

PORTA-POTTY HUMAN WASTE TREATMENT

Step-by-Step Process & Environmental Regulatory Requirements

Prepared in Connection with: Cotton & Davies v. United Rentals, Inc. / Onsite Services
6176 Federal Blvd., San Diego, CA 92114 | June 13, 2026

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QUESTION SUBMITTED

How is the human waste from porta-potties treated when trucked to the main processing facility? Please explain the step-by-step process that is required to maintain all environmental regulations for processing this human waste.

WHAT THE WASTE IS — AND WHY IT MATTERS LEGALLY

Under federal law (40 CFR §503.9(f)), domestic septage is defined as either liquid or solid material removed from a septic tank, cesspool, portable toilet, Type III marine sanitation device, or similar treatment works that receives only domestic sewage. Once collected, this waste is subject to one of the most detailed regulatory frameworks in U.S. environmental law — 40 CFR Part 503 (the EPA Biosolids Rule) — along with California-specific overlay requirements.

40 CFR Part 503 is a self-implementing rule, meaning its requirements must be met even if a permit has not been issued. An enforcement action can be taken against any person or facility that does not meet Part 503 requirements, regardless of whether a permit exists.

PHASE 1: COLLECTION — THE VACUUM TRUCK OPERATION

What Happens

Service technicians drive vacuum tanker trucks to job sites throughout the county. Each porta-potty holding tank contains between 50 and 70 gallons of mixed human waste, urine, toilet paper, and chemical deodorizers (the blue fluid). The truck's vacuum pump suctions the waste through a sealed hose into the truck's tank, which typically holds 2,500 to 4,000 gallons. Once full, the truck returns to a transfer point or directly to a licensed treatment facility.

Regulatory Requirements at This Stage

In San Diego, all truckers planning to discharge septic tank wastes, portable toilet wastes, or other domestic wastes into the public sewer must obtain an active Trucked Domestic Waste Hauler Permit from the City of San Diego Industrial Wastewater Control Program (IWCP). Permits are issued annually and require:

- Identifying information about the firm, all truck details (make, model, year, tank capacity, license plate), and a copy of the Sewage Hauler Operating Permit issued by the San Diego County Department of Environmental Health and Quality (DEHQ).
- Every truck must be sealed and leak-proof, with no discharge to roadways, storm drains, or unpermitted locations.
- All waste must be covered by a manifest system — every load picked up must be matched to a documented disposal destination, creating an unbroken chain of custody.
- Haulers must certify familiarity with the City's Trucked Waste Requirements and Procedures (TWRP) and CAL EPA/DTSC Hazardous Waste Generator Requirements.

PHASE 2: TRANSPORTATION — FROM FIELD TO YARD OR TREATMENT FACILITY

What Happens

The loaded vacuum truck travels from the job site to either: (a) a licensed municipal wastewater treatment plant (POTW — Publicly Owned Treatment Works) for direct discharge, or (b) an intermediate transfer/consolidation yard — such as the United Rentals operation at 6144 Federal Blvd. — where waste is offloaded into stationary storage tanks or IBC totes before eventual dispatch to a POTW.

Regulatory Requirements

The Clean Water Act's National Pollutant Discharge Elimination System (NPDES) governs all transport of liquid waste. The EPA's regulations replaced the earlier practice — no longer legal — of haulers unloading liquid waste into open pits or discharging into fields or lagoons, which caused widespread groundwater, river, and soil contamination.

CRITICAL — The On-Site Transfer Station Issue (Directly Relevant to United Rentals): When a portable sanitation company operates an intermediate transfer or consolidation point — offloading collected waste from vacuum trucks into on-site storage tanks or IBC totes before sending it to a POTW — that intermediate facility is itself a separately regulated waste handling operation. It requires its own independent permits and operational controls, including: (1) a Sewage Hauler Operating Permit from San Diego County DEHQ; (2) Waste Discharge Requirements (WDRs) or a waiver from the Regional Water Quality Control Board (RWQCB, San Diego Region 9); (3) compliance with SDAPCD Rule 51 for odor emissions; (4) compliance with California Code of Regulations Title 27 for containment standards; and (5) secondary containment structures around all storage tanks.

