2010 COMPOSTING SYSTEMS EXCELLENCE AWARD

NOMINATION FORM

Program/Facility Nominated:

LOPEZ CANYON ENVIRONMENTAL CENTER

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Nomination submitted by (if different than information listed above):

Name: ___________________________ Phone #: ___________________________ Email: ___________________________

If selected for an award, how would you like the name of the organization to read on the award (limit of 50 characters)?

City of Los Angeles LCEC Mulching and Composting Program

2010 Applications must be submitted to SWANA no later than Friday, April 2, 2010

***PLEASE NOTE THAT ENTRY REQUIREMENTS HAVE RECENTLY CHANGED***

See the attached Entry & Eligibility Requirements sheet for further information

Application Checklist (Please make sure the following items are included in your submittal packet):

- Completed nomination form with signed release statement (this page)
- 1 original hard-copy application binder
- 1 copy of your award submittal on a CD-ROM
- Executive Summary of your nomination (NO more than 200 words)
- At least 2 pictures of your operation (may be included in nomination text)
- Check (made payable to SWANA) for nomination fee (in U.S. dollars)

Please mail all application packages to:

SWANA
ATTN: Technical Programs Department
1100 Wayne Avenue, Suite 700
Silver Spring, MD 20910

Release Statement: I certify that the information provided in this application is accurate and correct to the best of my knowledge. SWANA reserves the right to publish the enclosed information. Nominations become the property of SWANA. My signature gives SWANA the right to reprint or make available for purchase any portion of this submittal.

Signature: ___________________________ Date: 3-25-2010
Lopez Canyon
Environmental Center

2010 SWANA COMPOSTING SYSTEM
EXCELLENCE AWARD NOMINATION

CITY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS
BUREAU OF SANITATION

SOLID RESOURCES PROCESSING AND CONSTRUCTION DIVISION
EXECUTIVE SUMMARY

The City of Los Angeles is home to over four million residents who recycle more than 6.7 million tons of recyclables per year (67% diversion rate), more than any other big city in the US. The Lopez Canyon Environmental Center (LCEC), a ten-acre composting facility owned and operated by the City of Los Angeles, Bureau of Sanitation, is a small, but key participant in this noteworthy achievement. Curbside collected yard trimmings are mixed with wood trimmings from local landscapers and horse manure from neighboring communities and used to produce three beneficial gardening products. Located on a closed landfill, the LCEC was developed by a committed team of City staff and local residents, working together to conceptualize a facility complete with appropriate design features, environmental mitigations, and community amenities that gained acceptance by all stakeholders. Eighteen aerated windrows produce mulch and compost products that are delivered to farmers, distributed through the Citywide free much give-away program, and donated to schools, community gardens, and non-profit organizations. Demand for these products exceeds current production levels. The LCEC is a prime example of how a community can recover resources for a highest and best use instead of adding more waste to landfills with limited capacity.
BACKGROUND

Located in the foothills of the western San Gabriel Mountains, is a small community called Lake View Terrace. It has been described as a community with two faces, one that is urban, and another that is equestrian and zoned for agriculture. Within Lake View Terrace and bordering on a rural Los Angeles County community called Kagel Canyon, is the City of Los Angeles Lopez Canyon Landfill. Occupying 399 acres, with elevations between 1,200 and 1,810 feet above sea level, the landfill began accepting Class III, residential, refuse in October 1975, and ceased operations in July 1996. The political climate and community protests succeeded in closing the landfill before it reached maximum capacity. Since that time, resource recovery and fire safety projects were completed at the landfill including construction of a helipad to support the LA City Fire Department, and a landfill gas-to-energy project to produce green power for purchase by the local energy utility customers.

In early 2002, the City of Los Angeles, Bureau of Sanitation started investigating ways of managing recycling and green trimmings programs with City forces rather than relying solely on private contractors. With unused space on the landfill, this location presented a viable, potential site for a small scale composting facility that could complete the full cycle of recycling by composting yard trimmings collected in that part of the City. However, it was uncertain if a community that had fought to close the landfill would accept a composting facility on that very same property. Throughout the planning process and early on, ideas from the community were incorporated into the design from the proposal stage to final construction.

