TO: HONORABLE CITY COUNCIL
FROM: CITY MANAGER DEPARTMENT: PUBLIC WORKS
DATE: DECEMBER 15, 2008 CMR:470:08
REPORT TYPE REPORT OF OFFICIALS
SUBJECT: Review of Composting Feasibility Study and Direction Regarding Continued Composting Operations in Palo Alto

EXECUTIVE SUMMARY
In response to an August 7, 2007 colleagues memo to explore maintaining composting in Palo Alto this report presents three alternatives. If the City Council chooses to retain continuous composting in Palo Alto, staff recommends Council direct staff to implement Alternative 1. Alternative 1 allows continuous composting in Palo Alto and provides for the formation of a “Blue Ribbon” Task Force to study long-term composting solutions including material types that could be included in the composting stream, composting methodologies and site alternatives. Moreover, Alternative 1 retains composting within the City which supports the Council’s commitment to self sufficient sustainability. In addition, under Alternative 1 Council would need to direct staff to discontinue acceptance of commercial refuse at the City’s landfill to allow extension of the landfill’s life by another two years.

If Council chooses not to retain continuous composting operations in Palo Alto, staff provides two additional alternatives for Council consideration. Alternative 2 provides for the formation of a composting Task Force as in Alternative 1 but suspends the current composting operation while the long-term studies are completed. Alternative 3 represents the City’s current policy direction where composting operations in Palo Alto will cease when the City’s landfill closes in accordance with the Council approved Zero Waste Operational Plan. This report also addresses the economic issues associated with composting operations and discusses the potential greenhouse gas reductions that would coincide with keeping composting in Palo Alto. Lastly, the report provides a summary of how current composted material is used in Palo Alto.
RECOMMENDATION
Staff recommends that Council:

1. Direct staff to implement composting Alternative 1 allowing continuous composting in Palo Alto and providing for the formation of a “Blue Ribbon” Task Force to study long-term composting solutions including material types that could be included in the composting stream, composting methodologies and site alternatives. If Council directs staff to implement Alternative 1, staff also recommends Council direct staff to cease acceptance of commercial refuse at the City’s landfill thereby extending the landfill’s life by two years. This alternative will require voter approval to allow for continuous composting operations at the current location on dedicated parkland after the landfill closes if this is ultimately the recommendation of the Task Force and decision of the Council. Conversely, if another site outside of dedicated parkland is recommended, no voter approval will be required.

2. If Council chooses not to pursue continuous composting operations in Palo Alto, staff recommends Council direct staff to implement Alternative 2 forming a “Blue Ribbon” Task Force to study long-term composting solutions including material types that could be included in the composting stream, composting methodologies and site alternatives. Under this alternative composting in Palo Alto will cease when the landfill closes. This alternative would disrupt the continuity of the City’s composting capacity requiring exportation of locally generated green waste to outside the City.

3. If Council chooses not to form a “Blue Ribbon” Task Force to study long-term composting solutions in Palo Alto staff recommends Council direct staff to implement Alternative 3 which represents the City’s current policy direction where composting operations in Palo Alto will cease when the landfill closes in accordance with the Council approved Zero Waste Operational Plan.

BACKGROUND
A thorough background of composting in Palo Alto is presented in CMR 219:08 (Attachment A). The Composting Feasibility Study prepared by staff is attached to CMR 219:08. The City currently owns and operates a green material composting facility located on a 7.5 acre section of the 126 acre landfill. This existing conventional windrow composting operation accepts approximately 21,000 tons of source separated green material per year from curbside collection, debris box, self-haul and from City tree trimming and sweeper operations. Typical yard waste consists of materials such as lawn clippings, leaves, tree trimmings, and other plant clippings.

Eighty-three percent (83%) of the green material delivered to the existing composting facility comes from Palo Alto residential curbside pickup and City operations such as tree trimming and street sweeping while the remainder consists of self-haul material. The Palo Alto composting facility will accept self-haul green material from sources outside of Palo Alto, while the landfill only accepts refuse from sources within Palo Alto. Currently there is no additional residential charge for curbside pickup of yard trimmings. Similarly, there is no tipping fee associated with the curb-side collected material that PASCO delivers to the existing composting facility.
However, Green material delivered from City operations is charged a tipping fee through internal accounting procedures.

