

Revised Proposal to Assess the Viability and Functionality of a Leachate Vapor Recovery and Control System

Chiquita Canyon Landfill
Castaic, California
SCAQMD Facility No. 119219

Waste Connections
29201 Henry Mayo Drive
Castaic, CA 91384

Submitted to:

South Coast Air Quality Management District
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Diamond Bar, CA 91765
909-396-2000

SCS ENGINEERS

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INTRODUCTION

Chiquita Canyon LLC (Chiquita) operates the Chiquita Canyon Landfill (CCL, Facility, or Landfill), a municipal solid waste (MSW) landfill/solid waste disposal facility located in Castaic, California, under South Coast Air Quality Management District (SCAQMD) Facility No. 119219. This Revised Proposal to Assess the Viability and Functionality of Leachate Vapor Recovery and Control System during the loading of leachate tanker trucks is submitted by SCS Engineers (SCS) on behalf of Chiquita in accordance with Condition No. 100 of the Modified Stipulated Order of Abatement (SOFA) (Case No. 6177-4) pertaining to the Landfill. Chiquita submitted its initial proposal on January 16, 2026, and SCAQMD provided comments on August 21, 2026. This Revised Proposal addresses SCAQMD's comments and presents a revised plan for evaluating the feasibility, viability, and functionality of recovering vapors during loading of liquid/leachate into leachate tanker trucks.

Condition No. 100 of the Modified SOFA requires:

By January 16, 2026, Respondent shall submit a feasibility assessment proposal to assess the viability and functionality of a leachate vapor recovery and control system to recover leachate vapors during loading of liquid/leachate into the leachate tanker trucks and control the recovered vapors either in Respondent's existing landfill gas control system or in a new or modified system. The proposal shall be submitted to the South Coast AQMD [attn: Baitong Chen, bchen@aqmd.gov; Nathaniel Dickel, ndickel@aqmd.gov; Christina Ojeda, cojeda@aqmd.gov] for review and approval. Respondent shall incorporate South Coast AQMD comment(s) on the proposal and shall submit a revised proposal, or shall provide detailed justification for not incorporating the comment(s), within 15 days of receipt of South Coast AQMD comment(s) unless otherwise approved in writing by South Coast AQMD. Upon approval by South Coast AQMD, Respondent shall conduct the feasibility assessment. Respondent shall submit a final report to South Coast AQMD within 150 days of the approval of the feasibility assessment proposal [attn: Baitong Chen, bchen@aqmd.gov; Nathaniel Dickel, ndickel@aqmd.gov; Christina Ojeda, cojeda@aqmd.gov] detailing the results of the feasibility assessment, including at a minimum, all equipment considered (tank trucks with standard vapor balance capabilities, vapor collection equipment, existing and/or new designed adapters for tank truck vapor connections, vapor recovery/collection equipment, vapor recovery/control configurations, etc.), companies contacted as part of the assessment and associated written communication logs, and any further details collected or considerations made relating to feasibility of a leachate vapor collection and control system. If during the feasibility assessment, Respondent determines that such a system is feasible, the submitted report shall include a workplan for the installation and operation of the leachate vapor recovery and control equipment and related installations. The workplan shall include a timeline for permit application submittals, and procurement of the leachate vapor recovery and control equipment and for the commencement of leachate vapor recovery and control.

The objectives of this Proposed feasibility study are noted below:

- Assess the technical feasibility of installation of mechanical components that enable connecting the top of various tanker trucks to a vapor recovery and collection system (VRCS).
- Sample and test the vapors from the tanker trucks both prior to leachate filling and during leachate filling to determine the quality of collected vapors.

- Based upon the vapor test results, evaluate the viability of routing vapors to Chiquita's existing landfill gas (LFG) control devices or new or modified alternative control devices.
- Evaluate operational durability and safety associated with frequent connection and disconnection of vapor recovery equipment.
- Investigate the availability of tanker trucks already equipped with components that include vapor recovery capability (e.g., other industries such as oil and gas), or that are equipped with components that could be coupled to a compatible adaptor for routing of vapors.