SYSTEM DESIGN

Preliminary design ideas were discussed with composting experts, operations staff, site engineers, and the neighboring community. The initial design detailed compost piles under a vacuum system complete with electric blowers, a series underground perforated piping, and biofilters. A complex assembly of electrical and mechanical equipment supported this system. After further considering the difficulties of constructing and maintaining electrical and mechanical equipment over a landfill another approach was taken. A simpler design plan with far fewer moving parts was devised, relying more on the skill and judgment of the trained operations staff at the Lopez Canyon Environmental Center (LCEC) than on complex machinery. Demonstrating trust and confidence in the staff, the community accepted this less technically complex but more operator intensive system, helping the City save capital costs. This redesign is simple, adaptable, and flexible. It represents ‘The Art of Simplicity’. Feedstock is brought in, cleaned of contaminants through a sorting station, and then sized by conveying the cleaned material through a screening and grinding process. Compost piles are formed into windrows, which are turned and moisture conditioned by City equipment operators throughout the composting and curing process. This basic process results in three high quality products. All of this is performed under the watchful eyes of approving neighbors.

DESIGN

Quality control is the focus from start to finish - Product Quality, Environmental Quality, Workplace Quality, and Community Quality of Life.
Incoming Feedstock
City of Los Angeles residents provide the LCEC with its feedstock of yard trimmings, woody materials, and horse manure. The yard trimmings are the foundation of the compost product, and the woody materials and horse manure improve product quality.

The Bureau of Sanitation collects recyclables, yard trimmings, and trash from 740,000 households, and offers a special horse manure collection service for a fee. Approximately 300 tons per day (tpd) of the collected yard trimmings and all 11 tpd of the City’s collected horse manure are brought to the LCEC. An additional, 150 tpd of woody materials are brought to the LCEC from varied local sources. All trucks are weighed as they enter the landfill.

Mulch/Compost Production

**Step 1:** Raw materials are unloaded from collection trucks onto an asphalt pad. Maintenance laborers assigned to the inbound staging area manually remove large, visible, contaminants (plastic, paper, glass, etc) using hand tools.

**Step 2:** The semi-cleaned material is run through a trommel screen and separated into coarse and fine (less than 2 inches) particles. Some of the coarse material is separated out and delivered to end-users. The remaining coarse material is transported by conveyor belt to a picking station where smaller contaminants are removed by hand.

**Step 3:** The cleaned picking station materials are processed through a grinder and reduced to a uniform size of 2 inches.

**Step 4:** The grinder product is mixed with the woody materials and some of the trommel screen fine materials and laid out in windrows. The operator creates a windrow by carefully maintaining a proper mix of carbon (wood) and nitrogen (leaves/manure).
The windrows are approximately 300 feet long, 15-20 feet wide, and 5 feet high.

Step 5: The remaining fine materials are mixed with the horse manure and woody materials and placed in separate windrows.

Step 6: The windrows sit for 21-60 days, depending upon the end use for the composted materials. During this time, windrows are continually monitored for odor, temperature, and moisture levels and adjustments are made as needed. The windrows are aerated several times a week using a windrow turner and small visible contaminants that are brought to the surface are removed.

Product End Use
The process is designed to produce three different products - coarse mulch, fine mulch, and horse manure based compost - depending on which raw materials are used and how long the materials are allowed to compost. All windrows are composted long enough to destroy most of the weed seeds associated with residential yard trimmings.

- Farmers use 4,600 tons per month of coarse and fine mulch.
- City residents receive 1,100 tons per month of fine mulch through the City-wide Free Mulch Give-Away program.
- Lopez Landfill neighbors, nonprofit organizations, and schools are the only ones who receive the best product, the horse manure based compost, free of charge. 37 tons per month of this compost is placed in an area known only to local residents as the City’s way of thanking them for supporting the facility.
MERITS, INNOVATIONS & DIFFERENT FROM THE REST
The LCEC is unique because of its simplicity, adaptability, and government/community team approach. This team jointly planned the facility and the end uses of the products.

Art of Simplicity: In today’s high tech society some tend to think that a system will be more efficient, safer and produce a better product if the most up-to-date technology is used. However, a highly technical approach can also result in a more expensive, higher maintenance and more energy intensive operation. The City of Los Angeles takes great pride in the fact that the LCEC’s simpler, less complex design is more than sufficient to create good quality compost while protecting the environment and the facility’s neighbors.

Adaptable, Flexible, and Dependable: The LCEC has grown over the years, starting with only 30 tpd of yard trimmings to the current processing of over 300 tpd of feedstock. Horse manure was added to the mix to generate a new product with more nutritional content. The LCEC is designed to grow, change and keep functioning, even when challenged by major events, such as fires. The Marek Fire, which started Oct. 12, 2008 and ended Oct. 15, 2008, burned parts of Lopez Canyon Landfill and severely damaged equipment, property, trucks, and the communications system. Despite these major setbacks, the LCEC returned to normal operations five days after the fire ended. During the five days of downtime, the yard trimmings were diverted to other composting facilities.