Staff originally presented a Composting Feasibility Study to Council on April 28, 2008. Council chose to postpone the issue until after the 2008 Baylands Master Plan update was complete. Council also wanted to get input from the Parks and Recreation Commission (PARC) and the Planning and Transportation Commission (PTC). The Baylands Master Plan was reviewed by the PARC on August 26, 2008 and by the PTC on August 13, 2008. It was approved by Council on October 6, 2008. In addition, staff has obtained input regarding the future of composting in Palo Alto from PARC and the PTC.

Staff made a presentation to PARC on May 27, 2008 and attended PARC hearings on August 19, 2008 and August 26, 2008. Minutes of those PARC meetings are included as Attachments B, C, and D, respectively. At the PRC meetings, a total of six residents spoke in support of keeping composting at Byxbee Park. Three residents spoke against continued composting. The PARC made two recommendations relating to the composting issue. The first by a motion from Commissioner Carl King, seconded by Commissioner Joel Davidson: *We (Park and Recreation Commission) believe that large-scale composting is incompatible with park land use.* That motion passed by 7 - 0. The second recommendation was made by a motion from Commissioner Alex Panelli, seconded by Commissioner Carl King: *We (Park and Recreation Commission) recommend that the City Council direct staff to continue evaluation of alternative non-parkland sites, including those three sites within the staff report, as well as studying alternative technologies to windrow composting.* That motion passed by 6 - 1 with Commissioner Paul Losch voting no. Commissioner Losch stated that Palo Alto should do as other municipalities and just send the compostable material to regional facilities.

Staff made a presentation to the PTC on September 10, 2008. Minutes from that meeting are included as Attachment E. The PTC held a hearing, and nine residents spoke in favor of keeping composting in the Palo Alto Baylands. Five residents spoke against a composting operation on Byxbee Park. Much of the PTC discussion reflected a need to encourage backyard composting and establish new policies to reduce the amount of yard trimmings in Palo Alto. As discussed, this would entail promoting more appropriate types of landscape materials that use less water and need less trimming. The PTC then made a recommendation based on a motion from Commission Vice-Chair Samir Tuma: *The Planning and Transportation Commission concludes that large-scale composting of the type that we see in the Baylands right now is inconsistent with the Baylands Master Plan due to its visual, odor, dust, and potential vector impacts on the use of the park and are not limited to the seven and half acre site; and the Planning and Transportation Commission recommends that an independent task force be formed and led by the Planning Department to look at alternatives that allow us to keep composting in Palo Alto, but outside of the Baylands Master Plan. The proposed task force shall also be charged with potentially considering a composting facility nearby [to Palo Alto] in collaboration with another community.* The motion was seconded by Commissioner Arthur Keller and passed by 7 - 0.

**DISCUSSION**

Three Alternatives are presented for consideration by Council. The Alternatives are summarized in Attachment G and described below:
Alternative 1

Alternative 1 proposes the formation of a Task Force which presents an opportunity to resolve policy variance between continued local composting and the conversion of the landfill to park usage. Alternative 1 allows sufficient time for a community based analysis of site alternatives while retaining local composting on a short term temporary basis. This alternative also would enable the Task Force to explore emerging technologies and to consider economic factors of the various options. This alternative also supports the Council’s leadership in sustainability and exhausts site alternatives before a decision is required to retain long term composting operations on dedicated parkland.

Since Alternative 1 continues composting in Palo Alto beyond the anticipated landfill closure date of late 2010, the landfill operation would have to be extended for up to 2 years to late 2012. Staff is exploring whether a Solid Waste Facility (SWF) Permit revision or an entirely new SWF Permit to continue composting in the current location will be required. Landfill operations could be extended by eliminating receipt of commercial refuse and redirecting it to the Sunnyvale SMaRT Station. Depending on the recommendation of the Task Force regarding the location, an election could be held as soon as November 2009 if the Council were to decide to retain composting on dedicated parkland after the closure of the landfill.

