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COMMITTEE MEMORANDUM

TO: Sustainability and Resiliency Committee

FROM: Jimmy L. Morales, City Manager

DATE: March 20, 2019

SUBJECT: **Discuss A Composting Program In North Beach Similar To The Program At The Miami Beach Botanical Garden.**

BACKGROUND

At the City Commission meeting on March 13, 2019, the Mayor and City Commission referred a discussion to the Sustainability and Resiliency Committee (SRC) to discuss a composting program in North Beach similar to the program at the Miami Beach Botanical Garden. This item was sponsored by Commissioner Aleman.

ANALYSIS

Food scraps and yard waste currently make up between 20 to 30% of what gets placed in landfills. This equates to approximately 35 million tons of food per year. Once in the landfill, the nutrients in the scraps are lost, taking up space and contributing to greenhouse gas emissions in the form of methane. In addition to promoting waste reduction, communities can help combat this issue through the establishment of composting programs. Composting is the method of taking organic materials such as leaves, vegetables, and food scraps and turning them into a rich soil mixture (compost) using four basic ingredients: nitrogen, carbon, water, and air. Diverting food scrap waste into a regenerative system can improve the health of the soil and provide multiple community benefits through a closed loop system.

Cities, such as Portland, Oregon, have established community wide composting programs in which residents can enroll with a composting hauler and pay a monthly fee for pick-ups. The bins are serviced similar to their trash and recycling receptacles. In Austin, Texas, a non-profit known as the Compost Peddlers, began their own composting program similar to that of a composting hauler. The program is a 100% bike-powered which collects compostables from homes and businesses and pedals them directly to nearby urban farms and community gardens to grow more local food.

Athens-Clarke County in Georgia established a county wide composting program in 2011 for their comparable population of 130,000 residents. In order to service the size of their county, they utilize a five-acre pad for composting biosolids and food waste and five acres for tree and plant debris. In addition, a retention pond, equipment storage area, and gate increases the approximate total of land used for the county's composting program to 12 acres. This program has been highly successful and showcases an example of the sizing requirements for a large-scale composting program.

Composting programs can vary in size depending on the number of people or households that need to be serviced. Most cities, such as New York, begin their composting programs within their community gardens and either increase the size of the area or locate supplemental space as demand increases. The participating community gardeners are allowed to compost their own yard trimmings and food scraps. In some instances, like Milwaukee, Wisconsin, neighbors and local businesses are allowed to drop off their food scraps on a limited basis to prevent an overflow of materials. Schools in Sonoma County, California, have onsite compost programs to repurpose leftover food scraps and utilize the compost to improve soil fertility for growing plants and vegetables at the school garden. Excess compost is given away or donated to other locations where it can be reused.

If the City decides to proceed, it is recommended to begin small and grow as demand increases. However, there needs to be sufficient space for equipment and four different compost material piles or bins. Each pile or bin will need to be separated into the different phases of compost: active, curing, screening, and storing. Another consideration is the proximity of the piles to neighboring properties that may be sensitive to the smell or the sight of a composting pile. Smell can be a common issue and is a result of either insufficient oxygen within the pile for an extended period of time or lack of dry brown materials such as leaves or coffee grounds. However, this can often be remedied by properly balancing the types of materials added to the pile or by frequently moving the pile, further supporting the need to provide proper maintenance.

There are several basic types of composting system options available including turned windrow composting; bin systems; aerated static piles; passively aerated static piles; in-vessel; static piles; and vermicomposting. The most common technique for community sized composting is the turned windrow system. This is an elongated pile, which is generally turned or “rolled” by hand or with a tractor. Bin systems are the most common style for backyard home-scale systems. Composting material is contained in a wire bin or plastic containers approximately the size of a trash receptacle. All composting systems require labor in order to continuously maintain the compost pile. Therefore, it is important to establish a maintenance program, led by non-profit organizations, volunteers or paid staff.

Miami-Dade County like many other communities does not have access to large scale public composting facilities. In April 2016, the Miami Beach Botanical Garden established its own composting program for residents. The compost program accepts approximately 10,000 lbs. of food scraps per year from members of the community. The onsite piles are positioned within a 25’ x 30’ area (750 square feet). Each pile is about 6’ in diameter and can provide enough space for food scraps from 50-100 families per week. To adequately maintain the program and dependent on the amount of waste material, two staff members spend between 10 to 20 hours per week adding material to the pile or processing finished material. The final compost product is either used within the garden and/or provided to the families that participate for their own garden use. The garden had previously partnered with Fertile Earth, a local non-profit focused on composting education, to launch this program; however, the organization is currently on hiatus.

If the city were to implement a small-scale program comparable to the one that is established at the Miami Beach Botanical Garden, an estimated $40,000-$60,000 would be needed to initiate the program. Oversight and supervision are an integral component of a successful composting program; therefore, staff will be needed to maintain the piles and monitor the material that is dropped off. A program of this size could service slightly over 100 households and can include some small businesses. The size requirement would be approximately 750-1000 square feet. This includes start-up costs, labor, and regular maintenance.

In order to establish a large-scale composting program in Miami Beach, an estimated 3.5 to 8.5 acres are needed to adequately service the city's 90,000 residents. Approximately one to two square blocks provide a good representation of the size required to begin a voluntary program to service the full community. This calculation is based on the size and number of families serviced by Miami Beach's Botanical Garden composting program and the size of the program established within Athens-Clarke County, Georgia. The large variation in acreage is dependent on the type of composting program that's implemented and the percent of households that are serviced.

The City of Miami Beach continuously collaborates with the University of Florida – Institute of Food and Agricultural Sciences to host composting workshops for employees and the community. Participants are able to obtain a voucher for a free composting bin for their property as well as educational material. Moreover, the city's three existing Community Gardens have small composting programs at each site, but the programs are only accessible to members of each individual garden and cannot be accessed by the general population.

CONCLUSION

The following is presented to the members of the Sustainability and Resiliency Committee for discussion. At this time staff has not scoped a program, looked for a site or identified staff and funding until this initial discussion takes place.

JLM/SMT/ESW/FCT/YP