Recommendation

That the report from the Project Coordinator – Water & Sewer entitled Lakefield Lagoon Sludge Removal Update be received for information.

Information

Terrapure Environmental mobilized to site on September 24th with dredging operations beginning September 27th. During the Sludge Removal project they successfully removed and land applied 17,840 m³, or 446 truckloads, of biosolids from the South Pond at the Lakefield Lagoon. This represents approximately 81% of the anticipated volume. Material removed from the Lagoon maintained an average total percent solids concentration of greater than 3%, making it an ideal for land application. Material below this concentration is not cost effective or beneficial to farmers to remove and land apply, therefore it was left behind to help re-seed bacteria and maintain the treatment process.
Since the completion of the Lakefield Lagoon Upgrades in 1999 there has been approximately 1 metre of accumulated material in Cell #1. This is the point of entry from the Village collection system and subsequently where the bulk of the material has settled and consolidated. The majority of the biosolids removed were from this location, with a small amount from the edge of the curtain in Cell# 2. It was observed that beyond this location there was very little in the remainder of the Lagoon.
With an approved Non-Agricultural Source Material Plan (NASM) Terrapure was able to source local farms interested in receiving and land applying nutrients from this project. Unlike traditional liquid manure applications this material is worked into the soil (tilled) within 6 hours of application by the contractor to avoid potential odour and complaint issues.

Wet weather delayed the completion of this project beyond the October 10th deadline. Thanks in part to efforts by our Public Works staff in maintaining the Lagoon road, Terrapure was able to push through the wet weather and complete the removal of accumulated biosolids by November 6th.

With this work completed, sludge accumulation will be monitored and a lagoon floor profile will be created. The amount and speed of development in the Lakefield collection area will ultimately determine when the next sludge removal project will be required.
Strategic Plan Reference

Goal 2 - Achieve excellence in governance and service delivery.

Environmental Impact

Agricultural land application is environmentally sustainable and the most cost effective biosolids management method. While landfilling and incineration waste the nutrient and soil conditioning value of biosolids, land application uses these properties to enhance soil fertility and crop growth. Land application is the most preferred biosolids management option and is used by more than 80% of Ontario municipalities.

Financial Impact

Costs for this project were included in the 2019 Water & Sewer Budget and based on quantities removed it is expected that this project will come in under budget.

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