

## **Proposed Orange County Sanitation District Biosolids Management Policy**

*Should OCSD explore alternative uses for biosolids?*

### **Summary Policy Statement**

The Orange County Sanitation District (the Sanitation District) will remain committed to a sustainable biosolids program and will beneficially reuse biosolids in accordance with Resolution No. OCSD 13-03 (attached) and the 2017 Biosolids Management Plan.

### **Background**

Wastewater solids at both our treatment plants are separated, thickened, digested, and dewatered before being recycled offsite by contractors for composting and land application. Biogas created from the digesters is used to generate electricity to offset the need to purchase power from a local utility. The Sanitation District currently receives sewage sludge from the Irvine Ranch Water District at Plant No. 1, which is scheduled to cease by 2021 when Irvine Ranch Water District completes their own solids treatment facility.

Prior to 2019, the Sanitation District produced an average of 800 wet tons per day (~20% solids) of Class B biosolids dewatered by belt press units. Presently, with the construction and commissioning of co-thickening sludge and dewatering centrifuges, the Sanitation District has been producing approximately 500-600 wet tons per day (25%-29% solids) with biosolids hauling cost savings of approximately \$200,000-400,000/month due to the reduction in volume.

The Sanitation District's biosolids program is shaped by federal, state, and local regulations and by the Sanitation District's biosolids policy ([Board Resolution 13-03](#)), our biosolids management system, and the 2017 Biosolids Master Plan (Plan). The Sanitation District manages a high quality biosolids program built on a solid policy that emphasizes the diversification of product markets for Class A and B biosolids utilized as a soil amendment for agriculture and horticulture uses. The policy also sets direction to seek opportunities in emerging markets such as biosolids-to-energy technologies to produce renewable energy in the form of biogas or used as a heating value source.

These marketing principles are aligned and supported by the Plan, which provides the Sanitation District a roadmap and framework for reliable and sustainable biosolids management options while minimizing cost. In addition, the Plan sets future capital facilities improvements over a 20-year planning horizon. The Sanitation District will be implementing the Plan to develop a capital improvement project for Plant No. 2 that will result in a major change to the Sanitation District's biosolids program; namely, the construction of new mesophilic and thermophilic digesters that will generate Class A biosolids beginning in 2030. These new digesters are needed for operational resiliency against seismic events. Plant No. 1 will continue to produce Class B biosolids.

The Plan evaluated end-use management alternatives for the Sanitation District's biosolids. This work supports the Sanitation District biosolids policy and has taken into account the regulatory

initiatives imposed on organic management in California as explained below. The Plan established a roadmap for the Sanitation District's commitment to beneficial use of its biosolids. The biosolids management portfolio for the Sanitation District is expected to remain similar to the overall current biosolids management end use options as it is today. Currently about half of the annual production going to contract composting and half going to Class B land application in Arizona.

The significant shift will begin when the Sanitation District starts reliably generating Class A biosolids at Plant No. 2. Although this is more than 10 years away, the Plan has identified early planning efforts on future end uses which include:

- Emerging markets: This end use refers to either markets in which biosolids have not been tested in California at this time (e.g., land reclamation) or emerging-technology solutions (e.g., biosolids gasification, supercritical oxidation, fluidized bed combustion, cement kiln drying, pyrolysis etc.).
- Soil blending: This option involves working or partnering with local soil blenders to deliver and blend Class A biosolids with soil to produce a soil amendment.
- Arizona land application: Land application in Arizona will continue to be a part of the Sanitation District's overall biosolids program and serves as a large-capacity outlet for biosolids management.
- California land application: While Class A compost and granules are currently land-applied in California, land application of Class A cake is still restricted in most counties. However, it is anticipated that the implementation of California's organics diversion mandates will loosen local land applications restrictions.

This programmatic framework described above has led to a reliable and sustainable biosolids management program that is designed for the beneficial use of the Sanitation District's biosolids through the utilization of diverse biosolids management options using multiple biosolids contractors, markets, and merchant facilities, while maintaining a failsafe backup capacity of at least 100 percent of the Sanitation District's daily biosolids tonnage. This forethought is necessary due to the flux of regulatory, environmental, market, and financial factors that poses potential risks to the biosolids management in California.

