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March 8, 2022

Mr. Kasey Kolassa
Department of Public Works
County of Santa Cruz
701 Ocean Street, Room 410
Santa Cruz, CA 95060

Subject: Solid Waste System Cost of Service Study Report

Dear Mr. Kolassa,

HF&H Consultants, LLC (HF&H), at your request, has reviewed the County of Santa Cruz's (County) projected solid waste enterprise costs and revenues to determine the estimated operating surplus/shortfall for the County's solid waste system based on proposed infrastructure expansion. This report provides an independent review and analysis of revenue required and per parcel cost of expanding the County's solid waste infrastructure in order to provide County residents with essential services.

Executive Summary

The Santa Cruz County Solid Waste Enterprise including its landfills and transfer stations are funded primarily through a charge on solid waste disposal at the Ben Lomond (Ben Lomond) Transfer Station and Buena Vista Landfill (Buena Vista). Buena Vista, which is the disposal site for the majority of the County's solid waste, is rapidly approaching its closure date due to lack of available air space. The County reviewed a number of options for continuing to provide critical public services when current capacity is exhausted. From this analysis, the County determined the need to modify operations to provide updated infrastructure that is needed when the landfill closes. Specifically, a transfer station is needed to transfer waste to another landfill upon closure of the County's landfill and a compost facility is needed to process the organic material on-site which avoids the need to incur transportation costs and to be subject to the volatile market pricing for organics processing from third parties. In addition to these new functions at Buena Vista the County needs to make certain improvements to its current Ben Lomond Transfer Station to modernize those operations and make them more safe and efficient. These facilities would continue to accept the full spectrum of recyclable and waste materials from both the public and commercial haulers working in the County.

The proposed transfer station and compost facility provides a combination of features that address varied issues and concerns, and was designed to satisfy all of the following criteria:

- Participation: Support significantly increased participation in the solid waste disposal and diversion system, based on a steady historic pattern of growth in use.
- Convenience: Maximize convenience to customers by providing convenient locations to deliver solid waste, recyclables, and organic material.

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- Long-Term Efficiency: Empower the County to be in control of its solid waste system with limited reliance on third parties for processing capacity.
- Capacity: Ensure that residents and businesses within the County are provided capacity to properly handle the material generated within the County to be disposed of or recycled.

The cost of service analysis has determined that:

1. The underlying operational and fiscal assumptions provided by County staff and its consulting engineer (SCS Engineers) appear reasonable and well-considered.
2. The proposed facilities provide both the public and commercial haulers with an important public service, namely the ability to use conveniently located, cost-effective solid waste handling facilities, when Buena Vista exhausts its disposal capacity.
3. The Proposed Transfer Station and Compost Facility for Self-Haul and Franchised Materials during Fiscal Year 2022/23 through Fiscal Year 2031/32 will require raising an annual average amount per year as summarized in the following table:

Table 1 Proposed Funding Levels

	2022-2023	2023-2024	2024-2025	2025-2026	2026-2027	2027-2028	2028-2029	2029-2030	2030-2031	2031-2032
New Annual Charge	\$110.00	\$125.00	\$140.00	\$155.00	\$175.36	\$183.32	\$191.50	\$197.76	\$200.80	\$204.19
Number of Parcels	45,017	45,017	45,017	45,017	45,017	45,017	45,017	45,017	45,017	45,017
Resulting Average Annual Revenue	\$4,951,870	\$5,627,125	\$6,302,380	\$6,977,635	\$7,894,147	\$8,252,597	\$8,620,694	\$8,902,480	\$9,039,482	\$9,191,822

The report also includes recommendations to Program staff regarding maintaining flexibility to modify some elements of program design if needed, including notifying the Board should disposal-based tip fees vary from projections over time, and including a mechanism to adjust the new charge, should it prove to be generating more revenue than is needed.