Teamwork: This facility is truly owned, operated, and designed, by the City of Los Angeles and the facility’s neighbors.
In 2002, the Bureau of Sanitation identified the need for a small scale, City owned and operated composting facility. Lopez Canyon Landfill was identified as a possible location for the facility. Since the community surrounding the landfill was partially responsible for closing the landfill before it reached capacity, the Bureau of Sanitation wanted to make sure these neighbors would be comfortable with a composting facility in their vicinity. A community task force was formed, and was asked to:

- Consider the feasibility of the proposed composting facility from the community’s perspective
- Advise the Bureau of Sanitation on aspects of the proposed composting facility that would affect the community
- Make a recommendation to the Bureau of Sanitation with respect to a proposed feasibility from the community’s perspective

The Task Force met with City staff once a month for nine months. They provided significant input into the design, environmental mitigations, and operations of the facility. As a result of everyone’s dedicated efforts, in 2003 the Task Force unanimously supported building the proposed composting facility. The community continues to play a key role in all decisions relating to the composting facility.

Full Cycle Recycling: In the hierarchy of recycling, reusing materials where they are produced is ideal. The LCEC ranks high in achieving that recycling level on a local basis. All feedstock used at the LCEC comes from the City of Los Angeles and most comes from the East Valley, where the facility is located. The finished product nurtures the same gardens that generated the raw materials.

Free Mulch Give Away: Nine free mulch give-away sites are currently open seven days a week and are available to all City residents and Kagel Canyon residents. The Bureau of Sanitation’s goal is to have 15 sites, one in each Council District. Free mulch is also donated and delivered to schools, community gardens, community organizations, and non-profits.
**Million Trees LA:** The City of Los Angeles needs more trees. In 2006, Mayor Villariagosa launched a unique partnership between the City of Los Angeles, community groups, businesses, and Angelinos to plant and provide long-term stewardship of one million trees. In fiscal year 2008-2009, 9,700 bags of LCEC compost were given away with these trees to provide them with nourishing soil and a healthy foundation for growth.
The Bureau of Sanitation’s mission is “To protect public health and the environment”. The LCEC was designed, built, and operated with that mission in mind. Both the recommendation that was signed by Task Force members and the Mitigated Negative Declaration required environmental, health and welfare mitigations that covered: aesthetics, dust, odor and noise, biological resources, geological hazards and fire risks. The key mitigation measures are listed below.

**Air Pollution:** The City of Los Angeles is concerned about global warming and is committed to a major campaign to control air pollutants associated with climate change. At the LCEC, these efforts include minimizing transportation, and controlling dust from feedstock materials and windrows.

**Greenhouse Gas Reduction**
- The facility itself helped reduce transportation by eliminating the need for a transfer station and providing a composting site with product distribution in the area where the yard trimmings are collected.
- All City of Los Angeles refuse collection trucks have been converted from diesel fuel to Clean Fuel-LNG. This conversion lessens the City’s dependence on fossil fuel since LNG can be produced from renewable energy sources such as landfill gas and biomass. This conversion also provides emission reductions of greater than 90% for particulate matter and carbon monoxide as well as more than 50% reduction of oxides of nitrogen.
- The less technologically complex composting operating system significantly reduced electrical needs.

**Dust Control**
- Water is sprayed around the facility to control dust.

**Odor Control:** As with all composting facilities odors are a primary concern. With residential communities surrounding the landfill, the nearest residence located 2,100 linear feet horizontally and 200 vertical feet from the composting site, and Sanitation personnel working on-site eight hours/workday, odor minimization is a critical feature of the Bureau of Sanitation’s operations plan. An Odor Minimization Plan (OMP) was developed and implemented in 2003 to minimize odors affecting Sanitation personnel and residents both on and off site. Since that time, process changes triggered a review and modification of the plan that now emphasizes the implementation of best management practices.

**Odor Prevention**
The following good housekeeping practices are implemented on a daily basis to prevent odor generation:
- Evaluating on-site odors and responding as needed.
- Implementing operational practices that minimize the release of objectionable odors.
- Implementing good housekeeping measures, such as sweeping materials spilled between feedstock piles and windrows.
- Eliminating areas where water could pond.
- Maintaining reasonably sized stockpiles of feedstock and finished compost.
- Housekeeping inspections by supervisors.
- Inspecting and pumping out the clarifier when needed.
Odor Evaluation
On-site odors are evaluated on a daily basis along with potential odors from the day’s planned operations.

- If an odor is detected the following actions are taken:
  - Investigate and determine the likely source of the odor
  - Determine if an on-site management practice could remedy the problem and if so, take immediate steps to remedy the situation.
  - Determine if the odor is traveling beyond the site by patrolling the site perimeter and noting existing wind conditions.
  - Determine if the odor event is significant enough to warrant contacting adjacent neighbors and/or the Local Enforcement Agency.

