

SONOMA COUNTY WASTE MANAGEMENT AGENCY

January 17, 2007 9:00 a.m. City of Santa Rosa Utilities Department Subregional Water Reclamation System Laguna Plant 4300 Llano Road, Santa Rosa, CA 95407 Estuary Meeting Room

*****UNANIMOUS VOTE ON ITEM #7.1*****

AGENDA

ITEM

ACTION

Discussion/Action

- Call to Order/Introductions 1.
- 2. Attachments/Correspondence: Director's Agenda Notes
- 3. On file w/Clerk: for copy call 565-3579
 - A. Resolution 2006-019 Recycling Guide
 - B. Resolution 2006-020 Mini AT&T Yellow Pages
 - C. Resolution 2006-021 Recycling Guide Tab
 - D. Resolution 2006-022 California Product Stewardship Council (CPSC)
- 4. Public Comments
- 5. Election of 2007 Officers

CONSENT (w/attachments)

- Minutes from December 20, 2006
- 6.1 Sonoma Compost Marketing Plan 2007 6.2
- **Eco-Desk Annual Report** 6.3

PLANNING

7.1 Approval for Agreement for Waste **UNANIMOUS VOTE** Characterization Study [Port](Attachment)

HOUSEHOLD HAZARDOUS WASTE

Presentation of Final Report on Evaluation **Discussion/Action** 8.1 of HHW Program [Wells/Sweetser](Attachment)

COMPOSTING/WOOD WASTE

9.1 New Compost Site Status Report [Carter/Wells](Attachment)

Discussion/Action

- 10. Board member Comments
- 11. Staff Comments
- 12. Adjourn

CONSENT CALENDAR: These matters include routine financial and administrative actions and are usually approved by a single majority vote. Any Boardmember may remove an item from the consent calendar.

REGULAR CALENDAR: These items include significant and administrative actions of special interest and are classified by program area. The regular calendar also includes "Set Matters," which are noticed hearings, work sessions and public hearings.

PUBLIC COMMENTS: Pursuant to Rule 6, Rules of Governance of the Sonoma County Waste Management Agency, members of the public desiring to speak on items that are within the jurisdiction of the Agency shall have an opportunity at the beginning and during each regular meeting of the Agency. When recognized by the Chair, each person should give his/her name and address and limit comments to 3 minutes. Public comments will follow the staff report and subsequent Boardmember questions on that Agenda item, and before Boardmembers propose a motion to vote on any item.

DISABLED ACCOMMODATION: If you have a disability that requires the agenda materials to be in an alternative format or requires an interpreter or other person to assist you while attending this meeting, please contact Ken Wells at the Sonoma County Waste Management Agency Office at 2300 County Center Drive, Suite B100, Santa Rosa, (707) 565-3579, at least 72 hours prior to the meeting, to ensure arrangements for accommodation by the Agency.



MEMORANDUM

DATE: January 17, 2007

TO: SCWMA Board Members

FROM: Ken Wells, Director

SUBJECT: JANUARY 2007 AGENDA NOTES

5. <u>Election of 2007 Officers</u>

The Officers of the Board for 2006 were Sebastopol (Sue Kelly) Chair, Santa Rosa (Dell Tredinnick) Vice-chair, and Cloverdale (Steve Holsinger) Chair Pro Tempore, (Steve Holsinger no longer sits on our board). The form of Resolution and history of Agency Chairs is attached.

CONSENT CALENDAR

These items include routine financial and administrative items and **staff recommends that they be approved en masse by a single vote.** Any Board member may remove an item from the consent calendar for further discussion or a separate vote by bringing it to the attention of the Chair.

- 6.1 <u>Approve Minutes</u> of the December 20, 2006 regular meeting.
- 6.2 <u>Approve Sonoma Compost Marketing Plan 2007</u> The Organic Material Processing, Composting and Marketing Services Agreement Between the Sonoma County Waste Management Agency, the County of Sonoma and Sonoma Compost Company require a Marketing Plan (Article 8.1) be submitted to the Agency for review. The 2007 Marketing Plan has been sent to the Agency Board members under separate cover.
- 6.3 <u>Eco-Desk Annual Report 2006</u> In 2006, the Eco-Desk received 2,741 calls, representing a 4% increase in call volume from the year before. In 2005, the Eco-Desk became a call-back only service where callers are given an option to leave a phone message after listening to pre-recorded information. Calls are returned by the next working business day. Email inquiries received from the web site are also answered.

REGULAR CALENDAR

PLANNING

7.1) <u>Approval for Agreement for Waste Characterization Study</u> This agenda item is the final step in selecting a consultant to conduct the Agency's Waste Characterization Study. Please see attached Staff Report. **Requested action: Execute an agreement with Cascadia Consulting Group to conduct a Waste Characterization Study. As this contract value exceeds \$50,000, a unanimous vote is required.**

HOUSEHOLD HAZARDOUS WASTE

8.1) <u>Presentation of Final Report on Evaluation of HHW Program</u> This agenda item provides additional detail and follow-up to the October 18, 2006 Board item regarding the Agency's HHW Program Benchmarking and Program Evaluation. The full report is being sent separate from the Agenda packet. **Recommended Action: Accept the Program Evaluation; discuss the Evaluation's recommendations and direct staff to begin implementing Board-selected recommendations of the Evaluation.**

COMPOSTING/WOOD WASTE

9.1) <u>New Compost Site Status Report</u> As detailed in the enclosed staff report, this agenda item reviews previous actions taken by the Board regarding the siting process for a new compost facility and initiates the next steps necessary to establish a new, permanent compost site. Please see attached Staff Report and Technical Memorandum. **No action requested.**

Agenda Item # 5 RESOLUTION NO. 2007-

Dated: January 17, 2007

RESOLUTION OF THE SONOMA COUNTY WASTE MANAGEMENT AGENCY ("AGENCY") ELECTING A CHAIR, A VICE CHAIR AND A CHAIR PRO TEMPORE

WHEREAS, Resolution No. 92-002 requires Agency to elect a Chair, a Vice Chair, and a Chair Pro Tempore at the first meeting in each calendar year.

NOW, THEREFORE BE IT RESOLVED that having first been duly elected by this Agency, the Member representing ______, the Member representing ______, and the Member representing _______shall serve as Chair, Vice Chair and Chair Pro Tempore, at the will and pleasure of this Agency for a period of one year commencing with the date of this resolution.

MEMBERS:

Cloverdale	Cotati	County Healdsburg		County Healdsburg		Petaluma	
		Sobastonal	Sanoma	Windsor			
Konnen Faik	Santa Kosa	Sebastopol	Sonoma	VIIIuSUI			
AYES NOE	S ABSENT -	ABSTAIN -	-				
	SO ORDERED.						
The within instrume of the original on file	nt is a correct copy with this office.						
ATTEST:	DA	TE:					
Elizabeth Koetke							
Clerk of the Sonoma	a County Waste Man	agement					

Agency of the State of California in and for the County of Sonoma

YEAR	CHAIR	<u>CITY</u>
1992-3	. Carl Leivo	Rohnert Park
1994	. Marsha Sue Lustig	Cotati
1995	Carol Chase	Cloverdale
1996	. Barbara Jason-White	Healdsburg
1997	Patricia Wagner	Sonoma
1998	Marc Richardson	Santa Rosa
1999	. Sam Salmon	Windsor
2000	. Sue Kelly	Sebastopol
2001	. Jim Ryan	Petaluma
2002	Dick Ashford	Sonoma
2003	. Dave Knight	Sonoma County
2004	J. Matthew Mullan	Windsor
2005 (through Sept)) Jennifer Murray	Cloverdale
2005 (Oct-Dec)	Dennis Dorch	Cotati
2006	Sue Kelly	.Sebastopol

Agenda Item # 6.1



The Sonoma County Waste Management Agency met on December 20, 2006, at the City of Santa Rosa Utilities Department's Subregional Water Reclamation System Laguna Plant, 4300 Llano Road, Santa Rosa, California.

PRESENT:

City of Sebastopol City of Cotati City of Petaluma City of Rohnert Park City of Sonoma County of Sonoma Town of Windsor City of Santa Rosa

Sue Kelly, Chair Terry Stubbings Vince Marengo Tim Smith Mike Fuson Dave Knight Christa Johnson Dell Tredinnick

ABSENT:

City of Cloverdale City of Healdsburg

STAFF PRESENT: Director

Counsel Staff Ken Wells Janet Coleson Charlotte Fisher Karina Chilcott Tammy Port Elizabeth Koetke

Recorder

1. CALL TO ORDER

Chair, Sue Kelly called the meeting to order at 9:13 a.m.

2. ATTACHMENTS/CORRESPONDENCE/CLERK Sue Kelly called attention to items on file with the clerk.

3. ON FILE WITH CLERK

Resolution 2006-017 Probation Camp Beverage Container Recycling Resolution 2006-018 E-waste Recycling Agreement

4. PUBLIC COMMENTS

There were no public comments.

<u>CONSENT</u>

- 5.1 Minutes of November 15, 2006.
- **5.2** Amend Rules of Governance.

Three separate agreements with AT&T for 2007 Recycling Guide:

5.3 Contract with AT&T for 2007 Recycling Guide.



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- **5.4** Contract with AT&T for the tab in the AT&T phone book.
- 5.5 Contract with AT&T for 2007 Mini yellow pages phone book.
- **5.6** California Product Stewardship Council Letter of Agreement.
 - Vince Marengo, Petaluma, moved to approve the consent calendar. Tim Smith, Rohnert Park, seconded. Consent calendar approved.

HOUSEHOLD HAZARDOUS WASTE

6.1 FINAL REPORT ON EVALUATION OF HHW PROGRAM

The contractor and staff are working on final edits to the report; it will be mailed to Boardmembers as soon as it is complete, before the January meeting.

ADMINISTRATION

7.1 SCWMA PROGRAM FEE IMPLEMENTATION PLAN

Ken Wells reviewed the history of this item, reporting that in August 2006, the AB 939 Local Task Force made a recommendation to the Agency for a direct funding mechanism for the Agency that would be administered by the Agency. At that time staff was directed to bring back a preliminary proposal with options for implementation of a fee. The 'Agency fee' would be a substitution for the current tipping fee for the solid waste haulers in Sonoma County.

At the October Agency meeting staff and counsel presented a legal review of the Agency's authority to implement a Program fee and the limits and requirements associated with that authority. Agency counsel confirmed the authority of the Agency to establish a fee, and presented several options for collecting the fee.

One option was to impose a fee on the haulers, based on the quantity of solid waste disposed by an ordinance of this Agency.

