

CITY OF ORILLIA

Compost Market Development

Project #: ORG R1-07a

Prepared with funding from the Ontario Waste Diversion Organization

December 5, 2000

FINAL REPORT

1. EXECUTIVE SUMMARY

Four test plots were developed to demonstrate the use of compost in turf enhancement for a typical building lot. For consistency, the plots were built together on a vacant piece of City property.

Due to a wetter summer, all the test plots did well with the all-compost plot showing better root structure. The site will be provided with regular cutting next summer and continue to be monitored.

2. INTRODUCTION

To demonstrate the use of City of Orillia produced compost to enhance a typical building lot and show the superior grass growing and lot stability, over the use of traditional low-grade topsoil for lot improvement.

3. METHODOLOGY

A city-owned lot was divided into four plots using various thicknesses of compost and topsoil. The entire lot was covered with sod and watered and cut regularly and was subjected to pedestrian and vehicular traffic. Root analysis of the respective plots was evaluated.

The selected site was on a city-owned abandoned railway line with a small drainage swale running between the lot and adjoining property. Vegetation, concrete rubble and small tree stumps were removed. The lot was then cleared of railway slag and cinders exposing some gravel, which was also removed, leaving sandy clay till which was considered the base. The lot was then subdivided into four plots, each measuring 8 meters x 15 meters. Sand fill was imported for levelling purposes. The individual plots were then prepared as follows:

Plot 1	10 cm topsoil
Plot 2	20 cm topsoil
Plot 3	20 cm mixed topsoil and compost (50/50)
Plot 4	20 cm compost

The slope of the entire lot allowed drainage into a small swale on the east side. A concrete wall formed a barrier on the west side. Railway ties were used to border the north and south edges.

600 rolls of turf were installed over the entire lot, followed by a complete watering of the lot by city forces using a street cleaning water truck. Sod installation was completed on

June 30, 2000. It was then rolled using a vibratory roller. The site was watered twice daily at the start and reduced to every other day after two weeks. Watering was then discontinued as a result of wet weather. Grass cutting was arranged with the City of Orillia Parks and Recreation Dept. and occurred bi-monthly until the end of the growing season September 30, 2000.

In addition to the project sign, signs were installed to identify each plot.

On September 18, Parks and Recreation Department staff assisted with turf evaluation. The grass growth and appearance were comparable for all four plots. Samples of the turf were removed from each of the four plots. Root development was not as advanced in the topsoil only plots with somewhat shorter roots in Plot 1 (10 cm topsoil) than Plot 2 (20 cm topsoil). Plot 3 (50/50 topsoil/compost) showed better roots, however, the best root structure was observed in the total compost of Plot 4. These observations indicate that the plots with compost are more likely to thrive over the long term.

Drier weather towards the end of September facilitated a vehicular traffic test on the project. A partially loaded truck was driven over the entire project several times causing little or no damage to the turf. The entire site was subjected to low pedestrian traffic.

In early October, a further inspection of the site was conducted, at which time, the total compost plot appeared to be in the best condition of the four plots.

4. RESULTS

A wetter than normal summer promoted grass growth over the whole project. The variation in the plots was less noticeable than anticipated. The expected drought resistance of the compost-enhanced plots were not shown visually (brown-off). The total compost filled plot had the best root structure. The entire lot was not adversely affected by traffic, either pedestrian or vehicular. Re-evaluation during next year's growing season after nominal maintenance will likely reveal greater differences between the plots.

A great interest was shown in this project by the Communities In Bloom judges.

5. TRANSFERABILITY

Transferable throughout Ontario. Municipal and commercial compost is readily available at reasonable cost.

APPENDICES

A Photographs

APPENDIX A

Photo 1: Placement of compost over sand fill base.

Photo 2: Placement of top soil over sand fill base.