Possible Odor Sources and Mitigating Actions
- Seven potential odor generating activities and possible mitigating measures are identified and listed in Table 1.

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<td>POSSIBLE ODOR SOURCES AND MITIGATION MEASURES</td>
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<td>Raw curbside green loads</td>
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<td>Contaminant stockpile</td>
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<td>Excessive debris in clarifier</td>
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<td>'Carry-over’ of green trimmings deliveries</td>
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Complaint Response Procedures
This procedure is initiated when a complaint is received from a nearby resident. It involves printing out a copy of the local weather report including wind conditions, going to the site to investigate the complaint and determine if action needs to be taken, implementing the appropriate action, and notifying the Local Enforcement Agency when necessary. An Odor Complaint Log is kept of all complaints and actions taken.
**Noise Control:** Task Force members raised noise concerns relating to two sources, vehicles, and on-site machinery. A noise and vibration specialist was hired to conduct a noise impact evaluation. The evaluation results and proposed noise mitigations were discussed at a Task Force meeting. The proposed mitigation measures were incorporated into the facility design. They included: building a 12-foot high sound berm, redesigning the facility layout to place stationary equipment within the maximum effective noise shadow of the berm and minimizing the noise impact from standard truck back-up alarms by using directional back-up alarms that help limit the sound to the immediate working area.

**Storm Water Control:** The asphalt pad, which underlies the whole facility, provides an impervious surface so that water cannot penetrate through the landfill cover. Runoff from the facility drains into a drainage clarifier, which is regularly inspected and pumped when necessary, to avoid stormwater pollution. This drainage clarifier diverts the flow into a sedimentation basin. The system is designed to convey up to six times the hundred-year storm event.

**Landscaping:** The Angeles National Forest and a rural community border Lopez Landfill. The rural community lies to the northeast of the landfill and some homes are able to view small sections of the composting facility. In order to maintain the rural, chaparral feel of the surrounding terrain, a City landscape architect was invited to attend several Task Force meetings, listen to the community’s requests, and develop a landscaping plan that would blend into the surrounding vegetation. The approved plan involved terraforming the berm to give it a more natural look and landscaping it with native brush and trees. The landscaping for the landfill slope that radiates down from the composting facility includes native, drought tolerant, plants that match the natural vegetation in the area. Trees will not be planted there since their roots could penetrate the protective barrier that covers the buried trash. This plan takes into consideration landfill maintenance needs, including gas collection and storm water control. The landscaping work has proceeded following a phased-in approach. City gardeners periodically visit neighbors’ homes to view the landscaping from their perspective.

**RESOURCE CONSERVATION**
In addition to being designed and built in an environmentally and community friendly manner, the LCEC has also turned two ‘traditional’ waste products into resources.

**Asphalt:** The LCEC sits on top of a 10-acre asphalt pad that was built by City staff, using asphalt recycled from City streets. The Bureau of Sanitation teamed up with the Bureau of Street Services to use 25,000 tons of the recycled asphalt. As an added bonus, the Bureau of Street Services lent Sanitation their equipment thus saving equipment rental costs.

**Horse Manure:** The City fleet collects horse manure from City residents for a fee. Unfortunately, in the past that manure was not reused, but was dumped into a landfill. The LCEC was instrumental in changing that practice. Since 2008, all of the City’s collected horse manure has been brought to the LCEC and used to produce its best compost product.
REGULATORY COMPLIANCE

ENVIRONMENTAL COMPLIANCE
The LCEC is in full compliance with all regulatory requirements. A final Mitigated Negative Declaration was prepared and approved in November 2003. Since then the facility received Regional Water Quality Control Board, Air Quality Management Board and California Integrated Waste Board facility permits to operate the composting facility. The design, construction, and operation comply with State of California regulations found in Title 14 of the California Code of Regulations. As required, an Enforcement Agency Notification was submitted to the Local Enforcement Agency to notify them about the addition of horse manure to the composting mix. This notification described the incoming tonnage and the type of waste streams that were changed. The LCEC is periodically inspected by the Local Enforcement Agency, which represents the State of California.

AWARDS
A City of Los Angeles Productivity Award was given to the Bureau of Sanitation and the Bureau of Street Services for saving the City $350,000 and reusing 25,000 tons of recycled asphalt. This project also provided an excellent example of how two City agencies can collaborate to benefit each other’s programs and the City as a whole.

