



## NIAGARA REGION'S BIOSOLIDS MANAGEMENT PROGRAM

# Thomas

## NUTRIENT SOLUTIONS A Leader in NASM Management

### ABOUT THOMAS NUTRIENT SOLUTIONS

In 2013, Thomas Nutrient Solutions took over responsibility for the biosolids management program for the Niagara Region.

Thomas Nutrient Solutions has been providing by-products handling, transportation, storage and management for 40 years. We have worked with some of the world's largest industrial, mining and resource operations. With massive fleets and infrastructure already in place, Thomas' Manpower and Equipment divisions ensure that by-products movement and management are never hindered by limited manpower and equipment issues.

Our team is made up of long-time Niagara residents with years of experience managing Niagara biosolids in many capacities such as, Operations Managers, Land Coordinators, Agronomists and Field Supervisors.



### WHAT ARE BIOSOLIDS

Biosolids are a nutrient rich, organic by-product of wastewater treatment. Biosolids and other organic fertilizers, like manure, have significant amounts of phosphorus and other nutrients which enhance plant growth.

The Niagara Region owns and operates wastewater and water treatment facilities. The aforementioned plants treat and clean the wastewater from Niagara Region residents and businesses.

The Biosolids these facilities collect are recycled into an agricultural fertilizer that improves soil productivity and stimulates plant growth. The fertilizer is then applied to agricultural land only after the material is fully treated and meets strict quality standards set by the Ministry of Environment.

When conditions permit, nutrients are directly applied to agricultural land between the months of April and November.

## 2015 NIAGARA REGION BIOSOLIDS MANAGEMENT REPORT

Initial Agreement:

**60,000 m<sup>3</sup>**

Accomplished:

**124,000 m<sup>3</sup>**

Beat Target By:

**64,000 m<sup>3</sup>**

### HIGHLIGHTS:

- Exceeded quota by 106%
- Taxpayer savings generated by additional biosolids spreading vs. centrifuge = \$492,000  
64,000 m<sup>3</sup> \* (15.70-8.00)
- More than doubled previous contractors average year
- Lower lagoon volumes has allowed for rarely completed lagoon maintenance projects



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### OUR TEAM

#### Greg Marotta

General Manager

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#### Chris Webb

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### CONTACT US

To learn more about the Nutrient Application Program, please visit our website or give us a call.

[www.thomasnutrientsolutions.com](http://www.thomasnutrientsolutions.com)

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### BENEFITS OF NUTRIENTS

- Reduces top soil runoff
- Increases crop yield
- Promotes healthy root growth
- Improves soil property
- Reduces soil erosion
- Improves water quality
- Increases drought resistance
- Helps long term productivity
- Less expensive method of fertilization



NASM  
MANAGEMENT



BIOSOLIDS  
APPLICATION



NASM PLAN  
DEVELOPMENT



BY-PRODUCTS  
TRANSPORTATION

### Advantages of Nutrient Application

Nutrient	Biosolid Application	Commercial Fertilizer Values
Available Nitrogen	130lbs/acre	283lbs Urea Nitrogen
Organic Nitrogen	235lbs/acre	151lbs Urea Nitrogen (in first year, 102 lbs per year for an additional 3 years)
Phosphate (P205)	417lbs/acre	802lbs MAP
Potassium (K20)	321lbs/acre	53lbs MAP

Note: All numbers above are approximations. Nitrogen values are measured at the time of spreading. Nitrogen loss as with any manure application, will begin immediately. Nitrogen supplementation for crops such as corn, should be considered to get top yields.