ASSESS THE FEASIBILITY OF INSTALLATION OF MECHANICAL COMPONENTS

Chiquita and SCS will evaluate the feasibility of connecting various tanker trucks owned and operated by third parties to a VRCS during leachate loading operations, with a specific focus on mechanical compatibility, operational durability, and safety. The evaluation will also assess whether vapor connections can be implemented without modifying third-party tanker trucks in a manner that would trigger U.S. Department of Transportation (DOT) regulatory requirements. Specifically, SCS will:

- Identify the range of tanker truck configurations anticipated to participate in the VRCS study and the estimated number of tanker trucks received each day for each configuration type.
- Review industry-standard vapor connection interfaces, fittings, hoses, and adapters commonly used for temporary vapor control applications.
- Evaluate compatibility between existing tanker connections and the VRCS without necessitating permanent modifications to third-party owned and operated tanker trucks.
- Evaluate the availability and capability of using or contracting other tank trucks, separate from those currently contracted.
- In consultation with companies experienced in the vapor recovery industry, assess the feasibility of designing temporary adapters or connection assemblies that can be safely installed and removed multiple times per day without interfering with leachate loading operations. The assessment will consider available technologies, implementation considerations, and anticipated operational performance.
- Evaluate vapor control technologies that would be compatible with the VRCS.

The results of the above evaluations will be used to determine if a temporary connection between the third-party tanker trucks and the VRCS could be manufactured and if so, provide recommendations for a connection that is able to be rapidly installed and removed so as to not impede filling operations, be safe to be installed and removed multiple times throughout the day, be compatible with multiple tanker truck types, and be in compliance with DOT regulatory requirements. The results of this feasibility assessment and any recommendations will be provided to SCAQMD in accordance with Condition No. 100 as stated above.

SAMPLING AND TESTING OF TANKER VAPORS

SCS will sample and test the vapors from the tanker trucks both prior to filling and during filling operations across a selection of tanker trucks to evaluate the makeup of vapors that may be collected in a VRCS. SCS proposes sampling for:

- Hydrogen Sulfide (H₂S) and Total Reduced Sulfur (TRS) utilizing a silicate-lined SUMMA canister or Tedlar bag, and reference method SCAQMD 307-91;
- Air toxics specified in EPA TO-15 (which is inclusive of Table 1 of SCAQMD Rule 1150.1 except for Sulfur, which is captured in SCAQMD 307-91 above) utilizing a SUMMA canister;
- Heat content (British Thermal Units [Btu]/standard cubic feet per minute [scf]) - American Society for Testing and Materials (ASTM) D3588-98; and
- Total organic carbon (TOC) as total gaseous non-methane organic compounds (TGNMO) – SCAQMD Method 25.1, utilizing a SUMMA canister as well as other required sampling equipment specified in Method 25.1.

Sampling will be conducted over a three (3)-day period both prior to tanker filling and during filling operations to evaluate initial vapor conditions within the tanker and assess the potential volatilization of leachate during loading activities. The sampling program will include the following:

- Vapor samples will be collected into a SUMMA canister and/or Tedlar bag through the tanker truck hatch located on the top of the tanker.
- SUMMA canisters will be equipped with flow controllers set at a rate to fill the canister over the period of the filling operation. If Tedlar bags are used, a sample pump will be used to fill the bag with a flow meter set at the same flow rate as the flow controller on the SUMMA canisters.
- During sampling, a large flexible vacuum hose will be positioned over the truck hatch to capture and control vapors released during the sampling event. The vacuum hose will be positioned such that only leachate vapors from the tanker truck headspace will be sampled without air intrusion,
- Site personnel will utilize a man-basket and Gradall (specialized equipment) to safely access the top of the tanker truck and perform the sampling activities.

Pre-filling samples will be collected to characterize initial vapor conditions within the tanker prior to loading, while samples collected during filling operations will be used to evaluate potential vapor generation and volatilization associated with leachate loading activities.

