

Cities need attitude adjustment on soil say stakeholders

by Don Wall Dec 20, 2016

Three prominent construction sector stakeholders have banded together to attempt to convince Ontario municipalities to reform their excess-soil management practices.



The message that the Ontario Society of Professional Engineers (OSPE), the Greater Toronto Sewer and Watermain Construction Association (GTSWCA) and the **Residential and Civil Construction Alliance of Ontario (RCCAO)** will send is that there are new best practices that should be followed that make both financial and environmental sense.

"What we are trying to say is, there is a better way to manage this," said Giovanni Cautillo, executive director of the GTSWCA.

"We've done a study so we can show quantitative evidence to the municipalities and say, look, you can save yourself money. And your environmental stewardship can be increased."

The report, titled *Excess Soil Management: Ontario is Wasting a Precious Resource*, tracks data from 24 projects in the sewer, roads, bridges, residential and ICI sectors. Some reporting firms followed a Best Management Practices (BMP) model enshrined in the 2014 provincial government document titled *Management of Excess Soil – A Guide for Best Management Practices* while others did not.

On average, handling of excess soil represented 14 per cent of total project value for the 24 projects. One-way truck travel to dispose of soil averaged just over 60 kilometres, and over half of the contractors indicated that soils were taken to a licensed landfill site. One-third of respondents reported that a soil management plan was prepared for the project.

The findings will provide plenty of ammunition as they approach municipal engineers and managers, the stakeholders pointed out. In total, truck traffic for all 24 projects is estimated to have generated over 300 tonnes of CO₂. For those using a BMP approach, average cost savings of nine per cent were achieved.

It was also found that average savings would have been 13 per cent (or almost \$1.8 million) for each project if excavated soil had been reused; for all 24 projects, this would generate a savings of almost \$43 million.

The study argues that municipalities tend to treat soil removed during projects as a waste product, to be trucked away from the project site, but often that's misguided.

"Even saying excess soils, it sounds like a waste product," said Cautillo. "It isn't, it's a resource."

An Excess Soil Engagement Group (ESEG) has been meeting to move the best-practices undertaking forward. RCCAO executive director Andy Manahan, an ESEG member, said the next steps would be to disseminate the study and encourage municipalities to adopt the best practices and ensure uniformity across the province through promotion of a "model bylaw."

"In projects where the soil could be reused, that is where we are trying to educate the broader community as well as municipalities, that if you do a lot of upfront planning, if you put in your tender documents, 'thou shalt use the BMP guide and various other best practices to ensure soil is reused when it is clean,' that would be preferred in terms of the bidder that you select," said Manahan.

More data also needs to be obtained, he said, as all stakeholders work to build on the 2014 guide and another document, the Proposed Soil Management Policy Framework released in 2016 by the provincial government.

"It is a matter of technical solutions as well that are going to help us," said Manahan. As an example, there is an app, he said, that will better link haulers to contractors.

Cautillo said many municipal engineers follow old practices and mandate in many cases that when native soil is removed for a watermain project, for example, virgin aggregate — sourced from a quarry, creating GHG emissions, and trucked in, causing further emissions — must be used as fill.

"A lot of times that doesn't make sense," said Cautillo. "We follow it because that's what prescribed but it's not always the best way."

OSPE board director Steven Rose, a soil specialist, said in a written statement that close consultation between parties is essential to obtain good results.

"Reuse on site is often a first option and we frequently work with clients to achieve a cut-fill balance that minimizes the need to import or export soils from a site," said Rose.

Contamination of existing soil and concerns about settlement are two reasons why owners insist on fresh fill, the stakeholders said.

Rose said the City of Toronto now requires unshrinkable "u-fill" in all rights of way to avoid settlement of traffic surfaces.

Cautillo noted that practice can causes problems down the line when unanticipated work needs to be done. The u-fill is like cement and is extremely difficult to break up.