

**FROM: CITY MANAGER** **DEPARTMENT: PUBLIC WORKS**  
**DATE: JANUARY 22, 2008** **CMR:116:08**  
**SUBJECT: APPROVAL OF MUNICIPAL COMPOST FACILITY STUDY WORK PLAN**

**RECOMMENDATION**

Staff recommends that Council approve the Municipal Compost Facility Study Work Plan.

**BACKGROUND**

The City currently maintains a 7.5 acre composting facility at the Byxbee Park landfill which is scheduled to close in 2011. Green material managed at the facility includes source separated yard waste such as lawn clippings, leaves, tree and shrub clippings, brush, and other vegetative materials generated through landscape maintenance activities. In addition leaves accumulated through the City's street sweeping operations "selected screened loads" and clean tree trunk/limb wood grindings (1 to 2 inch chips) are also deposited at the facility.

Based on data generated from the 2004 transaction records for weighing and fee collection conducted at the tollbooth, approximately 50 vehicles per day (150 maximum) enter the compost facility to deliver green material. Of those vehicles, 10 are contract collection vehicles delivering green material from the curbside collection program, and 16 are government vehicles (2 leaf truck loads from City sweeping operations and the remaining from the Palo Alto School District, County of Santa Clara, State of California, and Federal Government vehicles). In addition, approximately 23 private vehicles deliver green material to the facility. These private vehicles are predominately self-haul, landscape maintenance companies and contractors.

On August 6, 2007 Council directed staff to:

- 1) Quantify the reduction in greenhouse gas emissions that would result from maintaining a composting facility in Palo Alto.
- 2) Compare the financial costs of composting in Palo Alto vs. transporting green waste off site.
- 3) Compare the pros and cons of in-vessel composting with windrow composting, with particular attention paid to land acreage needed and overall cost.
- 4) Explore potential location for a composting facility, including the current recycling center, other land in the vicinity of the Regional Water Quality Control Plant (RWQCP), the unused portion of the Palo Alto airport bordering Embarcadero Road, and the Los Altos Water Treatment Plant.
- 5) Analyze the impact on Byxbee Park of maintaining a composting facility near the RWQCP.

To address these issues staff was directed to provide a work plan to Council.

## **DISCUSSION**

In response to Council's direction, a study team was formed consisting of staff members from a number of departments and groups including Environmental Compliance, Resource Management, Public Works Refuse and Engineering, Planning, and the recently formed Sustainability Team. This team will study and report on the environmental and financial implications of two different composting operational scenarios (per attachment A): (1) a new City-owned and operated municipal compost facility and (2) utilization of one or more compost facilities outside the City of Palo Alto.

Staff has established a work plan that focuses on the identification and evaluation of several parameters: input material types and volumes; final product volumes and demand; mileage estimates (for transport of feedstock material from source to facility and compost product shipping); and facility types, locations, and operational costs. Staff plans to begin the study by summarizing current operations, which will include an assessment of currently generated compostable input material (feedstock) types and volumes (see Task 1, below). Next, staff will focus on researching potential feedstock materials and issues, local and regional compost product markets, and compost facility technologies (Tasks 2-3). Following that, the study team will evaluate potential facility locations (Task 4). To complete the investigation, staff will conduct environmental and economic feasibility analyses (Task 5). Finally, staff will prepare a comprehensive report that will summarize the results of Tasks 1-5 of this work plan (Task 6). Below is a detailed description of the work plan with Council's August 6, 2007 direction listed in italics.

### **Task 1: Describe Current Operations**

Staff will evaluate the current composting operation including the size of the facility, the type of processing that occurs, the types of green waste producers that deliver green waste to the facility and the average tonnage of green waste accepted. Staff will research the annual revenue that the City receives for the green waste as well as revenues received from the sale of finished compost product.

### **Task 2: Evaluate Potential Feedstock Materials and Final Product Markets**

The study team will evaluate possible organic composting feedstock wastes and discuss the issues associated with composting the wastes. Organic wastes to be considered for composting include food scraps, compostable paper, untreated wood wastes, raw sewage sludge and treated biosolids. Staff will evaluate the pros and cons of the City accepting these wastes at a municipal composting facility.

As part of this task staff will research local and regional markets for selling the final compost product. Included here will be a discussion regarding the volatility of these markets. At a minimum, answers to the following questions will be sought:

- To whom and where can the City expect to sell the product?
- What is the value per ton?
- What feedstock material and other restrictions would buyers place on the product?

Task 3: Evaluate Potential Municipal Composting Technologies

This research will provide information on available composting technologies and evaluate them with respect to a municipal operation in Palo Alto. Included here will be a study of *the pros and cons of in-vessel composting with open windrow*. In reviewing each of the available technologies staff will report on *sizing requirements* (acreage, labor, and buffer area), projected *equipment costs*, and additional requirements unique to each technology. This task also entails researching and describing a few selected municipal compost facilities that are currently in operation and of relevance to this study.

Task 4: Explore Potential Facility Locations

Staff will *explore potential locations for a composting facility, including locations on the current landfill site, other land in the vicinity of the RWQCP, the unused portion of the Palo Alto airport, and the Los Altos Treatment Plant (LATP) site*, as requested in the August 6, 2007 Colleagues Memo. Information gathered on feedstock materials, technologies, and markets will be applied, as well as site specific context, land use, zoning designations, compatibility with dedicated park use, and other planning concerns. While assessing impacts on adjacent land uses for each of the sites, the team will specifically *analyze the impact on Byxbee Park of maintaining a composting facility near the RWQCP*.

Also, as part of the location analysis, the study team will look into City, County, and State land use permitting and CEQA requirements. While investigating permitting and CEQA, individual site characteristics and potential facility types will be taken into consideration.

Task 5: Analyze Environmental and Economic Impacts

Staff will *compare the costs and benefits of composting in Palo Alto versus transporting green waste off-site*. The team will include alternative feedstock materials in this analysis as well. Parameters such as product volumes and estimated value, facility construction and operational costs, and transport mileages will contribute to determining *greenhouse gas impacts* and the financial implications for each of the two operational scenarios.

Task 6: Compile Results and Prepare Final Report

The final report will be a compilation of the results of Tasks 1-5. Maps, tables, and charts will be included to graphically support analyses and results as appropriate.

<u>Target Dates</u>	
February 1 – February 29, 2008	Task 1: Evaluate existing operation.
February 1 – February 29, 2008	Tasks 2 & 3: Conduct feedstock, market, and technology research.
March 1 – March 31, 2008	Task 4: Conduct location analysis.
April 1 – April 30, 2008	Task 5: Conduct environmental and economic feasibility analyses.
April 1 – May 30, 2008	Task 6: Compile all results and prepare the final report.
June 2008	Prepare documents for City of Palo Alto Council Meeting.
July 2008	Present findings to Council.

**RESOURCE IMPACT**

This Council assignment will require over 200 hours of staff time. Staff believes this effort can be integrated into existing workloads as long as City Council accepts the proposed timeline for completion.

**ENVIRONMENTAL REVIEW**

The Municipal Compost Facility Study Work Plan does not constitute a “project” as defined by the California Environmental Quality Act (CEQA). All required environmental review will be done accordingly when the project is defined.

**POLICY IMPLICATIONS**

The recommendation does not represent changes to existing City policies.

**ATTACHMENTS**

Attachment A: Colleagues Memorandum dated August 6, 2007

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