Another option was a fee imposed on the garbage service customers, based on the quantity of solid waste disposed, this also would be implemented with an ordinance. A third option would be a fee collected from each member's jurisdiction. This would be more complicated as it would require an amendment to the Joint Powers Agreement. A fourth option would be a fee based on a contractual arrangement between each of the haulers in the county and this Agency.

Staff suggested option one would be the easiest to implement.

Based on this information Board directed staff to further explore drafting an ordinance and also to meet with the haulers to discuss their issues and concerns about this idea of an Agency fee.

All the haulers and debris box haulers met on November 14th. The concept of the proposal was that of a volumetric fee, based on gallons of garbage service and cubic yards of debris box service. One parameter of the legal authority to impose a fee is that it must be based on the quantity of waste.

Several concerns came out of that meeting; volumetric measurement would put an added administrative burden on the haulers. There was a concern about debris boxes that might contain some solid waste and some recyclable materials, which could interfere with the charge and a secondary charge later or a double charge.

The biggest concern was that because the current fee is collected on per/ton basis and a volumetric fee was proposed that in the conversion process the haulers could end up owing the Agency more money then they collected from their customers.

Richard Johnson, Northbay Corporation, said he needs more clarification about the residuals from recycling at their recycling MRF on Standish Ave. The recyclables they process are not only from their Sonoma County customers, but also from out of county entities; Novato, Mill Valley, City of Ukiah, Lake County, etc.

Their processing facility is completely separate from the franchise operations they have with the County and the cities.

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His assumption is that although they process waste from Marin and Mendocino County, they would only pay the \$4.50/ton based on residuals that are generated in Sonoma County.

Ken Wells confirmed that was correct.

Ernie Carpenter, Industrial Carting, spoke and said he was at the meeting with the haulers. Industrial Carting supports the Agency's efforts, but does not agree with the charge on debris box service of \$4.50/ton.

There are two entities to consider, the haulers and the facilities. The hauler will pick up a box and drop it on the I.C. floor; they'll sort through it and recycle at least 50%. His understanding is that the Agency will charge the hauler \$4.50/ton and then after it is sorted, the Agency will charge the facility \$4.50/ton, resulting in a double charge. They handle their own hazardous waste by contracting with different companies that are licensed to take it away.

Mr. Carpenter distributed a letter including a voluntary offer to pay the Agency \$1/ton for any residual waste delivered to an out-of-county landfill, they would like to have that money used for waste prevention and education.

Vince Marengo left the meeting at 10:30 a.m. (ek)

Terry Stubbings, Cotati, said she is fairly new to Board and asked if before she joined the Board a feasibility study had been considered or been done that looked at long-term goals and Proposition 218 challenges.

Ken Wells said a study and a 5-year plan had been done, but not one of how Proposition 218 would impact the Agency Fee.

Janet Coleson said the Proposition 218 issue just came up in late July 2006.

Dell Tredinnick asked Ernie Carpenter what a 'voluntary \$1/ton fee' meant.

Ernie Carpenter said the offer of a voluntary \$1/ton fee was only valid if the other terms outlined in his letter were accepted.

Ken Wells said there would be no double charging, only the people delivering to a landfill would be charged, it could be the hauler delivering to the landfill or the facility delivering to the landfill.

Tim Smith said that staff, our Director and our Attorney has done what the Board directed them to do. The Agency funding must disconnect from the landfill. He prefers option 3. Petaluma already pays a fee directly to the Agency. Rohnert Park is willing to pay a fee directly to the Agency. There are tipping fees for self-haulers and any other municipalities that would chose not to negotiate a fee. The Agency needs an appropriate fee structure for the debris boxes and the residuals. The fees could all be separate steps.

Janet Coleson said there are issues with Option 3 in regards to the Joint Powers Agreement.

After a lengthy discussion it was concluded that the issue would not be voted on today.

Tim Smith, Rohnert Park, made a motion to ask Agency Counsel to come back with a legal opinion as to whether individual member jurisdictions could pay a

direct fee to the Agency rather than a surcharge on waste disposal; and the second part of the motion is to direct staff to research ideas on how to capture fee income for this Agency from residuals and debris boxes, without Proposition 218 implications. Mike Fuson, Sonoma, seconded the motion. Motion passed.

Sue Kelly, Chair, made a motion to table Agency fee proposal until the Board has other information on other methods of collecting revenue, and direct staff to use the current funding method for the FY 07-08 budget.

Dell Tredinnick, Santa Rosa, seconded the motion. Motion passed.

Ernie Carpenter, Industrial Carting said he had spoken with the owner of the company, Curtis Michelini and they will keep their \$1/ton on the table which would raise between \$35,000 and \$45,000/year for the Agency.

COMPOSTING/WOOD WASTE

8.1 PROGRAM STATUS REPORT

Ken Wells said the 2007 Marketing Plan and the compost allocations are available and will be mailed to the cities. In January there will be an item on the Agenda for briefing on the status of the new compost site.

9. BOARD MEMBER COMMENTS

Dell Tredinnick, Santa Rosa, asked about the Waste Characterization Study. Ken Wells said that one proposal was received as a result of the request for proposals. Dell also thanked Pam Davis for the intern they have and also for a tour they took of the facility on Standish Ave.

Tim Smith, Rohnert Park said he is looking forward to the tour at ECS Refining in Santa Clara in January. Also that he is going to be the City of Rohnert Parks' representative for the Association Bay Area Governments Hazardous Waste Committee.

Christa Johnson, Windsor, gave special thanks from Windsor to the Agency Director, and staff for all their hard work.

Dell Tredinnick also thanked the Agency Director and staff.

Sue Kelly, Chair, said after serving on this board for 13 years, this will be her last meeting, she will retire to the alternate position and Dave Brennan, Sebastopol's City Manager, will take on the primary position. It was a pleasure working with everyone.

10. STAFF COMMENTS

Ken Wells invited all the Board members to go to the tour of the ECS E-Waste recycling facility in Santa Clara. He also thanked Lisa Hardin, Industrial Carting and C2 Alternative Services for providing ongoing refreshments, and best wishes for the holiday.

11. ADJOURN

Meeting adjourned at 11:25 a.m.

Distributed at meeting:

Letter from Ernie Carpenter on behalf of Industrial Carting

Respectfully submitted, Elizabeth Koetke



Agenda Item #:6.2Cost Center:Yard /WoodStaff Contact:FisherMeeting Date:1/17/2007

ITEM: Approve Sonoma Compost Marketing Plan 2007

I. BACKGROUND

The Organic Material Processing, Composting and Marketing Services Agreement Between the Sonoma County Waste Management Agency, the County of Sonoma and Sonoma Compost Company require a detailed Marketing Plan (Article 8.1) be submitted to the Agency for review and approval annually.

II. FUNDING IMPACT

None

III. RECOMMENDED ACTION / ALTERNATIVES TO RECOMMENDATION

Staff recommends approving the Marketing Plan prepared by Sonoma Compost Company for 2007.

IV. ATTACHMENTS

The 2007 Marketing Plan has been sent under separate cover. An electronic copy will be provided with the regular agenda packet for review prior to the meeting.

R:\Templates\Agency Board Action Template.wpd



ORGANIC MATERIAL PROCESSING, COMPOSTING AND MARKETING SERVICES PROGRAM

-SUMMARY-MARKETING PLAN

-YEAR 2007-

Prepared for

THE SONOMA COUNTY WASTE MANAGEMENT AGENCY

by

SONOMA COMPOST COMPANY

December 20, 2007

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Introduction

This Summary Marketing Plan is submitted to the Sonoma County Waste Management Agency as required by the Organic Material Processing, Composting and Marketing Services Agreement.

The plan covers the period from January 1st to December 31st, 2007 and contains all contractually required elements.

Agency members are invited to contact Sonoma Compost in the event they have questions or need clarification regarding the plan or any issues raised in this document.

<u>1</u> Marketing Plan Summary <u>Yard Debris</u>

1) GREENWASTE MARKET OVERVIEW

2006 has been a very good year for the Organic Recycling Program. All of the yard waste received at Sonoma Compost has been converted into products for which strong markets are developed. We are pleased that the efforts of local residents and businesses have resulted in products that can be put to beneficial uses and that no yard waste products have had to be landfilled or used for alternative daily cover.

Compost and mulch products continue to be moved to several markets including backyard gardeners, landscapers, organic farmers, grape growers, soil dealers and public agencies. Local jurisdictions have utilized both allocated and purchased compost and mulch for public projects such as parks, athletic fields, and highway medians. Materials not suited for these markets are sold to bio-fuel plants which use them to generate electricity.

Some of the factors that have affected sales this year include the following:

Good Weather

Generally mild weather to this point in 2006 has allowed our trucks to get good access to delivery sites in the spring and so far this fall and winter.

Large Stockpiles of Dry Materials

Good incoming volume and our efforts to keep finished materials covered allowed us to go into spring with a good inventory of dry material to sell.

Paid Advertising

An aggressive print advertising campaign has included exposure in phone directories, newspapers, trade journals and in-house advertising materials;

Informative Web-site

We receive many positive comments about the amount of information our web-site contains and many first time visitors have become customers. Our web-site address is included in all of our advertising and public relations efforts. As a result, tracking data indicate that most site vistors get to our site by typng in our URL

directly. This same tracking data indicate that the volume of site visitors continues to grow at a healthy rate.

Organic Status

The products we make from recycled yard trimmings are listed as "Allowed" for use in organic production by the Organic Material Review Institute (OMRI). OMRI is the organization that California Certified Organic Farmers rely upon to determine which soil products are appropriate for use on certified organic farms.

Products Specified by Landscape Professionals

Sonoma Compost products are regularly specified by landscapers, landscape designers and landscape architects for important projects in Sonoma County and surrounding counties.

Positive Lab Results

Regular, certified lab tests indicate our flagship product, Sonoma Compost, is appropriate for a number of landscape and agriculture applications. In addition to nutrient analyses, our compost is tested to determine the presence of pesticide residues, heavy metals, e. Coli and salmonella.

Value Added Products

By blending our recycled compost with other materials, we've created value added products that have been well accepted in the marketplace. These products include our Mallard Mulch, a blend of Sonoma Compost, rice hulls and duck manure, as well as an amended soil, which is a blend of Sonoma Compost, soil and organic feather meal.

Competition

The compost market today is very different from when the Organic Reycling Program began in 1993. Most surrounding counties have composting programs and some, unable to market all of their finished product in their own region, have targeted areas such as Sonoma County for their sales efforts. Although difficult to verify, we hear that these companies sometimes offer substantial discounts to get business in our area.