RECORD KEEPING
The Lopez Canyon Landfill Superintendent maintains all documents and records pertaining to the LCEC. Detailed records are kept daily of all incoming feedstocks; green trimmings tonnage, woody, and brush materials and horse manure. The amount of compost, mulch, and horse manure based compost produced and their end use is recorded daily. Employee training records are maintained as well as specific documentation relating to the Odor Minimization Plan including, an odor complaint response log, and annual plan review.

INTEGRATED & COMPLIMENTARY TO OTHER LOCAL SOLID WASTE MANAGEMENT SYSTEMS
In 2000, the State of California required a solid waste diversion rate of 50% for all cities, counties, and regional waste management entities. The City of Los Angeles achieved that goal and is proud to have moved beyond it to a current diversion rate of 67%. Contributing to this diversion rate in fiscal year 2008-2009 is the composting of 304,000 tons of Los Angeles yard trimmings and 2,900 tons of horse manure. Yard trimmings were composted at the LCEC and by outside contractors. Nearly all of the horse manure collected at curbside was composted at the LCEC.

In February 2006 the Los Angeles City Council adopted RENEW LA, a plan that emphasized the importance of sustainability, environmental protection and economic benefits. In 2007, in his quest to make LA the greenest city in the nation and a national leader in the fight against global warming, Mayor Villariagosa challenged the City to achieve a diversion rate of 70% by 2013 in his GREEN LA plan. These two plans are the blueprints for the City’s ZERO WASTE PLAN. This stakeholder driven plan will provide a solid waste management road map that will guide the City towards becoming a Greener LA. The objectives are to reduce solid waste generation and disposal, increase source reduction, and increase reuse and recycling programs. The LCEC provides a successful example of how a City owned and operated facility can help achieve zero waste in an environmentally and neighborhood friendly manner. This facility helps the City move in the direction of increased reliance on facilities owned and operated by the City.
WASTE SCREENING PROCEDURES
Green material is screened through the collection process and at the composting facility. When residential yard trimmings contamination was deemed a problem in Oct 2006, LCEC staff worked closely with the Collection Division to determine the cause of the problem. They found that two particular collection routes had heavily contaminated loads. Those truckloads were eliminated from the LCEC program thus reducing the contaminants by 50%. As a result of this effort, City inspectors now randomly check for contamination in green (yard trimmings) bins and notify residents when there is a problem.

PLANNING

THE PLANNING PROCESS
Involving the neighboring community at the beginning stages of the planning process was a critical factor in the initial and ongoing success of this composting facility. After proposing the LCEC concept to all fifteen City Council members the work began forming the community task force and meeting regularly to discuss all aspects of the proposed facility. Success was achieved in 2003, a strong foundation of trust was developed between the community and Bureau of Sanitation staff and the composting facility was built and brought up to speed in three phases.

Phase I: 2003 - 2004  Processing 30 - 99 tpd
2003   The facility opens ‘chipping and shipping’ 30 tpd of yard trimmings.
2004   Construction begins on the forced aeration system, consisting of three troughs, blower, and biofilter method. Construction and maintenance of the troughs is more difficult and time consuming than anticipated, seismic concerns increase, and costs increase due to the need to hire an outside contractor for the electrical system.

Phase II: 2005 - 2006  Processing 100-299 tpd
2005   A new method, using bioplates, and eliminating the three trough method is proposed. A pilot test is run to compare the original three trough technology, the actively aerated one trough bioplate method, and a basic, mechanically (windrow turner) aerated windrow. The evaluation compares air emissions of these three methods. The community is invited to view the test. The results demonstrate that the bioplate system has the least odor impact, followed closely by the mechanically aerated windrow.
2006   The pilot test results are presented to the community and discussed. The community acknowledges the benefits of switching from the three trough method to the one trough bioplate method, and also in continuing the mechanically aerated windrows to provide free mulch and prevent production delays during trough construction. The community also agrees to increasing incoming yard trimmings to 150 tpd.

Phase III: 2007- Present  Processing 300 tpd and adding horse manure
2007   Demand for free mulch grows. There are no problems with the revised composting operations so the community approves gradually increasing processing to 300 tpd by increasing the number of mechanically aerated windrows. Bioplate trough building is slowed down due to problems coordinating electrical needs with outside contractors.
2008   Horse manure is added to the program on a test basis with no negative impact on the community. Both the City and Lopez neighbors agree that the high quality horse manure based compost should be made available to Lopez neighbors only as a community amenity. The community also agrees that future windrows could continue to be mechanically aerated without the use of troughs. They are pleased that this new system is environmentally sensitive, produces no negative environmental impacts, is economical, produces less noise, uses less energy, and has lower maintenance needs than the other systems. By the end of 2008, horse manure becomes a regular addition to the feedstock.
SYSTEM DOWNTIME

Minimizing downtime is an essential part of running an efficient operation. When operations are down, new windrows are not built, less compost is produced and production does not meet customer demand for the free mulch.