During the extended time of composting at the present site, staff would work on obtaining the permits and approvals necessary for continued composting; making improvements to current composting operations; and commencing the detailed planning for phased parkland conversion. This newly permitted facility would be located near the center of the landfill on a previously closed phase (Phase IIB). This will allow Phase IIC closure construction activities to occur in the current active footprint. This new composting facility would also be temporary unless the Council finds that permanent composting on dedicated parkland is the favored recommendation through the Task Force process. Also during that time, the Task Force would be developing recommendations for the long-term management of most other organic wastes that are not currently composted at the Palo Alto facility. Following action by Council on the Task Force recommendations, interim composting would continue under a new solid waste facility permit until the long-term project was designed and constructed. This project would be completed between 2015 at the earliest and 2021 at the latest, when the current contract with the Sunnyvale SMaRT Station expires. If the long term location was dedicated parkland other than the existing site, another vote would likely be required.

It should be noted that if Alternative 1 is selected, the City would need to permit the facility as if it were a new facility since the landfill and composting facility are included on the same permit and since the permit would expire once refuse filling is completed. The expected permit process would include:

1) Perform CEQA Analysis (most likely an EIR),
2) Conduct parkland vote,
3) Modify the closure plan with a design conducive for facility operating on the Phase IIB cap (such as additional soil and drainage features),
4) Modify and amend the Bayland’s Master plan,
5) Revise or apply for a new Solid Waste Facility Permit,
Without a Council decision to choose Alternative 1, yard trimming waste collected from Palo Alto will be sent to SMaRT in Sunnyvale after the landfill stops accepting refuse. The Permit for the landfill is structured such that composting must end when landfilling ends*.

*Note: Compost cessation will lag approximately 6 months behind landfill closure to produce enough compost for the landfill cover.

**Alternative 2**
This alternative allows the landfill to close as planned and composting operations to be suspended by July 2011. Yard trimmings would then be taken to SMaRT station as indicated in the Zero Waste Plan. As in Alternative 1, a Task Force would explore alternative composting methodologies, evaluate appropriate composting material streams, look at potential composting sites, and prepare recommendations for long-term organic waste management. If the Task Force’s Council-approved recommendation is to conduct composting/energy recovery in Palo Alto, staff would attempt to obtain the necessary permits and approvals to restart operations. As the City is not the permitting agency, depending on the site selected, staff believes that obtaining all necessary approvals may be difficult due to potential negative public perception. Additionally, the environmental impacts will likely increase with a completely new composting operation. This is due to the new baseline environmental conditions of no project and the likely negative perspective of a new operation versus an existing operation during the permitting process.

Voter approval would be required if the long-term recommendation was to locate the compost/energy recovery facility on dedicated parkland.

**Alternative 3**
Alternative 3 represents the course of action currently being implemented by staff, as previously directed by Council. The landfill and compost operations would cease per the Baylands Master Plan and Zero Waste Plan. Yard trimmings would be taken to SMaRT Station from that point forward. Landfill closure and capping would take approximately two years and is estimated to be completed in December 2012. Following that closure date, projects to develop the parkland could commence, depending on the availability of funds.

Attachment G is a timeline comparing the Alternatives and Attachment H is a comparison of the other aspects of the three approaches.

**Economic Issues**
Historical operating costs for the existing facility are shown in the Compost Facility Feasibility Report (April 2008) but are not reflective of recent budget changes and contracts. Since April 2008 additional grinding and screening services have been added ($150,000 annually) and a new loader was purchased for the City composting operation. The table below updates the costs shown in the Compost Facility Feasibility Report to incorporate these new costs.
TABLE 1

<table>
<thead>
<tr>
<th>Item</th>
<th>Windrows Green Material</th>
<th>SMaRT Green Material</th>
<th>In Vessel Green Material</th>
<th>In Vessel With Other Organics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>$1,425,000</td>
<td>$706,000</td>
<td>$2,594,000</td>
<td>$2,820,000</td>
</tr>
<tr>
<td>Cost per ton</td>
<td>$62.53/ton</td>
<td>$41/ton</td>
<td>$124/ton</td>
<td>$81/ton</td>
</tr>
<tr>
<td>Cost per ton not including land rent</td>
<td>$26.39/ton</td>
<td>$41/ton</td>
<td>$109/ton</td>
<td>$72/ton</td>
</tr>
</tbody>
</table>

**Greenhouse Gas Impact**
Staff has estimated that an additional 1,100 metric tons of carbon dioxide would be emitted through increased vehicle emissions when (or if) the City’s composting facility closes in the near future. The additional emissions were calculated with the assumptions that all of the City’s yard trimming waste (21,000 tons per year) would be hauled to the SMaRT Station in Sunnyvale then chipped and shipped to Z-Best Composting in Gilroy. The calculations include a return trip for finished compost to supply the local demand for the material. The greenhouse gas (GHG) calculations are included as Attachment F. Other air pollutants including nitrogen oxides, carbon monoxide and particulate matter would also be emitted during the transportation.