Sonoma Compost's efforts over the years have increased the public's awareness of local soils and how compost and mulches can improve them. As a result, most soil dealers now carry compost and mulch products.

There are now at least four permitted composting facilities in the County. In addition, there are several farming operations that process agricultural by-products on-site.

Although this additional competion has affected sales, we're pleased to report that we continue to market all of the organic materials that arrive at our site. We're also pleased that our stated intention to sell more compost to soil dealers in 2006 has been successful.

Pricing

We're aware that Sonoma Compost's pricing is a delicate matter. Because incoming material arrives at our facility daily, our pricing must be competitive enough that we can sell everything that's produced. We also have a responsibility to maximize the revenue that accrues to the Agency as a result of product sales. On the other hand, we can't be so aggressive with our retail pricing that we directly impact our soil dealer customers customers.

Wine Industry

Grape growers, vineyard management companies and wineries have again been important customers in 2006. Sales were up in this category in both Sonoma and Napa Counties.

We had a number of repeat customers from last year as well as several new growers this year. Sales to this market sector ranged from less than 100 yards to over 2,000 yards.

Bio-Fuel Markets

The demand for processed green waste in the bio-fuel market remains strong. We utilize several different haulers to get fuel to the power plants we do business with. This is an important market because it purchases the oversize material from our screening process.

As indicated in previous years, all truckers associated with our bio-fuel deliveries backhaul other materials into our region. This reduces transportation costs and minimizes the number of empty trucks on local highways.

2) FACTORS THAT MAY AFFECT SALES IN 2007

The following factors are likely to influence sales in 2007:

The Economy

Similar to last year, we have already received inquiries and submitted quotes to supply soil products for a number of significant projects that are scheduled to begin in 2007. Whether these projects actually occur will of course be affected in some way by local and regional economic conditions.

Weather

Weather is always a factor in soil product sales. In the North Bay, weather in the first and fourth quarters is critical. It determines how products can be processed,

when they can be made ready for market and when local soils will be stable enough that delivery trucks won't get stuck. We are placing tarps on some stockpiles now in order to have dry material early in the spring.

Transportation Costs

We note a fair amount of buyer resistance when trucking costs equal or exceed the cost of material being purchased. With trucking prices ranging from \$80 to \$100 per hour, this is sometimes the case.

Product Pricing

Sonoma Compost has a tiered retail pricing system that provides incentives to those purchasing larger amounts of compost or mulch. We are conducting a survey of the local market to decide if the retail prices of some of our products should be increased in 2007.

It should be noted that our retail prices have not been raised for several years, despite steadily increasing costs.

Competition

As discussed in the last marketing plan, competition has increased in the soil products business. There are more soil dealers with compost and mulch in their product lines as well as suppliers to provide them with material. In some cases compost is made available to dealers at wholesale prices that are lower than Sonoma Compost's prices.

While we will continue to emphasize product quality, create new products and expand markets, we'll watch industry pricing in our area closely. If we find that we are being undercut by aggressive pricing at the wholesale level, we may find it necessary to adjust our prices.

Feedstock Contamination

Although feedstock contamination in the form of inert materials such as plastic, metal and glass remains an issue, it appears that the combination of public education by the Agency, aggressive gate control and sorting by Sonoma Compost has reduced the problem to a reasonable degree.

Contaminants removed in the current sorting process represent less than 2% of materials delivered to the compost site. Although most customers are pleased with their compost, we occassionally receive a call from a customer who is disappointed with the presence of any contamination.

To minimize such disappointments, we try to make customers understand that they are purchasing a recycled product and urge them to visit our site so they can view our products directly. In addition, our invoices contain the following statement:

«Recycled soil products should be used in appropriate applications and handled with care because they may contain a small percentage of materials such as plastic, metal and glass. The use of gloves is recommended.»

Contamination continues to be an issue due to: 1) refuse being directed to the yard and wood waste streams because refuse disposal fees are higher than yard and wood waste fees; 2) economic incentives for curbside customers to utilize smaller cans for refuse, with the result that refuse often ends up in the larger yard waste containers; and, 3) the fact that some roll-off customers, in an attempt to save money, go to great lengths to conceal garbage beneath green or wood waste.

We urge the Agency to continue to keep the issue of feedstock contamination on its agenda and to continue to work with haulers and the public to minimize the overall contamination rate.

Chemical Free Products

Consistent with our organic status, we regularly test for the presence of clopyralid and other persistent pesticides. The absence of such contaminants is an assurance to customers that our products are safe to use.

Sudden Oak Death

Sudden Oak Death remains a serious environmental issue. Although it has not affected the Sonoma County Organic Recycling Program to a great degree, there have been consequences. While we can ship compost and mulch throughout Sonoma County and to other counties that have been infected with Sudden Oak Death, we can't ship compost and mulch to uninfected counties. We can ship ground yard and wood waste to uninfected counties when it will be used for biofuel. We must, however, use specially permitted truckers, and the destination must be a power plant permitted to handle material from infected counties. We are also permitted to sell firewood, provided we don't release it until it has been retained on-site for at least six months.

3) 2007 MARKETING PLAN

In most respects, the 2007 marketing plan will be similar to that followed in 2006. The following represent the major components of the plan that will be utilized:

Word of Mouth Advertising

Because we get so much business from unsolicited referrals from satsfied customers, we go to great lengths to make each contact with the public positive. In addition to good quality compost and mulch, we try to give equally good service. This means returning phone calls promptly, delivering materials when promised and providing the information customers need to address their specific soil problems.

Value Added Products

Although the primary benefits of compost are an increase in soil organic matter and the introduction of beneficial organisms, a significant number of our customers would welcome a product with somewhat higher nutrient values. To satisfy this need, we have begun making a compost that includes materials such as feathers and grape pomace. We believe such a blend will support a price that is higher than our Sonoma Compost product. We may elect to use this higher nutrient compost in our Mallard Mulch as well.

Organic Status

Sonoma Compost's organic status remains critical to our marketing success. Backyard gardeners clearly prefer organic soil products, as do a growing number of landscapers and farmers. We've also noticed a significant number of grapegrowers in Sonoma and Napa County moving to organic and sustainable growing practices.

As indicated previously, we have one of the deepest lines of organic soil products of any municipal compost program in Northern California. Sonoma Compost, Early/Vineyard Mulch, Brown Rice and Mallard Mulch are all listed with the Organic Materials Review Institute (OMRI) as «Allowed» materials in the production of organic food and fiber. We intend to seek organic status for our Amended Soil product as well as the compost that includes feathers and other agricultural by-products.

Sonoma Compost Web-site

We market our web-site (www.sonomacompost.com) in all of our print advertising and regularly track site traffic. We're pleased that site traffic continues to grow and that the site has generated a number of significant sales. Site visitors report that they appreciate the informative nature of the site and that it's easy to navigate.

The web-site features information on the Agency's regional Organic Recycling Program and highlights school gardens, product and sales information, compost and mulch application, and delivery. It informs visitors how our compost and mulches can be used in agriculture, landscaping, backyard gardening and public projects. The site also features information about research projects we've been involved in and what's new operationally at Sonoma Compost.

By early 2007, the site will will undergo a significant update. New products will be added. Due to the popularity of both our firewood and lumber programs, pages featuring these products will be created. Additional information regarding deliveries will also be included. A downloadable material calculator that allows grapegrowers to determine the amount of compost or mulch they need, may also be included.

Media Advertising

Sonoma Compost's budget for media advertising in 2007 will fund the following:

In the AT&T Phone Directory we have ads under the Landscaping Equipment and Supplies, Fertilizer and Topsoil headings. We also have a bold face listing in the White Pages and a "Smart" coupon at the rear of the book. In addition, we have a small ad in AT&T's on-line Yellow Pages. This directory advertising compliments our presence as a co-sponsor of the Agency's Yellow Page Recycling Guide.

We also have a presence in the Landscape Equipment & Supplies section of the Valley Yellow Pages.

Our series of full-page ads in the main news section of the Press Democrat generate sales in the spring and fall when they are particularly needed. We will continue to use this successful marketing tool as well as other local print media as deemed necessary.

Soil Consulting

One of the marketing advantages Sonoma Compost has is knowledge of local soils and how to make them more productive and easier to work. We maintain a local soils map in our office and assist customers in identifying their soil type. With this information, we can often provide solutions to their soil related problems.

Will Bakx, our soil scientist, is available to backyard gardeners, farmers and others needing soil advice. In addition, he will continue to give presentations to schools, garden groups and community organizations.

Trade Group Outreach

Our long association with the agriculture and landscape communities serves Sonoma Compost well. We will continue our interaction with these key industries by maintaining our memberships in their trade organizations and participating in trade events.

Hispanic Outreach

In recognition of the growing Hispanic population in the county, Sonoma Compost always tries to have Spanish-speaking employees in positions that interface with the public. We have an ad scheduled in United Latino Publications "Directorio Telefonico", a telephone directory targeting the Hispanic community. Our many Hispanic customers are pleased as well, that two of the owner/operator truckers we use are Hispanic.

Community Events

We will exhibit again at both the Spring and Fall Home and Garden Shows at the Sonoma County Fairground. Our exhibits get very positive feedback and visitors seem appreciative of the opportunity to learn what happens to their yard and wood waste. We distribute discount cards at the show which generate sales for months after each show. We also conduct a drawing which allows the winner to receive 5 cubic yards of Mallard Mulch.

If the Agency exhibits at the County Fair and Harvest Fair again, we are prepared to provide samples of our compost as well as sales information.

Newsletters

If there is an opportunity to contribute to newsletters published by haulers or local jurisdictions, we will continue to educate local residents about importance of providing us with clean yard debris and how compost and mulches can benefit their gardens and landscapes.

4) PRODUCT DEFINITIONS- YARD DEBRIS

a) Soil Amendments

The following composted products are intended to be amended into soil and are sold in bulk or by the bag:

Sonoma Compost

Produced from curbside collected and self-haul yard trimmings, Sonoma Compost meets all current state requirements for products defined as "compost". Sonoma Compost is screened to 1/2" and is listed as an "Allowed" material by the Organic Materials Review Institute (OMRI) for use in organic production.

Sonoma HI-TEST Compost (new)

A compost made from curbside collected and self-haul yard trimmings, vegetative food waste and chicken feathers. Incidental amounts of other local agricultural byproducts may be used as they become available throughout the year. The incidental additives may include, but are not limited to, grape pomace and byproducts from local food processors. We are preparing an application to the Organic Materials Review Institute and will hopefully have Sonoma HI-TEST Compost added to our stable of OMRI listed products.