Background

System and Program Information

Current spending for the County's Solid Waste Enterprise operations is about \$16.4 million per year. Revenue is about \$17 million per year. Revenue and expenditures are managed through a County trust account, but the positive balance is steadily declining as revenues decrease. The County's Buena Vista Landfill currently receives about 150,000 tons of refuse and recyclable material per year of which about 97,000 tons is landfilled on-site as refuse. Buena Vista Landfill has a remaining capacity of about 1,000,000 tons. The County is projecting Buena Vista to reach capacity and close in 2030.

In September 2016, Governor Brown signed SB 1383. SB 1383 establishes statewide targets to achieve a 50% reduction in the level of organic waste disposed from the 2014 level by 2020, and a 75% reduction by 2025. Additionally, the Bill sets a statewide target of a 20% reduction in disposed edible food, to be

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recovered for human consumption. SB 1383 is currently in the final formal rule making stage, with regulations taking effect January 1, 2022. The minimum program standards are anticipated to include but are not limited to: an organics (including food waste) recycling program for all generators, an edible food recovery program to promote recovery of food for human consumption, public education and outreach, an enforcement program (including mandatory ordinances and minimum fines), substantial reporting requirements, and procurement of recovered organic waste products (e.g., compost and RNG). The County needs to prepare itself for compliance with this law, as the programmatic and service changes are likely to be significant.

The County's current operations do not allow for the management of organic material at the anticipated levels that will be required as a result of the legislation described above. Using the most recently available comprehensive data, the Program captured 45,623 tons of yard waste and 599 tons of food waste in FY 2020-2021, while as much as 29,000 tons per year of organic waste is still being landfilled, contrary to State Law. In addition, the proposed facilities allow for the County to have a guaranteed processing location for these organic materials, which is a volatile market with only one processing location currently available within a reasonable distance of the County.

Legal Requirements

The County is required to set rates in compliance with California State law. Voters passed Proposition 218 in 1996, which enacted Article XIII D of the California Constitution. Article XIII D has five substantive provisions that must be met: ¹

1. revenues derived from the fee must not exceed the funds required to provide the property-related service;
2. revenues derived from the fee must not be used for any purpose other than that for which the fee is imposed;
3. the amount of a fee imposed upon any parcel or person as an incident of property ownership must not exceed the proportional cost of the service attributable to the parcel;
4. the fee may not be imposed for a service unless the service is actually used by, or immediately available to, the owner of the property subject to the fee. Fees based on potential or future use of a service are not permitted, and stand-by charges must be classified as assessments subject to the ballot protest and proportionality requirements for assessments; and
5. no fee or charge may be imposed for general governmental services, such as police, fire, ambulance, or libraries, where the service is available to the public in substantially the same manner as it is to property owners.

The basis for setting rates that are proportional to the cost of providing service was not prescribed in Article XIII D; however, each agency must reasonably demonstrate that their rates are not arbitrary, capricious, or discriminatory. Reasonable rates are not arbitrary (decisions required to make assumptions and analyze data have a sound reason), not capricious (there is a documented source for all data), and not discriminatory (the results do not unduly favor one customer at the expense of another).

¹ Cal. Const. art. XIII D, §§ 6(b)(1)-(5)

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This concept is interpreted to mean that rates must be proportional to the cost of service across the range of subscribed services. Furthermore, the rates for each level of service must correlate with the actual demand that customers place on the waste management system and for which the system must be designed to provide the level of service customers require.

Development of the Program Option

In 2019, the County engaged SCS Engineers (SCS) and HF&H Consultants (HF&H) to conduct a comparative evaluation (Review) of different program options for the County to manage its solid waste, recyclable and organic materials. The Review provided a planning level analysis that facilitated a determination of how best to address the long-term disposal and organics processing needs of the County. This began with an evaluation of the efficiency and cost-effectiveness of the Program's current operations and included a detailed comparison of six different infrastructure and programmatic approaches to handling the County's solid waste, recyclables, and organics material streams. Upon review of the different scenarios presented to County Staff, the construction of an organics facility and new transfer stations was the recommended scenario and forms the basis for this cost of service analysis.