Downtime is impossible to eliminate since it can be caused by emergency conditions or machinery problems. In these types of situations, delivery of yard trimmings to the LCEC is temporarily stopped and diverted to other Sanitation programs. As soon as the situation is resolved operations return to normal.

Even the October 2008 Marek Fire, which destroyed 4,824 acres around the landfill and burned through the landfill, destroying equipment, vehicles, offices, computers, and the electrical and communications systems, only kept the LCEC out of commission for 5 working days!

PERFORMANCE, ECONOMICS AND COST-EFFECTIVENESS

The heart of the LCEC is its products. If the end product is not in-demand, if customers do not use the products then there is no point in producing it. Generating a good quality product requires quality raw materials, a good production system and a staff that cares. The whole system must be economically feasible, otherwise it is not sustainable. All those elements are present at the LCEC and the team continues to strive to find ways to make it even better.

EFFICIENCY OF OPERATION

All of the incoming raw materials are composted and used by customers. The only waste produced results from the contamination that comes in with the curbside collected yard trimmings. Contamination consists of refuse or other recyclables that were not deposited in the correct collection container (bin). The contamination level of the incoming yard trimmings is approximately 7%, the same percentage found in the yard trimmings collected throughout the City. Reductions in the level of contamination in the yard trimmings bins would have a significant positive impact on the efficiency of the LCEC facility.

MEASURING SUCCESS

Measures of success for the LCEC operation include producing quality products, maintaining satisfied customers, increasing production, sustaining community support, improving operational and cost efficiencies, streamlining operations, and decreasing contamination.

- Operations began in 2003 with 30 tpd of yard trimmings and now average 300 tpd.
- In 2004 one product, chipped yard trimmings, was made available to LCEC customers. Currently, three quality products are available.
- Contamination has been reduced by 50%.
- Customer demand exceeds maximum production capacity.
- Cost savings have increased over the years.
- Operations have been streamlined, and the need for electricity greatly reduced while remaining environmentally sensitive.
- All of these changes have been totally supported by the neighboring community.
- In July 2008, the newest LCEC product, horse manure based compost, received the US Composting Council Seal of Testing Assurance (STA). This assures customers that the LCEC is in full compliance with all applicable local, state and federal regulations, that the compost is tested quarterly by a certified lab, and that the product is safe and beneficial to use when the user guidelines are followed. Lab test results and compost user guidelines are posted on the Bureau of Sanitation website. [www.lacitysan.org/srpcd/sta_info.htm](http://www.lacitysan.org/srpcd/sta_info.htm)
OPERATIONAL PERFORMANCE EXPECTATION AND GOALS

Initial goals were modest; focusing on slowly expanding the Bureau of Sanitation’s small scale mulching and composting program to serve new areas of the City. The mulch facility in the southern part of the Los Angeles composted an average of 50 tpd and saved the City approximately $720,000 per year in fees that would otherwise have been paid to private contractors. It was hoped that a similar facility could be set up in the northern part of the City, the San Fernando Valley. The LCEC is currently at full-scale operation and on target for achieving estimated production and staff levels. Product demand has greatly exceeded expectations.

BUDGET

The initial budget was based on the use of a more complex composting method. Since that method was simplified, unanticipated savings have been realized due to decreased construction and operation costs. The expected savings from eliminating 300 tpd of tip fee charges is approximately $2,700,000 annually.

CUSTOMER SERVICE

The Bureau of Sanitation is committed to providing the highest level of customer service in order to exceed customer expectations and create beneficial long-term relationships. Fulfilling that commitment involves posting lab test results and product user guidelines on-line, offering facility tours, delivering compost at no cost to farmers and other large quantity users, and posting customer satisfaction surveys on-line.

Customers vary and services are tailored to accommodate their different needs. Different products are available, targeted informational flyers are distributed at events throughout the City, the media is encouraged to visit and write articles about the LCEC, a telephone hotline is available 24 hours a day, and staff visits the free mulch give-away sites seeking customer input and suggestions on how the program can be improved. The LCEC customer service program is flexible, evolves, and continually improves. Below are quotes from three customer letters:

- **Building the Soil for Urban Farming Jobs in Los Angeles: A Non-Profit Organization**
  
  As any farmer or gardener knows, the quality of our soil determines the yield. The Menlo Lab Urban Farmer Jobs program, with terrific support from the Los Angeles Mayor’s Office, local City Council staff from Tony Cardenas’ district, and a wonderful team from the Department of Sanitation, is building the soil for a city-wide program that is creating “living schools” that teach and demonstrate sustainable urban agribusiness. The first farm site was launched in August with the delivery of City compost to the North Hollywood Jobs Center, one of many urban farms that will offer organic produce at affordable prices to low-income communities in LA. Thanks to the City’s outstanding compost program, with each new farm site we are restoring the soil, greening blighted areas, and building our capacity to create sustainable food systems. As much, support from our City’s civil servants is building the confidence among unemployed folks that we can work together to better our lives and those of others. On behalf of the urban farmers, we thank you!