Mallard Mulch

Despite its name, Mallard Mulch is most often used as a soil amendment rather than a mulch. Until now, it has been blend of two parts Sonoma Compost and one part composted rice hulls and duck manure. In 2007, the recipe for Mallard Mulch will be changed to two parts Sonoma HI-TEST Compost and one part composted rice hulls and duck manure. We expect this premium quality product to be well received by gardeners, landscapers and others interested in a higher nutrient soil amendment. Although Mallard Mulch is currently listed as an "Allowed" material by (OMRI) for use in organic production, we will be updating our information with OMRI to reflect the new recipe. Mallard Mulch is screened to 1/2".

Amended Soil

A blend of clean soil from a local quarry and Sonoma Compost. Organic feather meal is added to provide a nitrogen boost. Useful in turf applications, berms, mound septic systems or where a change in grade is required. Our Amended Soil is screened to ½".

b) Mulches

The following Sonoma Compost mulch products are derived from yard trimmings and are sold in bulk or by the bag:

Early Mulch

Ground, self-haul yard debris that undergoes a thermophyllic process to reduce pathogens and kill weed seeds. Early Mulch is coarse, woody mulch that is ideal in applications where a natural look is desired.

Screened Early/Vineyard Mulch

Early Mulch that has been screened to 1.5" is sold as Screened Early/Vineyard Mulch. It provides the benefits of Early Mulch but has a neater, less woody appearance. Can reduce soil erosion by up to 90% in steep hillside vineyards while suppressing weeds, adding organic matter and providing a modest nutrient boost. Listed as an "Allowed" material by OMRI for use in organic production.

c) Firewood

Sonoma Compost markets firewood in its retail sales area. Wood sold is a seasoned blend of local species, cut to length, and split for use in wood stoves or fireplaces. Customers load their own vehicles and are urged to stack the wood tightly to insure they get the most wood possible for their money.

Firewood currently sells for \$1.10 per cubic foot, or \$140 per cord. Due to increased labor costs and the fact that most firewood sells in Sonoma County for between \$250 and \$365 per cord, our price will increase to \$1.40 per cubic foot or \$179.20 per cord in January 2007.

d) Alternative Daily Cover (ADC)

Ground yard debris and oversize material from the compost screening process have been used in the past for Alternative Daily Cover (ADC) at the Central Landfill. This practice not only provided an affordable alternative to soil for the County at certain times of the year, but also provided an outlet of last resort for hard to market materials that may have contamination levels that the public would not accept.

When the Central Landfill ceased burying refuse on-site and started shipping refuse to out-of-county landfills, this market was no longer available.

Although Sonoma Compost has developed strong markets for all of the materials that were previously used for ADC, it should be noted that these markets have changed in the past and could do so again.

e) Test Products

New Specialty Products that Sonoma Compost wishes to market on a trial basis are referred to as Test Products.

According to our agreement with the Agency, when Sonoma Compost wishes to begin a market test, the Agency Director is notified. Test marketing can occur for a maximum of four months. Upon successful completion of test marketing, Sonoma Compost notifies the Agency Director that the test product will thereafter be designated a Specialty Product.

F) Specialty Products

Specialty products are typically different from the primary Yard Debris Products originally envisioned in our contract with the Agency. They may contain additives or amendments, or require different or additional processing. Sonoma Compost may develop such products in order to: 1) provide materials that can be blended with Sonoma Compost to extend the supply of this popular product; 2) offer alternatives when the program's primary products are not available; 3) provide products that meet a specific need in the marketplace; and, 4) add value to Sonoma Compost's product line.

Sonoma HI-TEST Compost is an example of a product that will move through the Test Product/Specialty Product process in 2007.

5) QUALITY CONTROL

Product quality is maintained by directing attention to the following:

a) Contamination Control

Green waste arriving at the composting site is load-checked at the gate. Loads with more than incidental contamination are rejected and sent back to the landfill gate where they are re-directed to the refuse tipping area.

Prior to grinding, green waste is spread out with a front-end loader to expose debris other than yard waste. It's then sorted by a team that places contaminants in roll-off boxes. The contaminants are weighed and then delivered to the tranfer station at the Central Landfill where they are ultimately shipped to an out of county landfill. Contaminant volumes removed in the sorting process are tracked and noted in each month's report to the Agency.

After being ground, materials that will be made into compost or mulch are placed into windrows or large piles. As the materials are turned, additional contaminants are exposed and removed by workers with rakes. Most remaining contaminants are removed in a final screening and end up in the "overs" from that process.

b) Lab Testing

Sonoma Compost undergoes regular testing to determine the presence of pathogens, heavy metals and pesticide residues. Results of these tests are monitored by the Local Enforcement Agent.

c) Nutrient Preservation

Feedstock is processed as soon as possible to insure nutrients aren't lost prior to grinding. Similarly, during wet weather, steps are taken to minimize the amount of nutrients that might leach out of yard debris and onto the compost pad. Nutrient analyses are available to customers.

d) Moisture Control

Appropriate moisture is maintained throughout the composting process. In dry months moisture is added during the grinding process and to the compost windrows. In wet weather, the windrows are shaped to shed, rather than absorb moisture. Because windrows form a crust that sheds water as they dry out, they are not turned if rain is anticipated. At the beginning of the compost process, feedstock typically has a moisture content of around 55%. As the compost matures, moisture is adjusted to a range of 30% to 40%. This allows for more effective screening, reduces the weight of the finished product and makes it less costly to transport.

6) ALLOCATION BY PERCENTAGE OF PRODUCTS PRODUCED FROM YARD DEBRIS

Based upon sales history, pending orders and other market indicators, the following is an estimate of the percentage of materials derived from yard debris (excluding firewood) that will be sold by product type during 2007:

Product	<u>% Of Sales</u>
Sonoma HI-TEST Compost	28%
Screened Early/Vineyard Mulch	20%
Sonoma Compost	12%
Mallard Mulch	10%
Early Mulch	1%
Bio-Fuel	20%
Prepared Yard Debris	9%

7) MAINTENANCE OF RECORDS- YARD DEBRIS

The following records are maintained in Sonoma Compost's office:

a) Logs of all inbound yard waste by source. Inbound tags are compiled and summarized to indicate the transaction, truck or gate tag number, type of material (yard or wood) and net tons;

b) Computerized invoices for sales exceeding five cubic yards;

c) Handwritten receipts for retail sales of five cubic yards and below, as well as firewood sales;

d) A shipment log indicating sales invoice numbers, dates, quantities and types of materials sold, price per cubic yard, delivery charges and customer names;

e) Monthly and annual summaries of the above information.

8) ALLOCATION OF REVENUE TO CONTRACTOR AND AGENCY

As indicated, Sonoma Compost has developed strong markets for all of the materials it receives and processes. If we have fairly typical weather, and reasonably good economic conditions in our region, we project that the Agency should receive revenue sharing checks in each of the four quarters of 2007.

<u>2</u> Marketing Plan Summary <u>Wood Waste</u>

1) WOOD WASTE MARKET OVERVIEW

The Wood Waste Recycling Program has also had a successful year in 2006.

We have strong markets for our Path Mulch, recycled lumber and pallets. The demand for bio-fuel remains strong as well. As reported previously, it is sometimes difficult to secure enough trucking capacity to satisfy our cutomers in this market.

After wood waste is received, it is sorted to remove contaminants and to segregate items for re-use such as pallets, dimensional lumber and plywood. The balance is processed in Sonoma Compost's grinder. Based upon pending orders and the time of year, projections are made regarding the amount of ground wood needed for screening into Path Mulch.

After screening for Path Mulch, the "overs" fraction of the ground wood is combined with the balance of the ground but unscreened wood. This material is directed to bio-fuel markets.

There are several reasons we work hard to develop and maintain our markets in the bio-fuel industry. They are able to absorb large amounts of our lower quality processed materials and by-products for which other markets are difficult to find. They absorb materials that previously would only have been appropriate for use as ADC. Finally, bio-fuel plants provide a market that is generally available year round, regardless of weather.

Because of their locations relative to Sonoma County as well as the current cost of fuel, transportation costs remain a significant issue. Fortunately we have located truckers who regularly haul materials into this region and are interested in backhaul opportunities.

Path Mulch remains a popular item in our product line. It is used by backyard gardeners, landscapers, and public agencies when an affordable, decorative and long lasting mulch is required.

We continue to sort out re-useable pallets in the size most often specified by our customers. Close to 3,000 pallets have been sold so far in 2006. Pallets arriving stacked on trucks are unloaded with our forklift to prevent damage during off-loading. Primary customers include pallet recyclers and the contractor that recycles electronics at the Central Landfill.

We market re-useable dimensional lumber, beams, fencing and plywood in our retail sales area. We have established prices for most of the common sizes we receive. Lumber is sold by the linear foot, and plywood by the square foot.

2) WOOD WASTE MARKETING PLAN- 2007

The same general marketing strategies used to sell soil products made from recycled yard trimmings are used to sell Path Mulch. These include classified and display ads in local newspapers, our web-site, participation in local events and interaction with trade groups and garden clubs.

Most of the building products we select for re-sale are stacked in our retail area. We utilize the SonomaMax directory and include building products in our general advertising when possible. When our web-site is up-dated, a "Recycled Wood" page will be added.

Because the price per unit is relatively low, we try to market pallets to those interested in purchasing in significant quantities. Most sales are made through word of mouth or by personal contact with parties who use large quantities of pallets.

Bio-fuel sales are largely dependent on maintaining product quality with respect to contamination levels, product sizing and moisture content. Ongoing sales require regular communication with buyers, and making sure that adequate trucking capacity is in place.

3) PRODUCT DEFINITIONS- WOOD WASTE

The following descriptions apply to products currently available:

a) Path Mulch

Path Mulch is wood waste that has been sorted, ground and screened to <1.5". The end product is decorative, walk-on mulch that can suppress weeds, preserve soil moisture and reduce soil erosion. Magnets are used in both the grinding and screening processes to remove nails, fasteners and other metal from the finished product.

b) Bio-Fuel

Clean wood waste that's sorted and processed through Sonoma Compost's grinding system is sold to the bio-fuel market. Bio-fuel is burned to generate electricity, or steam in certain manufacturing applications. The wood waste is typically sized to a facility's requirements during the grinding process but may undergo additional screening if requested by the customer.

c) Building Materials

Building Materials are Specialty Products (see below) that include lumber, beams, plywood and pallets that still have a useable life. We generally stock lumber in sizes such as: 1x6 and 1x8, 2x4 through 2x12 and beams in sizes such as 4x12 and 6x6. Plywood is generally available in thickness from ¼" to 1". We try to capture as many full sheets of plywood as possible but stock smaller pieces if they are in good condition. Most of the pallets that are made available for re-use are 48"x40" 4-way pallets.

d) Alternative Daily Cover (ADC)

Recycled wood, processed through our grinder was previously used to cover refuse at the landfill. Since refuse is now hauled out of county, no wood will be needed for ADC in the immediate future.

e) Test Products

New products that Sonoma Compost wishes to market on a trial basis, and which are not identified in our contract with the Agency, are referred to as Test Products. When we wish to begin a marketing test, the Agency Director is notified. Test marketing can occur for a maximum of four months. There are currently no wood waste market tests underway.

f) Specialty Products

Upon successful completion of a marketing test, the Agency Director is notified that the test product will become a regular part of our product offerings and is thereafter designated a Specialty Product. Specialty Products typically require sorting and handling that is beyond that required in the production of mulch or biofuel. Building materials including lumber, beams, plywood, as well as pallets, are now considered Specialty Products.