Description of Proposed Program Operations

Overview

The proposed program was designed to satisfy all the following criteria:

- **Participation:** Support significantly increased participation in the organics recycling program, based on a steady historic pattern of growth in use.
- **Convenience:** Maximize convenience to customers by continuing to provide residents with assessable locations to drop-off materials.
- **Long-Term Efficiency:** Maximize Program efficiency by creating the opportunity for the County to manage solid waste, recycling, and organics materials flows and/or processing at County owned facilities.
- **Capacity:** Ensure that residents and businesses within the County are provided capacity to properly handle the material generated within the County to be disposed of or recycled.

Program staff believes the proposed program meets these criteria. This approach includes the following:

- Constructing a County owned and operated transfer station to accommodate self-haul and franchised materials.
- Constructing a County owned and operated compost facility to accommodate self-haul and franchised materials.
- Maintaining GreenWaste Recovery's (GWR) current collection and transportation operations. GWR delivers franchised material to the County facilities, with the exception of recyclables and commercial organics, which are currently processed at other facilities. Changing the delivery location for GWR would have a material impact on the rates charged to residents and businesses

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in the County. Our analysis determined that there was a net community and ratepayer benefit to developing these facilities compared with directing GWR to deliver all material to the Marina Landfill and Compost Facility.

- Continuing to accept self-haul solid waste and construction and demolition debris (C&D) at County facilities which will then be transferred to MRWMD. Historically, tip fees to process materials at the Monterey Regional Waste Management District (MRWMD) have been higher than the County's and therefore the model projects savings to the County. Additionally, should the relationship between County and MRWMD rates change in the future, we anticipate that the County would increase their gate rates in order to cover the costs of tip fees at MRWMD.
- Transferring self-haul solid waste and C&D and franchised solid waste from the proposed transfer station to MRWMD. The model includes the additional trucking expenses and disposal expenses. Disposal expenses are calculated from the difference in tip fees currently paid to dispose and process franchised solid waste within the County and tip fees that would be paid for franchised material taken to MRWMD.
- Beginning to transfer roughly 60 tons of solid waste to MRWMD effective July 1, 2022 in order to delay the closing of the Buena Vista Landfill.
- Collecting Reserves in the years prior to the planned construction and operation of the facilities in order to pay down the costs of these facilities and lower the amount of debt service which will need to be paid while slowly increasing the amount which will be collected through the parcels. This approach will also lower the overall costs which will need to be charged to the parcels over time.

Key Assumptions/Inputs

The analysis relied in part on the following key assumption, provided largely by the County and any supplemented with data from other sources as noted:

- The estimated costs to build the transfer stations are \$35.8 million and were amortized over 30 years.
- The estimated costs to build the compost facility are \$16.7 million and were amortized over 30 years.
- The County intends to raise capital reserve amounts in years 1-4 to pay down construction costs on the transfer stations and compost facilities in an effort to lower overall costs and debt service payments.
- During years 1-4 the County intends on hauling 60 tons of material per day to MRWMD to delay closure and reserve space at the Buena Vista Landfill.
- The transfer stations and compost facility are expected to be in operation July 1, 2026.
- Interest rates are projected to be 3%.
- County facilities operate 6 workdays (Monday through Saturday) per week.