### **Current Situation**

The legislative and regulatory landscapes in California are changing regarding organic management. For the past 15 years, direct land application of Class B biosolids has been predominately prohibited due to strict local ordinances and conditional use requirements, which preempts state recycling laws. However, in recent years there has been a need for organics diversion from landfills, healthy soils, renewable energy, and reduction of Green House Gases (GHGs), which are reflected in several important bills (laws) and initiatives that have been adopted:

- AB 1826 (2014) - Mandatory Organics Recycling for Businesses

- SB 1383 (2016) - 50% organics diversion from landfill by 2020 and 75 % by 2025, which includes biosolids and mandatory organics procurement (compost and biogas) for impacted jurisdiction.
- SB 32 (2016) - 40% Reduction GHG below 1990 levels by 2030
- SB 100 (2018) - 50% renewable resources (i.e. anaerobic co-digestion of food waste) target by December 31, 2026, and to achieve a 60% target by December 31, 2030
- Increasing soil carbon and carbon sequestration under the Healthy Soils Initiative and Forest Carbon Plan

These measures are expanding “organic waste markets,” thereby stimulating interest in siting more composting facilities and organic waste-to-energy projects and encouraging soil blending and direct land application of biosolids, opening opportunities for wastewater treatment plants such as the Sanitation District to locally manage more biosolids. Regulatory agencies such as the State Water Resource Control Board, CalRecycle, California Department of Food and Agriculture, California Air Resources Board, and California Energy Commission are developing regulations to implement the new laws. During the rule making process, the Sanitation District has been actively involved through the California Association of Sanitation Agencies (CASA) and the Southern California Alliance of POTWs (SCAP), advocating regulators to open more biosolids management options in California. In particular, the proposed regulations for SB 1383 will require jurisdictions such as cities and counties to procure recycled organics such as compost and biogas for beneficial reuse. This organic market will provide opportunities for regional public and/or private partnerships for biosolids management options.

Although there is growing interest in California for organics management, there has also been a rising concern from the regulatory community regarding emerging contaminants such as polyfluoroalkyl substances (PFAS) and microplastics that may have some potential impact to the wastewater sector. Although to date there are no regulatory limits of these contaminants in biosolids or wastewater in California, the Sanitation District has been actively monitoring the development of the science and regulation concerning these emerging concerns.

### **Future Policy Statement**

As the regulatory landscape shapes to stimulate organic waste markets in California, the Sanitation District seeks to leverage its memberships with various industry associations to advocate local, state, and federal agencies to assure biosolids proposed regulations encourage the beneficial use of biosolids as a soil amendment, renewable energy, and a healthy end-use market. The Sanitation District also leverages its memberships to monitor the development of initiatives related to constituents of emerging concern that may impact the beneficial use of biosolids. The Sanitation District’s leadership role in these organizations enables us to have a greater influence in key regional, state, and national issues.

The Sanitation District seeks to stay abreast of developments in organic waste markets as they develop in California. The Sanitation District seeks both public and private partnerships with regional biosolids management opportunities including new innovative technology options that convert biosolids to energy and other biosolids recycling operations. This is consistent with the

Sanitation District's biosolids policy and Plan. To accomplish this, the Sanitation District will issue a request for information to research and evaluate available emerging market such as biosolids-to-energy options or other biosolids recycling operations within a 200-mile radius of the Sanitation District to potentially develop a scope of work and minimum requirements for a future contract solicitation.

Consistent with the Sanitation District's Plan, staff will seek to collaborate with OC Waste and Recycling (OCWR) for regional biosolids management opportunities as well as partnering with OCWR to find local solutions to meet SB 1383's organics diversion mandates including in-county biosolids management, composting, food waste co-digestion, and biogas production.

**Initiatives to Support Progress Toward the Policy Goal:**

**Initiative:** Educate and advocate with the local, state, and federal agencies to assure biosolids will continue to be safely and legally used as a soil amendment and monitor and research the development of initiatives of constituents of emerging concerns such as PFAS and microplastics that may impact biosolids.

**Initiative:** Stay abreast of new technology options to convert organics to energy and other regional biosolids recycling and renewable energy partnerships within Southern California.

**Initiative:** Proceed with mesophilic and thermophilic biosolids facility at Plant No. 2 to enhance biosolids quality and marketability while improving the Sanitation District's operational resiliency against seismic events.

RESOLUTION NO. OCSD 13-03

A RESOLUTION OF THE BOARD OF DIRECTORS OF ORANGE COUNTY SANITATION DISTRICT IN SUPPORT OF BIOSOLIDS RECYCLING AND REPEALING RESOLUTION NO. OCSD 06-10

WHEREAS, the Orange County Sanitation District ("District") produces biosolids at its two wastewater treatment plants; and

WHEREAS, biosolids are the solid product of municipal wastewater processing which have been extensively and properly treated so that they may be safely recycled to amend soil directly, create composted soil amendments, produce energy, or other beneficial uses; and

WHEREAS, the District promotes the recycling of biosolids in a manner that is safe, environmentally beneficial, and is sensitive to the needs of the communities involved; and

WHEREAS, in 1993 the United States Environmental Protection Agency (EPA) established rules, which included a thorough health-risk assessment, regulating the treatment and use of biosolids (40 Code of Federal Regulations Part 503). These Regulations have since protected public health and the environment by ensuring the safe and beneficial recycling of biosolids when managed in accordance with the rules; and

WHEREAS, decades of use, research, and regulatory review and oversight have demonstrated the benefits and safety of biosolids; and