4) ALLOCATION BY PERCENTAGE OF PRODUCTS PRODUCED FROM WOODWASTE

Based upon recent sales history, current orders and other market indicators, the following represents the estimated percentage of materials that will be sold by market type in the year 2007:

Markets	% Of Sales
Non-fuel Markets	20%
Bio-Fuel Markets	80%

5) MAINTENANCE OF RECORDS- WOOD WASTE

The following records are maintained at Sonoma Compost's office:

a) Logs of all inbound waste by source. All inbound tags are compiled and summarized to indicate the transaction, truck or gate tag number, type of material (yard or wood) and net tons;

b) Computerized invoices for all retail sales exceeding five yards, large pallet orders and for all sales by the ton, such as bio-fuel sales;
c) Handwritten receipts for less than five yards of Path Mulch, most retail sales of building products such as dimensional lumber, and smaller pallet sales;

d) A shipment log indicating the invoice number, date, quantity and type of material sold, price per cubic yard or ton, delivery charge and customer's name;

e) Monthly and annual summaries of the above information.

6) ALLOCATION OF REVENUE TO CONTRACTOR AND AGENCY

Based upon current market conditions we believe it reasonable to project that the Agency will receive revenue sharing checks for the sale of wood waste products in each of the four quarters of 2007.



ITEM: Eco-Desk Annual Report 2006

I. BACKGROUND

Agenda Item #: 6.3 Cost Center:Education Staff Contact:Karina Chilcott Agenda Date:January 17, 2007

In 2006, the Eco-Desk received 2,741 calls, representing a 4% increase in call volume from the year before. In 2005, the Eco-Desk became a call-back only service where callers are given an option to leave a phone message after listening to pre-recorded information. Calls are returned by the next working business day. Email inquiries received from the web site are also answered.

The chart shows the number of calls received comparatively since 1995 (see Figure 1).

Figure 1



Figure 2

In 2006, the Eco-Desk web site at www.recyclenow.org received 2,819,228 hits representing 211,763 users. The activity on the web site increased by 15% from the year before. The chart shows the increase in the number of users of the web site over the past several years (see Figure 2).



The volume of calls peaked in March (see Figure 3).





Similarly to other years, Santa Rosa, Petaluma and Sebastopol generated the greatest number of phone calls (see Figure 4).



A new voice mail box for electronics was added in February 2006.

Overall, the gender of Eco-Desk callers was split 61% female/39% male.

Residences generated 88% of calls with 11% from businesses and 1% from schools.







Consistent with previous years, questions about household hazardous waste exceeded questions about recycling. (see Figure 6).

2300 County Center Dr. Suite B-100 · Santa Rosa, California 95403 · (707) 565-3579 phone · (707) 565-3701 fax

Figure 7



II. FUNDING IMPACT No funding impact.

III. RECOMMENDED ACTION/ALTERNATIVE TO RECOMMENDATION No recommendation as this item is informational.

VI. ATTACHMENTS No attachments



Agenda Item #: 7.1 Cost Center: HHW Staff Contact: Port Meeting Date: 1/17/2007

ITEM: Approval for Agreement for Waste Characterization Study

I. BACKGROUND

In 1991, as required by AB939, a Solid Waste Generation Study was performed by EMCON Associates to establish a base year for waste disposal and recycling rates in Sonoma County.

In 1995/96 a detailed solid waste characterization study of Sonoma County waste was conducted by the Cascadia Consulting Group. That study helped identify and target specific waste streams for diversion efforts and provided some data to help measure the success of existing waste diversion and recycling efforts.

In order to measure the impact of the implementation of the single-stream recycling program, the success of the HHW program, and help focus our future efforts on diverting the recyclables remaining in the waste stream, another Waste Characterization Study (WCS) was included in the FY 06-07 Work Plan, with funding in the FY 06-07 Budget. Staff was subsequently authorized to distribute a Request for Proposals (RFP) for a consultant to perform the WCS.

The research objectives of the WCS listed in the RFP were to:

- ensure that the WCS collect data that can be compared with the 1995/96 Sonoma County study, and would be consistent with the California Integrated Waste Management Board's guidelines for Disposal Characterization Studies, to allow the Agency to monitor and measure recycling and waste disposal trends,
- identify specific generators or collection routes that contribute substantial quantities of recyclable materials to the waste stream,
- identify specific types of manufactured products that occur in the waste stream commonly enough to justify a future targeted Extended Producer Responsibility Campaign, and
- further define and measure household hazardous waste disposed into the County waste stream.

This RFP was distributed on October 12, 2006 and Proposals were due by November 14, 2006. The notice of RFP was sent to 25 consulting firms that have performed this type of work in the past and 5 firms expressed interest and requested a copy of the RFP.

II. PREVIOUS BOARD ACTIONS

Board directed staff to issue an RFP to conduct a Waste Characterization Study on April 19, 2006.

III. DISCUSSION

Cascadia Consulting Group, Inc., submitted the only proposal and responded with a Scope of Services that included a primary waste characterization effort, with two optional tasks and an alternate cost savings approach for the characterization of self-haul waste (detailed below).

Cascadia is well qualified, having conducted the previous waste characterization for Sonoma County in 1995/6 and waste studies for the California Integrated Waste Management Board, Orange County, Santa Barbara County, San Bernardino County, San Mateo County, Los Angeles County, and the City of San Francisco, all since 2003.

Tasks 1-4 of their proposal would provide a standard waste characterization study, meeting the requirements of the SCWMA's RFP and which would replicate the 1995/96 study.

In order to provide more data, Cascadia suggested two optional tasks:

Task 5: Identify specific waste generators using sales data methodology in the County that have large amounts of recyclable material in their disposed waste. \$6,800

Task 6: Visual observations of 200 additional loads to determine the incidence and estimate the weight percent for specified categories of electronics-containing waste and other HHW. \$12,100

In addition, an alternative cost savings approach was offered for the self-haul customer waste sorts. Instead of hand-sorting 150 self-haul loads, Cascadia suggested a visual characterization of 300 self-haul loads, an approach developed in conjunction with the California Integrated Waste Management Board, would provide composition estimates with margins of error that are similar to hand-sorting.

IV. DEADLINE(S) FOR ACTION

To replicate the 1995/96 Waste Characterization Study and to account for the seasonal differences between waste generated during wet weather with waste disposed during our dry weather, two sorting periods are proposed; a wet weather sampling effort in February or March and a dry season sort in June or July. To accommodate this schedule it would be best to approve the WCS agreement with Cascadia Consulting Group at the January 2007 meeting.

V. FUNDING IMPACT

The description and costs for the Scope of Work in their proposal are as follows:

Task 1: Develop methodology and work plan; develop sampling	\$9,200
calendar and sampling plan; make arrangements with solid waste facilities.	
Task 2: Obtain and hand-sort 400 samples from 125 commercial,	\$86,500
125 residential; and 150 self-haul loads.	
Task 3: Compile sampling results	\$9,400
Task 4: Submit draft and final reports	\$7,500
Total Budget for Tasks 1-4	\$112,600

The alternative for the self-haul customer waste sorts, with a visual characterization of 300 self-haul loads would result in a cost savings of \$12,100. This would reduce the total cost of Tasks 1-4 to \$100,500.

Optional Task 5 would use Sonoma County employment data and industry-specific waste characterization data collected for the California Integrated Waste Management Board to identify categories of commercial waste generators in the County that potentially have large amounts of recyclable or divertible material in their waste.

Optional Task 6 would include visual observations of an additional 200 loads to determine the incidence and estimate the weight of e-wastes and other HHW including fluorescent lamps and batteries. The extra samples would provide more precise estimates for the quantity of this category of discards in the waste stream.

Total for all six tasks would be \$131,500, without the alternate cost savings approach, and \$119,400 with the alternate sorting approach. \$100,000 has been budgeted in the Planning cost center for the Waste Characterization Study in the FY 06-07 budget.

Staff contacted Cascadia to review the proposed scope of services and clarify the work proposed in the optional tasks. After further discussion it was determined that the most cost-effective approach was with a revised Scope of Work that would reduce the project cost by using the alternative self-haul sorting approach and use of some Agency staff support to make arrangements for the sampling efforts at the solid waste disposal sites (Sonoma Transfer Station, Healdsburg Transfer Station, Central Disposal Site, and the Redwood Landfill). This revised Scope of Services, attached, has a total not to exceed cost of \$100,000.

VI. RECOMMENDED ACTION / ALTERNATIVES TO RECOMMENDATION

Staff recommends approving Tasks 1-4 using the alternative visual sort for the self-haul customers using \$100,000 from the Planning cost center. As this contract exceeds \$50,000, a Unanimous Vote is required.

Alternatively, the waste characterization effort could be postponed to a future date.

VII. ATTACHMENTS

Resolution for Approval of an Agreement with Cascadia Consulting Group, Inc. for a Waste Characterization Study and the Scope of Services for that study.

The Agreement and Cascadia's Proposal are on file with the clerk.

Memo



Date: January 8, 2007

To: Ken Wells and Tammy Port

From: Kurt Hulse

Re: Summary of waste characterization study scope of work

Cascadia Consulting Group is prepared to replicate the Agency's 1996 waste characterization study and to obtain additional information to satisfy the Agency's four research objectives:

- ensuring that the study is comparable to the Cascadia study in 1995/96 and the 2004 study conducted by Cascadia for Integrated Waste Management Board's study, to allow the Agency to monitor and measure recycling and waste disposal trends,
- 2) identifying specific generators or collection routes that contribute substantial quantities of recyclable materials to the waste stream,
- 3) identifying specific types of manufactured products that occur in the waste stream commonly enough to justify a future targeted Extended Producer Responsibility campaign, and
- 4) further defining and measuring household hazardous waste disposed into the County waste stream.