- **Gardens of Gratitude: A Non-Profit Organization**
  
  Last May our community group, The Westside Permies, organized an event called Gardens of Gratitude. The idea was to connect people with land (a front yard, a back yard, a roof, an apartment balcony, etc) who wanted to start a garden, with people in their community who were interested in helping them. The purpose was to build community around gardening. We thought it would be a great success if a dozen gardens signed up. By the weekend of the event, 100 gardens had signed up and the event was an extraordinary success. The gardens ranged from individual and family gardens to non-profit organization, community organization, and faith-based organization gardens. As we are harvesting the finest vegetables from our winter gardens for tomorrow’s Thanksgiving Holiday, we are giving thanks for the (tons of) nutrient rich soil amendment that each of you played a part in us receiving.
Mar Vista Green Garden Showcase 2010 edition: A Non-Profit Organization

With this e-mail I would like to confirm delivery of 200 bags of mulch to my address on April 23rd or week prior. I faxed the official form in February some time.

As you know this is our second annual event and your delivery of mulch to my location last year was hugely successful as we distributed 150 bags in one day and had over 1000 visitors who saw or took the one sheet info on the Sanitation Department compost program.

EQUIPMENT

LCEC equipment was chosen and sized with an eye towards the future, anticipating increased feedstock as the program grows.

- Trommel Screen – Separates particles by size and is used approximately 8 hours a day.
- Mechanized Picking Station with a conveyor belt – Yard trimmings are moved along the conveyor belt while workers remove contaminants by hand. This station is used 8 hours a day.
- Tub Grinder – Reduces the size of the trimmings to a uniform size of 2 inches, and operates about 4 hours a day
- Front-end Loaders – Used to build the windrows and operates about 8 hours a day.
- Compost Turner – Used to turn and aerate the compost piles and operates about 5 hours a day.

WORKER HEALTH AND SAFETY

Worker health and safety is a top priority for the Bureau of Sanitation. With 2,800 employees, a large number of whom work at wastewater treatment plants, in solid waste collection or as inspectors, the Bureau of Sanitation is experienced in developing and implementing worker safety programs.

When the LCEC was approved, the Lopez Landfill emergency response plan was updated to include the composting facility. Specific evacuation and emergency alarm procedures that were developed for landfill personnel were also required for LCEC staff. An Odor Minimization Plan was first written in 2003 and updated in 2010. This updated plan will be reviewed yearly and updated as needed.

LCEC staff is trained to the same high standards as the landfill staff. Consistency is critical when dealing with safety. Additional, specific, training is provided as needed. Beginning this year, LCEC supervisors will receive Odor Minimization Plan refresher training yearly. Advanced specialized training will be offered to designated LCEC supervisors and operators. All other LCEC staff will receive on-the-job training and refreshers through tailgate meetings.

Emphasis is placed on preventing hazards from occurring. All new LCEC employees undergo an orientation during which they are trained in all safety and emergency procedures. Each employee is provided with a personal copy of the work rules and is expected to comply with these rules and conduct himself/herself in a professional, safety-conscious manner. In addition to classroom training, employees receive on-the-job training on the use of emergency equipment and supplies.

Thirty-five employees work at the LCEC. This includes equipment operators, maintenance laborers, gardeners, heavy-duty truck operators, and supervisors. Personal safety equipment is made available on an as-needed basis including hard hats, safety glasses, coveralls, gloves, respirators, masks, earplugs, and safety boots. The precautionary use of this equipment is task/work specific. The supervisor is responsible for equipping his staff with the required protective equipment for each specific task. For example: workers in areas where there is concern of airborne particle inhalation are required to wear masks and respirators.

Vehicular traffic is a concern on landfill roads where large equipment is used for construction activities or to transport LCEC feedstock and finished product. The speed limit for traffic in the landfill is 15 mph and is strictly enforced and back-up alarms are required on all vehicles.
PUBLIC ACCEPTANCE, APPEARANCE, AND AESTHETICS

The public did more than accept this facility, they helped create it. It exists because the Community Task Force worked with City staff to design a facility that would be a win-win for all involved. The community’s sense of pride in the facility is demonstrated in the MOU that written and signed by Task Force members:

During the nine meetings of this Task Force, it became evident that there has been a paradigm shift within the Bureau of Sanitation regarding the Lopez Canyon Landfill. This site has in the past been viewed as an obligation, and now is seen as one of possibility; from a landfill in the process of closing, with no clear vision of a satisfactory end use, to a place where yard trimmings are made into beneficial materials for the betterment of the larger community. We would like to encourage the Bureau of Sanitation to use the proposed facility as a tool to educate the wider community, particularly the educational community, about the benefits of recycling yard trimmings.