WHEREAS, the direct application of high-quality biosolids as a soil amendment is sustainable, safe, provides beneficial nutrients to the soil, sequesters significant amounts of carbon for a net carbon reduction, and is an environmentally-friendly alternative to – and reduces the need for – fossil-fuel intensive fertilizers, pesticides, and herbicides; and

WHEREAS, the production of compost for agricultural, commercial, and residential markets is sustainable, safe, provides beneficial nutrients to the soil, is a local source of recycled nutrients, and is an environmentally-friendly alternative to – and reduces the need for – fossil-fuel intensive fertilizers, pesticides, and herbicides; and

WHEREAS, the production of energy and other alternative products from biosolids can be sustainable, safe, and an environmentally-friendly option for utilizing the District's biosolids and ensuring continued diversity of the District's biosolids management options for sustainability; and

WHEREAS, it is the law of the State of California that municipalities divert recyclable materials from disposal in landfills and may be required to divert even more in the future. The District also recognizes that limited (up to 100 tons per day) use of local landfills can provide benefits including enhancing methane gas recovery

at the landfill, providing an in-county biosolids management option, increasing the diversity of the District's biosolids management options, and adding another low-cost option during the District's peak biosolids production period (until 2017), thereby increasing the District's biosolids program sustainability; and

WHEREAS, in order to promote a standard of excellence, the District maintains a Biosolids Management System and adheres to the principles of the National Biosolids Partnership's Code of Good Practice and best management practices of the California Water Environment Association's (CWEA) Manual of Good Practice for Agricultural Land Application of Biosolids; and

WHEREAS, in order to maintain the highest-quality biosolids for beneficial use, the District maintains a comprehensive and award-winning Source Control program that includes permits, and in some cases onsite treatment, for categorized industries, along with best management practices and outreach programs for non-industrial discharges to prevent pollutants entering the District's plants.

WHEREAS, reducing the volume of biosolids produced onsite, reduces impacts associated with managing biosolids offsite such as traffic and truck emissions; and

WHEREAS, the District supports ongoing research regarding emerging biosolids-related questions including studies performed by the EPA, Water Environment Research Foundation, and the National Science Foundation to ensure the continued safety of biosolids recycling practices; and

WHEREAS, by 2003 most agriculturally-based counties in south and central California placed restrictive ordinances or bans on farming with biosolids; therefore highlighting the criticality for strong biosolids management practices including a biosolids management system and proactive education and outreach; and

WHEREAS, the 2003-2004 Orange County Grand Jury issued findings related to public concerns regarding farming with biosolids and recommended the District's continued participation in national surveys, research on emerging concerns, and incident trackers in order to demonstrate the District's ongoing commitment to protecting public health and address nuisances; and

WHEREAS, the District commissioned a Long-Range Biosolids Management Plan that was completed in 2003 and included recommendations with the goal of a long-term sustainable biosolids program. The Plan recommended diversity and fail-safe back-ups as ways to prevent biosolids market failures and thereby maintain reliability, minimize costs, and reduce risks to the District.

The Plan also valued using local (in-county) options to reduce environmental impacts associated with hauling greater distances, create a closed-loop system (solids generated, treated, and used in the same county – including costs and revenues), and accept social responsibility for our biosolids use to increase community acceptance at out-of-county biosolids facilities.

The District continues to implement the recommendations of the Plan including maintaining a diverse program of biosolids management (multiple biosolids

contractors, markets, and facilities), maintaining fail-safe back-up capacity, and developing in-county facilities and markets.

NOW, THEREFORE, the Board of Directors of Orange County Sanitation District,

DOES HEREBY RESOLVE, DETERMINE, AND ORDER:

Section 1. The District is committed to a sustainable biosolids program.

Section 2. The District is committed to diversifying its portfolio of offsite biosolids management options with multiple biosolids contractors, markets, facilities, and maintaining fail-safe back-up capacity at least 100% of its daily biosolids production.

Section 3. The District declares its support of recycling biosolids.

Section 4. The District strives to balance financial, environmental, and societal considerations when making biosolids decisions.

Section 5. The District is committed to utilize a biosolids management system to maintain a sustainable and publicly supported biosolids program.

Section 6. The District is committed to researching and implementing ways to reduce the volume of biosolids at the treatment plants to minimize the need for offsite management.

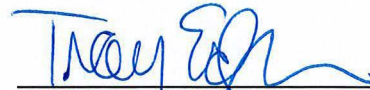
Section 7. The District declares its support of continuing to research biosolids benefits and potential safety concerns.

Section 8. The District demonstrates the benefits of biosolids compost by using it at the District's facilities.

Section 9. Resolution No. OCSD 06-10 is hereby repealed.

Section 10. This Resolution shall become effective immediately upon its adoption.

**PASSED AND ADOPTED** at a regular meeting of the Board of Directors held on the day of February 27, 2013.

  
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Troy Edgar, Chair

ATTEST:

  
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Maria E. Ayala, Clerk of the Board