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- All County facility per ton disposal and processing rates are effective July 1, 2021 and are projected to inflate at a conservative 2% per year.
- The County charges County residents who self-haul materials \$81.00 per ton to process and dispose solid waste and C&D.
- The County charges County residents who self-haul materials \$54.00 per ton to process food waste and yard waste.
- The County charges \$47.84 per ton to process and dispose franchised solid waste and C&D.
- The County charges \$45.76 per ton to process franchised yard waste.
- All MRWMD per ton disposal and processing rates are effective July 1, 2021 and are projected to inflate at 5% per year
- MRWMD charges \$65.00 per ton to process and dispose solid waste and C&D.
- MRWMD charges \$56.00 per ton to process food waste.
- MRWMD charges \$42.00 per ton to process yard waste.
- The County's contractual solid waste rate at MRWMD is \$50.00 per ton, and \$55.00 per ton effective July 1, 2023. In any subsequent years under the contract, the County receives a discounted rate that is 5% less than MRWMD's public tip fees. In FY 2025-2026 and subsequent years, following the contract's expiration, the County is not expected to receive a discounted solid waste rate at MRWMD.
- The purchase price of a transfer truck and trailer is \$300,000.
- The purchase price of an excavator is \$400,000.
- The cost to purchase trucks are amortized over 10 years.
- In 2020-2021, transfer trucks hourly operational costs are \$30.00 an hour.
- In fiscal year 2020-2021, transfer truck driver's hourly rate is \$72.12 per hour.
- Transfer truck hourly operational rates are escalated annually by County provided projected inflation rates as seen in the County's economic forecast.
- The tonnages used in the model were gathered from County and franchised hauler provide data for FY 2019-2020, which was the most recently completed and available data when the model was initially developed. Tonnages were projected using County provided population growth projections.
- There are 45,017 parcels in the County, not including parcels in the City of Scotts Valley or vacant or public parcels.
- The Model does not include the potential savings due to operational efficiencies or discontinuing current operations at County facilities.
- The Model does not factor in any collection, transfer, or processing changes for recyclables.

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Description of Operations to be Funded by Solid Waste Charge

Proposed System Expansion

Continued provision of publicly-available solid waste infrastructure is a critical public service provided by the County that has manifold benefits including public health and safety and mitigation of illegal dumping that leads to land and water pollution. Should the County allow the current facilities to close, residents and businesses would either need to haul the material long distances themselves, or pay large sums of money for a third party to transport these materials to another location for them. For users of the County's franchised collection operation, there would be substantial increases in the rates in order to compensate them for the increased time and equipment that would be required to haul materials to more distant locations.

County staff has determined that proposed system expansion of infrastructure is needed to provide essential services to County residents and appropriate based on costs and other factors such as convenience, participation, and long-term efficiency, as described in this report. The estimated cost for infrastructure expansion provided by SCS combined with the assumptions described above seems a reasonable basis for budgeting and for setting this new charge. The Program's costs may be somewhat higher or lower for two reasons. First, the tonnage estimates that drive the tip fee costs and revenues in this model may fluctuate and participation levels within the diversion programs are hard to predict. However, we anticipate that the County will monitor these tonnages, participation levels, and costs, and set their tip fees at a reasonable price and not at a rate that would create a shortfall, and that this would be monitored closely. Second, it is reasonable to expect that there will be some efficiencies associated with the expansion of infrastructure and that staff and other expenses may not be one for one and that costs and staff may be shared across the entire system.

Methodology

Our review of projected program expenses included gaining a full understanding of current expenses. The Model includes expenses from the County's budget and tonnages delivered to the County's facilities, Buena Vista and Ben Lomond. The Model also included estimates from work conducted by Cambridge Construction, Inc. and SCS Engineers, Inc. for the construction and operation cost estimates of the County's proposed transfer station and organics facility. We believe the current and projected expenses to be reasonable and justified. The projected expenses were based annually on the number of tons being brought into the system, the costs of accepting, transferring and ultimately processing these tons, in addition to the additional capital and infrastructure costs needed to perform these services. The County then provided parcel counts which were used to determine the incremental cost of the proposed system on a per parcel basis.

The new charge will be effective on July 1, 2022 (included on fiscal year 2022-23 Property Tax Bill. This provides adequate time to establish the charge mechanism. [The County is receiving independent advice on legal and administrative issues related to initiating the charge, and we have not reviewed the feasibility of the timing for instituting the charge.]

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Proposed Funding

The proposed program will require a new, sustainable source of revenue. This cost of service study calculates and projects the necessary charge on each parcel in the unincorporated County. Because the proposed infrastructure is accessible to each parcel and receives the special benefit of lower tip fees at the gate through self-hauling of material and/or through lower rates the County's franchised haulers receive, as opposed to non-County residents, the intent is to set the charge at the same level for all parcels and to continue disposal tip fee funding at the current charge level.