OVERALL APPEARANCE, VEHICLE CLEANLINESS

The LCEC is always ready for visitors and staff is available to give tours. The City of Los Angeles takes pride in the LCEC and is eager to share its success with all who would like to view it. On very windy days, windblown debris can become problematic. To prevent litter from blowing out of the area, debris catching fences are set up around the perimeter of the facility. The yard trimmings collection trucks are part of the City’s Residential Collection fleet of 750 trucks. These trucks travel throughout the City of Los Angeles five days a week. They are kept so clean that signs are placed on these trucks promoting City programs and events. All non-City vehicles are held to the same standards as City vehicles.

PUBLIC RELATIONS AND PUBLIC EDUCATION

The Bureau of Sanitation strives to maintain positive relations with the Lopez Landfill neighbors. Over the years, a variety of methods of sharing information, soliciting feedback, and responding to concerns have been implemented.

Lopez Landfill Community Meetings: These meetings began during the active landfill days, continued through the closure process and into the current closure construction period. At times, they have been held semi-annually, monthly, or quarterly. Neighbors are updated on closure related activities, LCEC activities, other proposed activities at the landfill, and are taken on tours. They are also asked to express their complaints, concerns, and or issues.

A Community Liaison: The Bureau of Sanitation hired a community relations liaison to maintain positive public relations and communications with the community. The liaison facilitates community meetings and maintains personal, one-on-one contact with Lopez Landfill neighbors.

Neighborhood Association Meetings: When invited, Sanitation personnel give presentations at neighborhood association meetings.

A Telephone Hotline: The hotline is available 24 hours a day and staff responds to all calls.

Bureau of Sanitation Website: Information about the LCEC and the free mulch give-away program is detailed in the Solid Resources Processing and Construction Division website section. One page that is dedicated to Lopez Landfill community related information includes community meeting agendas and minutes, and other relevant information. www.lacitysan.org/srpcd
The City Cable Station: Cable station staff filmed a video about the LCEC. It was shown at a Lopez community meeting and copies were distributed to local community organizations.

Written Materials: The availability of free mulch and the importance of keeping contaminants out of the green bins are topics that are publicized at events throughout the City. Materials, such as the postcard below, are distributed at these events.
GOOD NEIGHBOR
Providing information and responding to neighbors complaints and concerns is only part of the picture when it comes to neighborhood relations. To truly impact the community bordering Lopez landfill a pro-active approach must be taken and non-City residents who border the landfill must also receive amenities. The LCEC good neighbor efforts began even before the facility existed, when the Task Force was formed and asked to determine the feasibility of building the facility. Both City and non-City residents were invited to join the Task Force. These efforts continue as the Bureau of Sanitation discusses proposed changes to facility operations, making sure that neighbors are comfortable with these changes.

Living near a landfill and a composting facility has its challenges. To acknowledge the efforts of the Lopez Landfill neighbors, the Bureau of Sanitation provides special services.

Yard Trimmings Drop-Off: Special appointments are set up for yard trimmings drop off by neighbors at the LCEC.

Neighborhood Clean-Up: The LCEC provided non-City rural neighbors six yard trimming collection bins for their major spring green clean-up effort. Delivery and collection of the bins was provided free of charge.

Visit Neighbors at their Homes: When appropriate, City personnel have visited neighbors' homes to see how they view the aesthetics of the composting facility and the landscaping. Changes to the landscaping plan have been made as a result of these visits.

Horse Manure Compost: The LCEC highest quality product, the STA certified horse manure based compost, is available only to Lopez Landfill neighbors.

Naming the LCEC: The Bureau of Sanitation held a ‘Name the Compost Facility’ contest. The community and City personnel submitted names, but only the local community voted for and chose the winning name, Lopez Canyon Environmental Center.

SUMMARY
The Lopez Canyon Environmental Center is a proto-type for future City of Los Angeles owned and operated small scale composting facilities. It completes the full cycle of recycling by composting local green materials and returning them to local gardens, it is welcomed by the surrounding communities, it produces three high quality beneficial gardening products, it is sensitive to environmental protection, and it utilizes an efficient yet simple operator intensive technology while providing cost savings. All in all, it is a win-win situation for everyone.