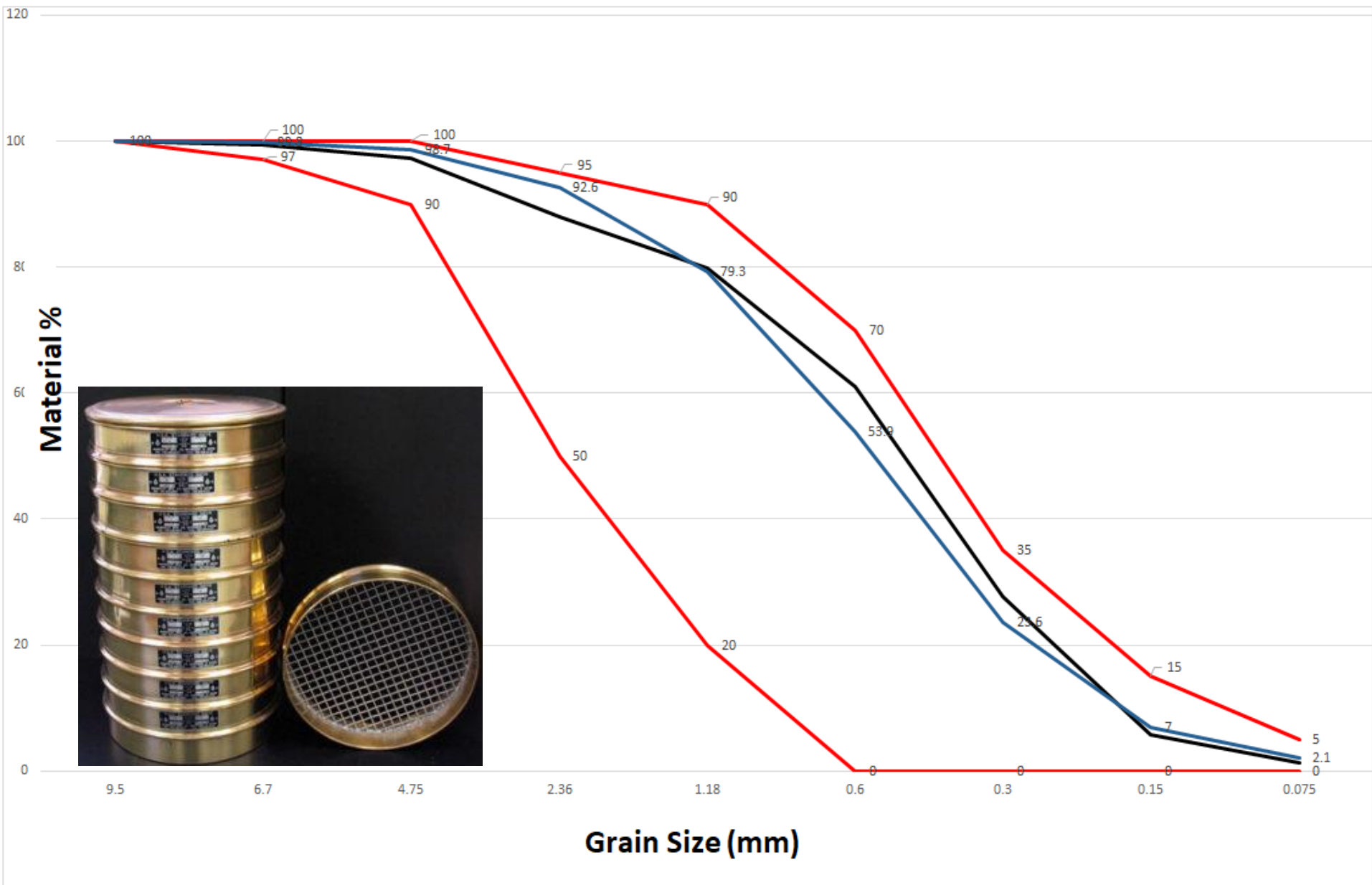


Winter Sand Quality

There's been a bit of an industry myth that winter sand applied to roads cannot be re-used as it "loses edges" and would be unsafe for traction. This is not true.

Winter Sand has to meet the Ontario Provincial Standard Specification- OPSS 1004.05.08. This standard requires the combination of different sand sizes which together provides the required traction for safe travel of vehicles on our roads.

The OPSS is broad enough to account for different sand sources across Ontario (Geographical variances). Our sand sources here in Simcoe County tend to be on the fine side in terms of the acceptable limits.



Ontario Provincial Standard Specification for Winter Sand (OPSS 1004.05.08)

Financials

Due to unexpected changes in policy for receiving Street Sweepings at the City's Landfill Site in Spring 2017.

Costs that would have been incurred for business as usual:

Landfill Disposal Costs:	\$625,000
Purchase of New Winter Sand:	\$79,000
Total:	\$704,000

Recycled Street Sweepings Pilot Program:

Screening to meet OPSS:	\$35,000
Landfill Disposal of "overs":	\$112,000
Purchase of Winter Sand:	\$40,000 (Projected for the 2017/18 Winter Season)
Total:	\$187,000

2017 Cost Avoidance: \$438,000

Pilot Program Results

- 7,400 tonnes of sand applied to City streets last winter
- 4,137 tonnes of street sweepings collected spring/summer
- 3,600 tonnes of Usable, Recycled Street Sweepings
- 741 tonnes of waste “overs” generated/disposed
- 87% of 2017 Street Sweepings diverted from landfill

The Final Product Recipe

75% Recycled Street Sweepings (3,600 tonnes)

+

25% New Sand (1,000 tonnes)

then to that total volume, we added 6% Salt (300 tonnes)



Acknowledgement

This pilot program could not have been achieved without the many City staff and external assistance that helped us along the way. It is a great example of collaboration and teamwork which was crucial to this being a success.