HF&H determined the necessary amount of the charge in each fiscal year by modeling the amount of revenue that must be generated from each parcel to cover the additional anticipated operational and capital costs of building and operating the proposed new facilities. Key parameters for the charge are that:

1. It will take effect on July 1, 2022.
2. It will be levied at the same amount per unit for all parcels within the County. The charge is based on the current number of parcels, and the number of parcels is assumed to remain the same over the planning period.

Table 1 presents the annual amount of required new revenue for the first five years of the thirty-year planning period for July 1, 2022, through June 30, 2027, the number parcels the will be applied to, the resulting new charge for the proposed program based on the assumptions stated in this report. A more detailed breakdown of these costs is provided in table below. Note that the proposed system does not require any operational changes to the Franchised haulers current operations, resulting in no required change to franchised collection rates, unlike other proposed systems, which in many cases was a significant factor in the total cost of operations.

Table 2 Proposed Infrastructure Expansion Costs

	Year 1	Year 2	Year 3	Year 4	Year 5
	2022-2023	2023-2024	2024-2025	2025-2026	2026-2027
Added Self-Haul Tip Fees to MRWMD	\$0	\$0	\$0	\$0	(\$577,647)
Buena Vista Closure Costs	775,926	775,926	775,926	775,926	775,926
Transfer Station Capital	0	0	0	0	1,236,251
Transfer Station Operations	1,559,701	1,627,483	1,698,869	1,773,728	3,343,859
Compost Facility Capital	0	0	0	0	722,684
Compost Facility Operations	0	0	0	0	1,749,953
Trucking to MRWMD	0	0	0	0	643,122
Capital Reserve	2,616,243	3,223,716	3,827,586	4,427,981	0
Net Costs	\$4,951,870	\$5,627,125	\$6,302,380	\$6,977,635	\$7,894,147

The analysis of the required and appropriate charge is based on engineer's estimates of the cost of constructing and operating the new infrastructure and budget forecasts. While these amounts are considered to be well informed and reasonable, the underlying assumptions about the cost estimates and projections should be reviewed annually to determine whether the estimates were correct. In the event that actual costs are significantly lower than projections, or key assumptions are realized to a material difference, the amount of the charge should be recalculated in future years and a lesser adjustment than was estimated here should be applied. In the event that actual costs significantly exceed the estimates, a

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new cost of service study should be prepared, and the charge should be adjusted consistent with the substantive and procedural requirements of Proposition 218. Table 3 below presents the new annual charge to be applied to each parcel in the unincorporated County in order to appropriately fund the proposed infrastructure expansion for FY 2022-2023.

Table 3 FY 2022-2023 Proposed Funding Levels

	Proposed System Expansion
New Annual Charge	\$110.00
Number of Parcels	45,017 parcels
Resulting Average Annual Revenue	\$4,951,870

Limitations

This study was prepared solely for the County in accordance with the contract between the County and HF&H and is not intended for use by any other party for any other purpose.

In preparing this study, HF&H relied on information and instructions from the County, which we understood to be accurate and reliable.

The Financial Model (Model) and accompanying analyses contain projections of revenues and expenditures based on various assumptions and estimates provided by the County as well as independent consultants and engineers whom we believe to be knowledgeable, as well as professionally- and technically-qualified to perform the work. The review did not entail independent verification of the accuracy or completeness of all the sources of documents provided by the County.

While we reviewed those projections for reasonableness, actual results of operations will usually differ from projections because events and circumstances do not always occur as expected. Those differences may be significant and may materially affect the analyses and findings presented in this report.

Rounding differences caused by stored values in electronic Models may exist.

This study adheres to relevant laws, regulations, and court decisions but should not be relied upon as legal advice. Questions concerning the interpretation of legal authorities referenced in this study should be referred to a qualified attorney.

* * * *

Very truly yours,
 HF&H CONSULTANTS, LLC



Rob Hilton
 President



Dave Hilton
 Senior Project Manager