Per SCAQMD, Chiquita will collect a minimum of four (4) tanker truck samples of each type of leachate stream over the three (3) day period. Chiquita will, at a minimum, sample five (5) tanker trucks per day, with samples collected from each of the following leachate streams using a SUMMA canister. Overall, a minimum of sixteen (16) samples will be collected such that we will collect at least four (4) samples of each of the four (4) types listed below.¹

- Characteristically hazardous leachate treated using granular activated carbon (GAC)
- Characteristically hazardous leachate treated using via aeration
- Untreated characteristically non-hazardous leachate collected from the Tank Farm 10 C-Line

¹ This list of leachate streams does not include untreated characteristically hazardous leachate because Chiquita is pausing tanker-truck filling of such leachate for the foreseeable future, and no such filling is expected during the study period. If Chiquita resumes tanker-truck filling of untreated characteristically hazardous leachate during the study period, it will also collect four (4) tanker-truck samples of that leachate.

- Untreated characteristically non-hazardous leachate collected from the leachate cleanout manifold

For each tanker, vapor samples will be collected prior to loading to establish baseline conditions and again during filling operations to evaluate changes in vapor concentrations associated with leachate transfer activities. Sampling will be performed during the day across the five (5) tankers to capture potential variations in loading conditions and leachate characteristics.

Field samples will be sent to the laboratory for analysis using the methods listed above. The laboratory results, along with the associated sampling records, will be compiled and transmitted to the SCAQMD via email for review.

EVALUATE VIABILITY OF ROUTING OF COLLECTED VAPORS

Using vapor composition data and estimated vapor flow rates, SCS will evaluate the feasibility of routing collected vapors to Chiquita's existing LFG control devices, including enclosed flares and thermal oxidizer (TOX) units. The assessment will consider available capacity, operational compatibility, reliability, and regulatory implications associated with introducing additional vapor streams to the existing control equipment.

The feasibility study will identify, screen, and compare potential vapor control and treatment alternatives, including continued use of the existing flares or TOX units where technically viable. Each option will be evaluated based on technical feasibility, performance, reliability, safety, operational and implementation requirements, schedule, regulatory compliance, effectiveness and overall cost. If the existing control infrastructure is recommended as the preferred long-term solution, the study will provide a clear, technical basis for that recommendation and explain its advantages relative to the other alternatives considered.

In addition, the feasibility study will include a separate evaluation of vapor collection, control, and treatment technologies that are independent of the existing LFG control infrastructure. This assessment will identify potential standalone systems, evaluate their applicability to site conditions, and outline any subsequent actions required for implementation if determined to be feasible.

The objective of the study is to provide a thorough, technical evaluation of reasonable alternatives and demonstrate that the recommended approach represents the most practical, effective, and beneficial solution for the Landfill.

FEASIBILITY AND VIABILITY ASSESSMENT REPORT

Following completion of the above proposed feasibility and viability assessment, SCS will prepare and submit on Chiquita's behalf a final report to SCAQMD within 150 days of the approval of this Revised Proposal detailing the results of the feasibility assessment, including:

- All equipment considered (tank trucks with standard vapor balance capabilities, vapor collection equipment, existing and/or new designed adapters for tank truck vapor connections, vapor recovery/collection equipment, vapor recovery/control configurations, etc.).
- Companies contacted as part of the assessment and associated written communication logs, and any further details collected or considerations made relating to feasibility of a leachate vapor collection and control system.

- Details regarding tanker filling and sampling activities, including the duration of filling and sampling and the timing of sample collection during filling (e.g., when the tanker is half full or full), and an associated diagram depicting the sampling activities.
- If the assessment indicates that a leachate VRCS may be feasible, the report will identify appropriate potential next steps for further consideration, which may include evaluation of the installation and operation requirements, permitting, procurement, implementation activities, and associated timing, as applicable.

Please contact either of the undersigned if you have questions or require additional information, please email Srividhya Viswanathan at sviswanathan@scsengineers.com and Rachelle Huber at rhuber@scsengineers.com

Sincerely,



Rachelle Huber
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