

## Environment Committee

For the Metropolitan Council meeting of February 22, 2017

**Subject:** University of Minnesota Phosphorus Study

### Proposed Action

That the Metropolitan Council authorize its Regional Administrator to enter into a contract with the University of Minnesota for \$605,108 to conduct an evaluation of metro sewage sludge incinerator ash as a phosphorus source for crop production.

### Summary of Committee Discussion/Questions

During the study, the plan will be to apply the phosphorus on a yearly basis for three years to determine how effective it is. Ash would be applied as is from the plant, it may be processed into another form if commercial application is feasible. Compared to biosolids, ash has no organic components as these are burned off in the incineration process. If ash proves a viable fertilizer, follow up work will determine if it would be cost effective for farmers.

**Motion to approve the proposed action was made, seconded, and passed unanimously.**

## Environment Committee

Meeting date: February 14, 2017

For the Metropolitan Council meeting of February 22, 2017

**Subject:** University of Minnesota Phosphorus Study

**District(s), Member(s):** All

**Policy/Legal Reference:** Council Policy 3-3 Expenditures – Procurement of Goods and Services

**Staff Prepared/Presented:** Larry Rogacki, 651-602-8225; Cristine Voigt, 651-602-8371; Dr. Carl Rosen (Department of Soil, Water and Climate, U of MN), 612-625-8114

**Division/Department:** MCES c/o Leisa Thompson, 651-602-8101

### Proposed Action

That the Metropolitan Council authorize its Regional Administrator to enter into a contract with the University of Minnesota for \$605,108 to conduct an evaluation of metro sewage sludge incinerator ash as a phosphorus source for crop production.

### Background

Procurement of goods and services for amounts exceeding \$500,000 requires Council approval.

### Rationale

The Metropolitan Wastewater Treatment Plant processes sewage sludge by means of an incineration process. Incineration is effective at reducing waste volume, removing toxic organics and pathogens, and recovering energy for heating and electrical generation. Currently the resulting ash material is landfilled.

Sewage sludge ash contains significant quantities of phosphorus, an essential macronutrient for plant growth but a non-renewable natural resource. Previous studies have found that ash can be a viable phosphorus source for crop production. This incubation and field study will explore the capabilities of incinerator ash generated at the Metropolitan Wastewater Treatment Plant as a phosphorus fertilizer.

### Thrive Lens Analysis

This action advances the Thrive outcomes of Sustainability, Collaboration and Stewardship. This project supports sustainability by evaluating the potential for using phosphorus contained in the ash as a nutrient rather than disposing of it in a landfill. Collaboration of the research resources at the University and the operational experience of Council staff will result in a more comprehensive study. Replacing commercial sources of phosphorus with ash has the potential to reduce nitrogen infiltration and support stewardship of water resources.

### Funding

2017 MCES Authorized Capital Program, Project 806220

Currently Authorized: \$700,000

Unencumbered Funds: \$700,000

Requested Amount: \$605,000

### Known Support / Opposition

None