In late 2007 with the adoption of the Climate Protection Plan (CPP), Council directed staff to reduce GHG emissions by 3,266 metric tons of CO2 (a 5% reduction) by 2009 from all City operations (see CMR 435:07). Assuming success at reaching that goal next year, hauling green material to Gilroy will reverse that achievement by one-third.

**End Users of Finished Compost**
Finished compost is sold and utilized both outside and within City limits. Finished compost is distributed to the following entities: approximately 55% as bulk commercial sales to nurseries and materials yards; 29% is sold to landscapers and residents; 11% is given to residents on giveaway events; and 5% is utilized by City crews for planting and landscaping (parks, medians, etc.). The finished compost is sold as four separate products: 1) finished compost; 2) blended with a mixture of imported sandy loam as “topsoil”; 3) mixed with both sandy loam and wood fines as “soil conditioner”; or 4) as “potting soil” after soil conditioner is mixed with lava rock. Raw finished compost is considered a soil amendment. It is not a replacement for topsoil by itself.

**RESOURCE IMPACT**
Alternative 1 would require additional staff time in the short term to extend landfill life and add a ballot measure and would result in a commercial tipping fee revenue decline which would be at least partially offset by increased residential tipping revenue over the extended period of the landfill. The commercial tipping fee decline is estimated to be approximately $1.6 Million per year until landfill closure. Otherwise, the three Alternatives have the same resource impacts for the first 2 years. From 2 years to 5 years out Alternative 1 would be more expensive than Alternatives 2 and 3, as demonstrated in Table 1. Alternative 1 would cost $62.53 per ton of compost and the other 2 would cost $41 per ton. Excluding rent, Alternative 1 costs $26.39 per ton which is less costly than the other alternatives. Beyond 5 years out it is not possible to
determine the resource impacts as that would depend on the recommendation of the Task Force and Council action on them.

Alternative 1 would save approximately 1,100 metric tons of carbon dioxide emissions because greenwaste would not need to be hauled to Gilroy (via Sunnyvale SMaRT Station).

ENVIRONMENTAL REVIEW
The Compost Facility Feasibility Study is a feasibility study as defined in Section 15262 of the California Environmental Quality Act (CEQA) Guidelines and is exempt from CEQA review. All required environmental review will be done accordingly when the project is defined.

POLICY IMPLICATIONS
The Baylands Master Plan specifies that the landfill site will become a passive park after landfill closure. Alternative 1, and possibly Alternative 2, would delay or alter that and likely would require voter approval. If council chooses Alternatives 1 or 2 it would, in effect, be revising policy which would ultimately require a revision of the Baylands Master Plan. Council would also be, in effect, altering the policy direction in the Zero Waste Plan which directs yard trimmings to a regional facility. Alternatives 1 and 2 support the Climate Action Plan (as they reduce greenhouse gas emissions) and would keep the management of a key residual within Palo Alto. If Council chooses to keep composting operations in Palo Alto, the Zero Waste Plan would be modified, no longer diverting yard trimmings to a regional facility.

ATTACHMENTS
Attachment A: CMR 219:08 with all attachments
Attachment B: Minutes from Parks and Recreation Commission Meeting on May 27, 2008
Attachment C: Minutes from Parks and Recreation Commission Meeting on August 19, 2008
Attachment D: Minutes from Parks and Recreation Commission Meeting on August 26, 2008
Attachment E: Minutes from Planning and Transportation Commission Meeting on September 10, 2008
Attachment F: Greenhouse Gas Emission Calculations for transporting yard trimmings to SMaRT Station and final processing at Z-Best Composting in Gilroy
Attachment G: Compost Alternatives
Attachment H: Compost Alternatives Comparison

PREPARED BY:

MATTHEW A. RASCHKE
Senior Engineer

J. MICHAEL SARTOR
Assistant Director of Public Works
APPROVED BY:  

GLENN S. ROBERTS  
Director of Public Works

CITY MANAGER APPROVAL:  

JAMES KEENE  
City Manager

cc: Chris Rummel, R.E.H.S., Department of Environmental Health, Santa Clara