Cascadia's approach to conducting the waste characterization study will:

- essentially replicate the 1996 study with respect to the waste streams addressed and the number of samples included; and
- use an alternate approach to the characterization of self-haul waste that will result in savings for the Agency in comparison to hand-sorting.

Pursuant to our conversation on January 5, the tasks and approach for accomplishing these objectives is summarized in the scope of work described below.

Task 1: Planning

Subtask 1a: Develop methodology and work plan

This subtask will entail determining the specific approach for waste characterization, including the vehicle types and waste sectors to be targeted and the data that is to be collected. Cost: \$3,450

Subtask 1b: Develop sampling calendar

This subtask will involve determining the numbers of targeted vehicles that are eligible for sampling and that typically arrive at each solid waste facility on days when data collection activities are to take place. Numbers of samples for each waste sector and each facility will be determined, and an overall calendar of days "in the field" will be developed.

Cost: \$1,970

Subtask 1c: Make arrangements with solid waste facilities

This subtask will entail determining all of the logistical details involved in sampling. It will include coordinating with facility personnel, identifying locations where sampling and sorting activity may take place, ensuring that study operations are integrated with the facility's normal operations, and ensuring that adequate planning has been done to protect health and safety. Cost: \$3,280

Task 2: Data collection

Data collection will occur during two seasons – a wet season and a dry season – with the first sampling period expected to occur in March 2007.

Subtask 2a: Hand-sort samples of residential and commercial waste

This subtask will involve selecting 125 loads of commercially collected residential waste and 125 loads of commercially collected commercial waste to obtain and hand-sort a sample of waste from each load. Material will be sorted into a prescribed set of material categories, and the material in each category will be weighed.

Cost: \$60,000 (\$30,000 per season)

Subtask 2b: Visually characterize self-haul waste

This subtask will involve selecting 300 loads of self-haul waste (or other categories of waste to be determined in conjunction with the Sonoma County Waste Management Agency). Each selected load will be characterized visually using the prescribed set of material categories. Volumes of individual materials will be estimated, and the estimates will later be converted to estimates of weight by material.

Cost: \$14,400 (\$7,200 per season)

Task 3: Compile results and conduct statistical analysis

Cascadia will calculate estimates of waste composition and statistical certainty around those estimates, for each waste sector and facility and for the county as a whole. Cost: \$9,400

Task 4: Prepare a draft report and final report

Cascadia will prepare a report that presents the waste composition findings as well as a description of the research methods. Cost: \$7,500

0050. \$7,500

Total cost, all tasks: \$100,000

RESOLUTION NO.: 2007-

DATED: January 17, 2007

RESOLUTION OF THE SONOMA COUNTY WASTE MANAGEMENT AGENCY ("AGENCY") AUTHORIZING APPROVAL OF AN AGREEMENT WITH CASCADIA CONSULTING GROUP, INC. TO CONDUCT A WASTE CHARACTERIZATION STUDY

WHEREAS, to effectively and efficiently pursue the goals of the Agency, it is necessary to measure changes to the waste stream resulting from implementation of the single stream recycling program, to measure the quantity and types of HHW in the waste stream, and identify the quantity, types, and source of recyclables remaining in the waste stream; and

WHEREAS, staff was directed by the SCWMA Board of Directors to distribute a request for proposals for qualified consulting firms to conduct a Waste Characterization Study; and

WHEREAS, Cascadia Consulting Group, Inc is duly qualified and the Agency desires to enter into an agreement with them to conduct the Waste Characterization Study.

NOW, THEREFORE, BE IT RESOLVED that the Sonoma County Waste Management Agency hereby authorizes Cascadia Consulting to conduct a Waste Characterization Study.

BE IT FURTHER RESOLVED that the Chairperson is authorized to execute an Agreement not to exceed \$100, 000 on behalf of the Agency.

MEMBERS:

Cloverdale	Cotati	County	ounty Healdsburg	
Rohnert Park	Santa Rosa	Sebastopol	Sonoma	Windsor
AYES NOE: The within instrument is of the original on file with	S ABSENT a correct copy h this office.	ABSTAIN		
ATTEST:	DATE:			
Elizabeth Koetke Clerk of the Sonoma Co Agency of the State of C County of Sonoma	ounty Waste Management California in and for the	Agency		



Agenda Item #8.1Cost Center:HHWStaff Contact:Ken WellsAgenda Date:1/17/2007

ITEM: Final Report on Evaluation of HHW Program

I. BACKGROUND

During preparation of the budget for Fiscal Year 06-07, the Board expressed concerns regarding the expense of the HHW program. On March 29, 2006, at the Agency Budget Workshop, the Board gave staff direction to study HHW programs and facilities similar to the Agency's to explore the potential for cost savings or greater efficiencies. Staff created and released a request for proposals for a qualified consultant to conduct a benchmarking study of the Agency's HHW program. The purpose of this study would be to compare the Agency's program with others and explore options for greater operational efficiencies, and ways to reduce expenditures of the program, such as charging customers for participation. A contract with Sweetser and Associates to conduct this study was approved by the Agency's HHW program with at least five other similar programs, a comparison of contractor versus public staff operated programs, an evaluation of the existing HHW program infrastructure capacity, explore diversifying funding sources outside of the current mechanisms and an evaluation of possible program modifications to improve efficiencies and reduce costs.

Sweetser and Associates presented the preliminary findings of their work at the Agency's October 2006 meeting. Board members offered comments, questions and suggestions to be incorporated into the final report.

II. DISCUSSION

The final report from Sweetser and Associates will be sent under a separate cover. This report provides additional detail and follow-up to the HHW Program Benchmarking and Program Evaluation along with recommendations for greater program efficiency presented to the Board at the October 18, 2006 meeting.

III. FUNDING IMPACT

The cost of the agreement with Sweetser and Associates was \$25,500. There are no decisions proposed for this agenda item that have a funding impact.

IV. RECOMMENDED ACTION / ALTERNATIVES TO RECOMMENDATION

Staff recommends accepting the Program Evaluation; discuss the Evaluation's recommendations and direct staff to begin implementing Board-selected recommendations of the HHW Program Evaluation.

V. ATTACHMENT

Recommendations page from Evaluation.

HHW Program Benchmarking and Program Evaluation

IX. Recommendations

The Sonoma County Household Hazardous Waste Program, administered by Sonoma County Waste Management Agency, has provided a full spectrum of opportunities for residents to safely manage their household hazardous waste. As regulatory changes result in more reclassifications of solid waste as hazardous and population increases, the amount of wastes needing disposal continues to increase. The existing program of one permanent facility, weekly Community Toxic Collections, a mobile Toxic Rover, and Small Business Collection is operating at maximum capacity.

After extensive review of the program, Sweetser & Associates and Special Waste Associates are recommending a number of operational and infrastructure improvements. These recommendations can be implemented over the next few years and include the following major recommendations:

- Expand the storage capacity of the existing facility by relocating low hazard operations to a newly covered storage area and consider adding walls for a latex processing area.
- Add one additional full service facility in the southern part of the county with ability to process incoming wastes.
- Add one collection facility in the north central county with limited ability to process incoming wastes.
- Add three satellite collection sites for storage of incoming wastes.
- Transition away from the weekly, more costly CTC's in the urban areas to more reliance on the new facility system
- Increase disposal fees for small businesses and large volume mobile customers to reduce current subsidized rates
- Reorganize the material reuse program to more accurately track the quantity of materials distributed.
- Incorporate design and operating efficiencies into the latex paint bulking activity
- Now that the permanent facility has been operating for nearly two years, the allocation of the mobilization costs should be reevaluated by the contractor to provide for more accurate program evaluations in the future.
- Investigate implementation of product stewardship programs to ease the operational and expenses of collecting HHW

These recommendations will position Sonoma County to meet the increasing needs of its citizens, while maintaining a cost effective program.



Agenda Item #: 9.1 Cost Center: Yard/Wood Staff Contact: Carter/Wells Meeting Date: 1/17/2007

ITEM: Compost Site Status Report

- I. BACKGROUND
- A. History

The Sonoma County Waste Management Agency (SCWMA) was formed in 1992 in response to the California Integrated Waste Management Act of 1989 (AB 939). One of the primary responsibilities of the SCWMA was the development and implementation of a regional composting system for yard debris. In 1993 the composting program was initiated at a temporary site at the Central Disposal Site.

At the October 2003 SCWMA meeting, the 2003 Countywide Integrated Waste Management Plan was adopted and this updated plan included a goal to find and develop a new, permanent compost site in Sonoma County. The AB 939 Local Task Force (LTF) provided recommendations for the compost facility siting criteria, which were presented to the SCWMA at its February 2004 meeting. The siting criteria include transportation, environmental, neighborhood, site costs, existing land use, and visual impacts.

In order to efficiently evaluate the 1,500 square miles of Sonoma County for potential composting locations, Geographic Information Systems (GIS) data have been used to develop filters to assist in the identification of potential locations. Each filter was sequentially applied to an aerial photograph of Sonoma County in order to visually present particular siting criteria. This initial process helps narrow the search and avoid evaluating potential sites that have significant constraints, such as wetlands, steep slopes, parcel size, structures or other development, and protected species, specifically the California Tiger Salamander.

At the September 2004 SCWMA meeting, the siting criteria and evaluation process was adopted. Also in September, staff developed a Feasibility Study Scope of Work in response to a discussion between the SCWMA and the City of Santa Rosa (City) to partner in a composting feasibility study. The study would focus on a potential joint regional composting effort for biosolids and yard debris. The City has an existing agreement with a consulting firm, Brown and Caldwell, to assist with their biosolids management master plan. The SCWMA approved an agreement with the City to hire Brown and Caldwell to conduct a Compost Facility Feasibility Study at the November 2004 meeting.

Copies of the Sonoma Countywide Composting Feasibility Study prepared by Brown and Caldwell were made available at the October 2005 SCWMA meeting. This study did not include adequate financial analysis for a new yard debris compost site. A technical memorandum with additional financial analysis was subsequently completed in November 2006. Prior to that (March 2006), the City Board of Public Utilities (BPU) decided to not pursue a combined compost/biosolids project at the present time. It was agreed by the BPU that the SCWMA would move forward as the lead agency with a siting process for a new facility for composting green waste with the understanding that if a site was found that was appropriate, the BPU would consider adding a biosolids facility there at a later date. Additionally, the BPU agreed that they would consider, if feasible, providing recycled water for the composting process as well as treatment for site storm water for the new site location.

B. Previous Board Actions

May 1993 – approved composting agreement with Sonoma Compost Company/Empire Waste Management for composting services at the Central Disposal Site.

