



DATE: December 14, 2022

TO: Waste Management Authority

FROM: Meghan Starkey, Senior Management Analyst
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SUBJECT: 2023 Waste Characterization Study Recommendation

SUMMARY

As part of the FY 22-23 Agency budget, the Waste Management Authority approved funding for a Waste Characterization Study (WCS). This type of study identifies predominant materials in the waste stream and changes in composition over time and will be used by StopWaste and member agencies to refine programs and track progress toward the long-term goal of landfill obsolescence. In addition to these general study purposes, the WCS will satisfy the organics processing capacity planning requirements of SB 1383, quantify contamination levels of the organics and recycling streams, and identify the prevalence of items such as single-use plastics, packaging, and food across all three waste streams.

Staff issued an RFP in September 2022 and is recommending selection of SCS Engineers to conduct the study for a not-to-exceed total of \$910,000. This includes \$785,000 of previously identified FY 22-23 funds for the Main Project and Board approval of an additional \$125,000 for a sub-project focusing on contamination and contingency funds.

DISCUSSION

Study Purpose

This study (including two sub-projects detailed below) will meet several Agency needs:

- 1) Providing a detailed understanding of the waste stream to identify or refine priorities for material type or sector.
- 2) Assessing the entire stream of materials (landfill, recycling, and organics) and quantifying capture rates of curbside materials.
- 3) Meeting requirements of SB 1383 for organics processing capacity planning.
- 4) Understanding contamination in recycling and organics streams to increase recovery rates and decrease the loss of valuable commodities.

Methodology, Main Project, and Sub-Projects

As in the four past studies (between 1995 and 2018), the 2023 Waste Characterization Study (WCS) methodology will focus on physical sampling by hand-sorting and weighing materials, visual sampling to estimate material weight for loads not suitable for sorting and weighing, and additional data collection from haulers. This methodology is standard and meets CalRecycle's requirements. As in previous studies, the 2023 study will break down the results in five generator sectors/delivery methods: single family, multifamily, commercial, roll-off, and self-haul. Two seasons will be sampled, tentatively scheduled for May and September 2023, with results available in late 2023/early 2024.

The Main Project will sample all three streams (landfill, recycling, and organics). Previous studies conducted by the Agency have only sampled the landfill stream. To inform progress toward the landfill obsolescence goal set in the Alameda County Integrated Waste Management Plan (CoIWMP) and move toward a more circular economic system, where fewer materials are entering these streams to begin with, the Agency must better understand what is in the entirety of waste and diversion streams. In addition, understanding what percentage of materials are being captured in diversion programs as compared to the landfill stream can inform member agency programs and priorities.

Sub-Project 1 includes secondary sorting of samples in the Main Project to further study contamination and categorize materials. The study will consider alternative or supplemental sorting processes and identify metrics other than weight that will be useful for program design and evaluation. For example, the WCS methodology sorts plastics by material type such as plastic film or rigid plastics or number (i.e., #1-2s, #3-7s, etc.). This information is useful in identifying how materials are sorted at facilities and understanding the market for a particular material (and required by the standard methodology). However, it may be more relevant for Agency programs to sort by product type (i.e., beverage bottles, takeout containers, or packaging) in addition to material type. Quantifying the types of products that enter our waste stream will help us understand consumption and waste behaviors, and thus, how to prioritize when developing upstream waste reduction and reusables programs. In addition to sorting by different categories, Sub-Project 1 would consider other metrics for identifying contamination aside from weight. Many problematic materials, like film plastics and plastic bags, do not weigh much but cause problems in the sorting line by getting tangled in machinery or around other materials. It may therefore be more beneficial to count these items to understand their scope and impact. Since Sub-Project 1 relies on secondary sampling from the Main Project, it must be done concurrently, or the Agency will not be able to collect this information until the next WCS.

Sub-Project 2 would analyze residuals from organics processing facilities. Compost residuals consist of organic material that was screened out (for example, larger woody items) as well as physical contaminants such as plastic and glass. If compost residuals are clean, they can be re-composted, but this material is often disposed or used as Alternate Daily Cover due to physical contamination.

Anecdotally, composters estimate that one-third to one-half of the organics processed are not recovered due to contamination. Characterizing residuals will be useful to quantify the percentage of organics lost due to contamination, as well as the types and amounts of contamination preventing residuals to be recovered. While this information is also helpful to understand the entirety of the waste system and informing programs, it is not required to be done concurrently with the Main Project, and staff will consider it in the upcoming FY 23-24 budget year.

Process and Consultant Selection

Staff issued an [RFP](#) in September 2022 for the 2023 WCS. While only one firm submitted a proposal (SCS Engineers), the second firm from which we anticipated a proposal, Cascadia Consulting, is a sub-consultant on the project team. SCS Engineers estimated \$794,261 for the Main Project, \$111,676 for Sub-Project 1, and \$98,138 for Sub-Project 2. Staff evaluated the proposal and interviewed SCS Engineers and determined that, due to the thoughtfulness of their proposal, past experience conducting studies for the Agency, and composition of the full project team, that SCS is an appropriate choice for the 2023 Study.

The Agency has \$785,000 available in the FY 22-23 Agency budget for the Main Project and have identified opportunities to bring the Main Project costs down to match that budget. Staff is recommending that the Board approve an additional \$125,000 for Sub-Project 1 (primarily for secondary sorting) and a small contingency fund, using Agency fund balance.

RECOMMENDATION

Staff recommends that the Waste Management Authority Board authorize the Executive Director to enter into a contract with SCS Engineers for a total of \$910,000 to include the Main Project and Sub-Project 1.