October 2003 – adopted updated CoIWMP, which included language for siting a new compost facility.

September 2004 – approved siting criteria and the evaluation process.

November 2004 – approved consulting agreement for Compost Facility Feasibility Study in partnership with the City of Santa Rosa.

C. Deadline(s) for Action

While there is not a specific deadline for obtaining and developing a new compost site, the process is complex and will be time consuming and should be completed as soon as possible and before the current compost services agreement ends in 2010. Relocating the current composting operation would simplify issues regarding the landfill closure and capping, address concerns from the RWCQB, and allow potential divestiture of the property to a private entity wishing to operate without the encumbrance of the composting program.

Following the review of past actions and the current technical and financial information at the January 2007 Agency meeting, it is recommended that there be additional discussion about key policy decisions and next steps at the February 2007 meeting.

II. FUNDING IMPACT

The SCWMA Board of Directors established a reserve fund for a new composting site in FY 01-02. For purposes of budget planning for the acquisition of a new compost site, at the end of FY 05-06 there was \$ 3,325,060 available.

III. RECOMMENDED ACTION / ALTERNATIVES TO RECOMMENDATION

Staff recommends moving forward with the new compost facility siting process with additional discussion and policy decisions at future meetings.

IV. ATTACHMENTS

Compost Facility Siting Criteria Technical Memorandum, Update of Sonoma Countywide Composting Feasibility Study

COMPOST FACILITY(IES) SITING CRITERIA					
Criteria	Definition	Weight			
Transportation Impacts	This criterion measures the relative impact on residents, businesses and institutions along the access routes to the proposed sites. Those sites close to major transportation corridors will have a higher score and would be less likely to have traffic impacts (congestion, noise, safety concerns, etc.) than sites located farther from major roads. This criterion does not address the costs of upgrading roads to accommodate the proposed activity. Considerations will include:	15			
	<u>Transportation Distance</u> : Distance from the county population centroid (a point near the southern edge of Santa Rosa) will affect the cost and environmental impacts of transporting materials to a site for processing.				
	<u>Traffic</u> : Would the site use: (1) cause an increase in traffic on adjacent roads? (2) reduce level of service of nearby intersections? (3) conflict with adopted policies, plans, or programs supporting alternative transportation?				
	<u>Air Quality</u> : Will increased traffic to the site cause a violation of an air quality standard or contribute substantially to an existing or projected air quality violation?				
Neighborhood Impacts	Measures the proposed sites= potential impact from on-site activities (noise, odors, dust, etc.) on people immediately around the site. Fewer nearby residents would equal a higher score. Considerations will include:	25			
	<u>Air Quality</u> : Will the site use expose sensitive receptors to reduced air quality or create objectionable odors that affect a substantial number of people?				
	Noise: Would the site use expose neighbors to noise in excess of general plan standards?				
Environmental Impacts	Sites that have fewer environmental issues/concerns would be rated higher than those with more impacts. Considerations will include:	25			
	<u>Biological Resources</u> : Will the site use adversely affect: (1) a candidate, sensitive or special status species? (2) federally protected wetlands? (3) movement of native resident, migratory fish or wildlife? (3) conflict with local policies or ordinances protecting biological resources? (4) conflict with any local, regional or state habitat conservation plan?				
<u>Cultural Resources</u> : Would the site use change the significance of a: (1) historical resource? (2) archaeological resource? (3) paleontological resources, site or geologic feature? (4) disturb human remains?					

COMPOST FACILITY(IES) SITING CRITERIA			
Criteria	Definition		
Environmental Impacts (con't)	<u>Hydrology and Water Quality</u> : Would the site use: (1) violate water quality standards or waste discharge requirements? (2) deplete groundwater supplies? (3) alter existing drainage patterns? (4) create or contribute to runoff? (5) degrade water quality?		
Site Costs	(a) Acquisition: The acquisition costs for land, existing improvements, and relocation expenses for each potential site will be estimated. Ease of assembling adequate acreage and how much time it takes to acquire and develop a site will be factors in the score. Considerations will include:	10	
<u>Population and Housing</u> : Will the site use displace existing housing/necessitate construction of replacement housing? If so, does this require a longer time frame for developing the site?			
	(b) On-site and off-site development costs: utilities (sewer, water, electricity, gas, etc.); topography (steep terrain requiring significant grading or located within an area prone to flooding), the costs to upgrade local roads to accommodate the new traffic, and site development and site mitigation costs. Considerations will include:	10	
	<u>Utilities and Service Systems</u> : Would the site use: (1) require/result in construction of new or expansion of existing water, wastewater, stormwater systems? (2) have sufficient water supplies?		
Land Use Designation	This criterion considers the land use zoning designation of potential sites. Scoring will consider the potential loss to the community of resource land represented in the current zoning.	5	
Visual Impacts of Site	The magnitude of the visual impacts related to the location and topography of the site and to the availability of buffers to screen the operations. Visual impact considerations may include: (1) scenic vistas, (2) scenic resources (trees, rock outcroppings, historical buildings), (3) degradation to visual character; and (4) creation of substantial light or glare that could affect day or nighttime views.	5	
Multi-Use Potential	Sites that can be used for multiple waste management purposes in the future would be rated higher than those with single use abilities.	5	

¹ "Weight" is the relative number of points that each criterion could potentially add to the site's total score. "Rank" is the actual score for a specific site within that criterion and can range from 0 to the most points for that criterion. The ranking scores are then summed for all the criteria to develop the total score for each site.



TO:	Mr. Ron Crites, Brown and Caldwell	DATE:	Novem January	ber 3, 2006 y 2, 2007 (revised)
FROM:	Melissa Hamkins	PROJECT I	Vo.:	10500B
SUBJECT:	City of Santa Rosa and Sonoma Count Update of Sonoma Countywide Compo	Waste Man sting Feasil	agemen pility St	t Agency udy

In 2005, a Brown and Caldwell-led team which included Wright-Pierce conducted a study to address the feasibility of composting both green waste and biosolids in Sonoma County, California. This study was authorized jointly by the City of Santa Rosa and the Sonoma County Waste Management Agency. The results of this study are presented in the *Sonoma Countywide Composting Feasibility Study Final Report* prepared by Brown and Caldwell in association with RMC Water and Environment and Wright-Pierce dated September 2005. Since the final report has been issued, the Sonoma County Waste Management Agency has requested that the green waste composting evaluation be updated based on a revised design basis and changes in layout requirements to determine the cost of the initial year plan and develop an initial year site plan.

This Technical Memorandum updates the September 2005 report to incorporate a new build-out design feed rate, update the material balance to reflect a production rate of one cubic yard total of screened compost and oversized woodchips per ton of green waste, provide a conceptual design for the initial year plan, and estimate costs for the initial year plan. This Technical Memorandum is organized into the following sections: design basis, material balance, process description, and cost estimate.

DESIGN BASIS

The proposed green waste composting facility was originally sized to handle all of the green waste generated in the county in the year 2030. The updated design basis reduces the year 2030 build-out capacity to 150,000 tons per year from the 200,000 tons per year capacity outlined in the original report. The initial year throughput remains at 100,000 T/yr. The design basis was not changed for the wood waste grinding operation.

Table 1 summarizes the design basis for the proposed green waste composting facility and wood waste grinding. It was assumed that there is not significant seasonal variation in the generation of green waste on a mass basis, although the moisture content does vary with season. The bulk density of the incoming material is based on a wet season bulk density of 667 lb per cubic yard (3 cubic yards per ton). A lower bulk density was used for the dry season to account for the lower moisture content.

TABLE 1

DESIGN DATA FOR SONOMA COUNTY GREEN WASTE COMPOSTING FACILITY

Parameter	Initial Year	Design Year 2030	
Green Weste Throughput			
Annual wet tons per year	100.000	150.000	
Pulk Density 1b/cu ft	100,000	150,000	
Bulk Delisity, 10/Cu. It	25	25	
Dru googon	23	23	
Dry season		22	
Solids content, 10/10		0.50 . 0.55	
Wet season	0.50 to 0.55	0.50 to 0.55	
Dry season	0.70 to 0.75	0.70 to 0.75	
Wood Waste Throughput			
Annual, wet tons per year	13,000	23,000	
Wood Chip Bulk Density, cu.yd/ton	3.7	3.7	
Solids content, lb/lb	0.62 to 0.87	0.62 to 0.87	

MATERIAL BALANCE

The material balance was updated for both the Initial Year and the Design Year 2030 (see Table 2). The estimated annual compost production rate depends on the proportion of the incoming solids which are degraded during the composting process and the solids concentration in the incoming green waste. Based on past composting experience in Sonoma County, the annual average compost production rate is 1 ton of incoming green waste produces 1 cubic yard of finished screened compost and overs. The overs constitute approximately 40% of the total volume and the finished compost is approximately 60% of the total volume. This updated production rate data combined with the decrease in green waste received at the facility results in a significantly lower finished compost volume than estimated in the original report.

The updated finished compost quantities vary seasonally due to differences in the moisture content. The average 274 wet tons per day of green waste will contain more solids during the dry season than the same mass of green waste during the wet season. This has an impact on the sizing of the facility in that the total dry solids in the received material is greater in the dry season than in the wet season. The dry season total dry solids is roughly 15% greater than the yearly average of total dry solids in the feed stream.

Parameter	Initial Year		Year 2030		
i di dificioi	Dry Season	Wet Season	Dry Season	Wet Season	
Received Material					
Mass, tons per year	100	,000	150,000		
Solids Content	73%	53%	73%	53%	
Density, lb/ft ³	22	25	22	25	
Volume, yd ³ /d	913	822	1,370	2,230	
Compost from Windrows					
Mass, tons per year	40,	000	60,	60,000	
Volume, cubic yards per year	80,	000	120	120,000	
Solids Content	60%	60%	60%	60%	
Density, lb/ft ³	37	37	37	37	
Volume, yd ³ /d	253	184	379	275	
Screened Overs					
Mass, Tons per year	10,000		15,000		
Volume, cubic yards per year	40,000		60,000		
Solids Content	60%	60%	60%	60%	
Density, lb/ft ³	18	18	18	18	
Volume, yd ³ /d	127	92	191	139	
Finished Compost Product					
Mass, tons per year	30,000		45,000		
Volume, cubic yards per year	60,000		90,	000	
Solids Content	60%	60%	60%	60%	
Density, lb/ft ³	37	37	37	37	
Volume, yd^{3}/d	191 139		286	208	
· · · · · · · · · · · · · · · · · · ·					

TABLE 2SITE DESIGN DATA GREEN WASTE COMPOSTING FACILITY

PROCESS DESCRIPTION

As described in detail in the Sonoma Countywide Composting Feasibility Study Final Report dated September 2005, the proposed green waste composting system would be a windrow system located outside. It would consist of a pre-processing area, windrow composting area, curing and storage area, waste wood grinding and stockpiling area, and a garage and office space. The updated conceptual design has added an "overs" area to allow two weeks of storage of the overs from the compost screening operation. The facility layout for the initial year design basis is shown in Figure 1. The facility can be expanded as needed by increasing the length or number of windrows and by adding an additional pre-processing train as needed.

For the initial year plan, only one pre-processing train is proposed. The pre-processing train consists of a feed hopper, screener, picking station, grinder, and stacking conveyor. This preprocessing train would have a capacity of 60 tons per hour. For the initial year received material quantities, the pre-processing train would need to operate approximately four 8-hour shifts per week. A single pre-processing train could be used for the design year 2030 quantities, however, slightly more than six 8-hour shifts would be required. The only piece of equipment in the pre-processing train which would have a duplicate would be the grinder. The proposed waste wood grinder is the same size as the grinder in the proposed pre-processing train.

The proposed Windrow Composting area is sized for 13 weeks of composting in windrows 8-ft tall by 18-ft wide. A single straddle-type windrow turner would be provided to turn the piles 3 times per week on average. The windrow area size includes a 10-ft wide aisle between windrows to accommodate sweeping of the aisles (considered best management practice to reduce debris and nutrients in stormwater runoff). The initial year composting area is sized for 30 windrows approximately 1100-ft in length. Appropriate equipment turn-around space is allowed at each end of the windrows. The proposed composting area does not reflect any reduction in area that may be possible by combining windrows as their volume shrinks during the composting process.

A drip irrigation system on each windrow was assumed for providing proper water supply to the composting material. Water can be supplied by water addition to inbound materials, drip irrigation and/or precipitation. Approximately 54,000 gallons per day of water during the dry season would be needed in the feed mix in the initial year. In addition, 100,000 to 140,000 gallons per day would need to be added to the windrows during the composting process.

The proposed compost curing and storage area is sized for 120 days of screened compost. The finished compost would be stored in windrows 12-ft tall by 20 feet wide with a 10-ft aisle between every 2 windrows.

The waste wood grinding area would have one grinder. Separate 125-ft by 100-ft areas would be provided for the storage of the waste wood and the ground waste wood. The screening area

would have one screener and a 100-ft by 125-ft area for overs storage (approximately 14 days of storage).

COST ESTIMATE

A capital cost estimate and an operating and maintenance cost estimate were prepared for the initial year proposed windrow composting system and are summarized in Tables 3 and 4, respectively. The capital cost estimate is based on budget quotes from equipment suppliers, inhouse estimates for building costs and factored costs for installation. Equipment cost estimates obtained from vendors in the earlier study were adjusted using the ENR Construction Cost Index of 7763 for September 2006. Detailed cost estimates are attached. Several items represent a significant portion of the cost and have unit prices that are very dependent on local and site conditions. These include the following:

- Front-end loaders. The price listed is based on local experience with 10 cu yd loaders at \$225,000 each.
- **Pavement**. Approximately 35 acres would need to be paved for the Initial Year plan. A typical cost of \$100 per ton was used in developing the capital cost. Frequently municipalities can obtain lower prices for pavement than other projects. This price is significantly higher than the \$50 per ton used in the original report due to the significant increase in petroleum costs over the last year.
- **Gravel Subbase**. It was assumed that 24" of gravel subbase would need to be imported. The actual amount of imported material is largely dependent on the soils found at the site and the cost for such material varies. A typical cost of \$25 per cubic yard was used in the capital cost estimate.
- Land. Two factors are important in developing a cost estimate for the land required for the composting facility: the amount of buffer required and the cost per acre of land. The proposed Green Waste Composting Facility requires approximately 35 acres of processing space. Depending on the ultimate location of the facility, the recommended amount of buffer area between the facility and its neighbors will vary. If the facility is located in the middle of a cluster of dairy farms or adjacent to a wastewater treatment plant, the buffer area might be less than other locations. If it is located in the midst of a residential neighborhood, more buffer might be needed. Using a 300-foot buffer area around the processing space, the overall land area needed increases to 85 acres. This does not account for ability to expand to the 2030 build-out capacity. Land costs can vary widely depending on location and demand for land. The capital cost estimate assumes that 85 acres can be obtained at \$10,000 per acre.
- Water. The Green Waste Composting Facility will use a significant amount of water (as much as 150,000 to 200,000 gallons per day). The existing Sonoma County Green Waste Composting Facility uses water from an on-site well. An on-site well may be the

best source for a new facility as well. Another alternative is to use effluent from a wastewater treatment plant. The water needed for the process does not need to meet drinking water standards although it should not contain a significant amount of pathogens as this could contaminate the compost. The operating and maintenance cost estimate assumes that the site will have an adequate well to supply the process water needed, therefore no cost is assumed for the process water.

Cost item	Cost
Architectural / structural /building	\$2,662,000
Process equipment	\$5,058,000
Site work	\$6,505,000
Bond and mobilization	\$996,000
Base construction cost	\$15,221,000
Legal and administrative	\$913,000
Engineering	\$3,044,000
Contingency	\$3,044,000
Land, 84.5 acres @10,000	\$845,000
Total capital cost	\$23,067,000
Annualized capital cost	\$2,011,000

TABLE 3 CAPITAL COST FOR GREEN WASTE COMPOSTING

The estimated capital cost for the windrow composting system is \$23,067,000. This capital cost does not include permitting and assumes that water and sewer services are readily available. The annualized capital cost assuming 6% interest and a 20-yr time frame is \$2,011,000 and the operations and maintenance cost is \$1,359,000 assuming compost can be sold at an average of \$9 per cubic yard and the overs can be sold at \$0.50 per cubic yard. This results in a total annual cost of \$3,360,000 or \$33.61 per wet ton green waste processed.

These costs include the waste wood grinding operation which is not used in the green waste composting system at all. If the waste wood grinding costs are removed, the total annual cost would be \$3,185,000 or \$31.85 per wet ton green waste processed.

This updated initial year cost is significantly greater than the \$10.73 per wet ton green waste processed given in the original report. Several factors have greatly increased the cost per wet ton including the following:

- Much of the capital costs are nearly the same for the initial year as for year 2030 including the wood chipping operation, the garage/office building, and land costs (as much of the land is for the buffer space around the facility).
- The increase in petroleum costs has increased the cost of paving and concrete as well as equipment operation costs.
- An increase in the aisle width between windrows has increased the amount of paved area needed for composting.
- A reduction in the estimated compost production rate and the sale of overs at a lower price has resulted in a lower estimated revenue stream.

Item	Cost			
Labor	\$973,000			
Power	\$220,000			
Fuel	\$277,000			
Repair/ replacement	\$346,000			
Laboratory	\$15,000			
Supplies	\$3,000			
Insurance	\$69,000			
Utilities	\$6,000			
Product revenue	(\$560,000)			
Total O&M cost	\$1,359,000			
Amortized capital cost	\$2,011,000			
Total annual cost	\$3,360,000			
Cost per wet ton	\$33.61			

TABLE 4

GREEN WASTE COMPOSTING OPERATION AND MAINTENANCE COSTS

SONOMA COUNTY GREEN WASTE COMPOSTING CAPITAL COST ESTIMATE - INITIAL YEAR

Item	Quantity	Unit	Unit Cost	Total Cost
Capital Costs				
Structural/Architectural				
Puilding				
Footings	1	cu vd	\$350.00	\$1 244
Footing Walls	12	cu. yd.	\$500.00	\$6,000
Slabe	96	cu. yd.	\$500.00	\$48 148
Equipment Area	50	cu. yu.	\$200.00	\$10 , 110
Slabs	3 945	cu vđ	\$500.00	\$1.972.700
Support Walls	17	cu. vd.	\$500.00	\$8.333
Push Walls	291	cu. vd.	\$600.00	\$174,528
Subtotal		cu. ju.	+ 000000	\$2,210,954
				,,-
Building				
Office/Garage	2,600	sq ft	\$100.00	\$260,000
Roll-up Doors	2	each		\$6,000
Sprinkler System	2,600	sq ft	\$3.0	\$7,800
Misc. Building Systems	10	%		\$32,919
Subtotal				\$306,719
Total Architectural/Structural				\$2,517,673
Heating and Ventilating	10	%		\$36,200
Plumbing	5	%		\$18,100
Electrical, Instrumentation and SCADA	25	%		\$90,500
Process Equipment				
Pre-Processing Equipment				\$1,959,436
Compost Screening				\$535,627
Grinding				6/3,000
Front End Loaders				\$929,304 \$203,671
Windrow Turner				\$302,071
Truck Seels				\$000,000
Total Process				\$5.058.098
10(4) 110(635				
Sitework - 35 Acres				
Erosion Control	1	lump sum		\$45,000
Site Drainage	1	lump sum		\$100,000
Gravel Subbase	109,564	cu yd	\$25.00	\$2,739,100
Pavement	36,154	Ton	\$100.00	\$3,615,400
Surface Restoration, Loam & Seed	1	lump sum		\$5,000
Total Sitework				\$6,504,500
Bond & Mobilization	7	%		\$996,000
Base Construction Cost				\$15,221,000
Legal, & administrative	6	%		\$913,000
Engineering	20	%		\$3,044,200
Contingency	20	%		\$3,044,200
Land	85	acres	\$10,000.00	\$845,000
Total Capital Cost				\$23,067,400
			fa aa r -	. ,,.
Annualized Capital Cost	20yrs @ 6%	1nterest	\$0.0872	\$2,011,000

SONOMA COUNTY GREEN WASTE COMPOSTING OPERATING AND MAINTENANCE COST ESTIMATE

Item	Quantity	Unit	Unit Cost	Total Cost
Labor	13	People	\$74.880	\$973.400
Power - electric				\$220,000
Fuel - diesel	92,300	gallons	\$3.00	\$276,900
System repair/replacement	1.5	%		\$346,000
Laboratory				\$15,000
Supplies				\$3,000
Insurance	0.3	%		\$69,200
Utilities - water/sewer for Office				\$6,000
Product Revenue	60,000	yd3	(\$9.00)	(\$540,000)
Overs Product	40,000	yd3	(\$0.50)	(\$20,000)
Total				\$1,349,500
Processing Cost				
Annual Capital Cost	0.087	A/P(6%, 20) yr.)	\$2,011,000
Annual O&M cost				\$1,349,500
Total Annual Cost				\$3,360,500
Green Waste				
Cost per wet ton	100,000	wet tons		\$33.61

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