PHASE 3: OFFLOADING & ON-SITE STORAGE — THE MOST CRITICAL COMPLIANCE STAGE

What Happens at a Compliant Facility

When a vacuum truck arrives at a receiving station, the driver connects to a designated offloading port — an enclosed, plumbed connection that transfers waste directly into a sealed, covered receiving tank. All required controls for a fully compliant facility include:

- **Enclosed offloading bays or covered transfer areas.** All offloading of raw sewage from vacuum trucks must occur in enclosed or roofed structures, not in the open air. Open-air offloading of collected

human waste in proximity to adjacent properties is not compliant with odor control requirements under SDAPCD Rule 51 or Health & Safety Code §41700.

- **Sealed, covered receiving tanks.** All tanks storing collected septage must be enclosed or covered with venting routed through active odor control equipment — typically activated carbon filters or biofilter scrubbers — before any air is released to the atmosphere. Open-top or atmosphere-vented tanks are prohibited in proximity to occupied properties.
- **Secondary containment.** All storage areas must have impermeable secondary containment (concrete berms, lined basins) capable of holding 110% of the largest tank's volume in the event of a leak or spill, to prevent any discharge reaching storm drains, soil, or groundwater.
- **Negative air pressure enclosure.** The offloading area must be maintained under negative air pressure, with all exhaust routed through odor scrubbers before release.
- **No discharge to storm drains.** Any spill, runoff, or wash water from the offloading area that reaches a storm drain is a Clean Water Act violation, reportable to the RWQCB under California Water Code §13260.
- **Vector control.** The facility must implement measures to prevent attraction of disease-carrying vectors (rats, flies, mosquitoes) to the waste storage areas, per 40 CFR Part 503 vector attraction reduction requirements.

What the Cotton Evidence Shows vs. What Is Required: The photographic evidence in the Cotton matter — taken at 5:30 a.m. on May 27, 2026 — documents vacuum trucks offloading collected sewage in the open air, staged immediately on the shared property line with 6176 Federal Blvd., into what appear to be open or minimally covered storage tanks and IBC totes. No enclosed offloading bay is visible. No documented odor control equipment is visible. This open-air intermediate processing is directly incompatible with the regulatory requirements described above.

PHASE 4: TRANSFER TO A LICENSED TREATMENT FACILITY (POTW)

What Happens

Once on-site storage tanks are full or on a scheduled basis, a larger tanker truck transports the consolidated septage from the yard to a licensed POTW or dedicated septage receiving station. In San Diego County, all haulers must have a Trucked Domestic Waste Hauler Permit from the City of San Diego IWCP and must discharge only at authorized receiving locations.

Regulatory Requirements

- Each vehicle must hold a separate, current permit. A permit for one truck does not cover other trucks in the fleet.
- An accurately completed Trucked Waste Manifest/Receipt Form must be presented at the treatment facility gate at the time of entry. No waste load from outside the permitted county may be accepted.
- Every load must be manifested — origin, volume, truck ID, driver, time of pickup and delivery — creating an unbroken chain of custody from the porta-potty unit to the treatment plant.
- Breaks in the manifest chain are independent regulatory violations subject to enforcement by the IWCP.

PHASE 5: RECEPTION & SCREENING AT THE POTW

What Happens

At the licensed treatment plant, the truck backs into a designated receiving station — a plumbed, enclosed unloading dock with odor control ventilation. The waste is discharged through a coarse bar screen that removes solid debris (wipes, trash, grit, rags) that could damage downstream equipment. Screenings are collected and disposed of as solid waste. Heavy inorganic particles (grit) settle out in a grit removal chamber.

The receiving and screening area must be enclosed and maintained under negative air pressure, with all exhaust routed through odor control scrubbers before release to the atmosphere. This enclosed receiving step — entirely absent from an open-air yard operation — is the first and most critical odor control measure in the regulated treatment chain.

Septage typically arrives with a Biochemical Oxygen Demand (BOD) of approximately 3,500 parts per million (ppm) — roughly 14 times more concentrated than typical municipal wastewater (250 ppm). This extreme concentration is why septage cannot be discharged directly to any waterway or sewer without multi-stage treatment, and why on-site storage of raw septage in open or improperly sealed containers generates overwhelming odors.

PHASE 6: PRIMARY TREATMENT — SETTLING & SEPARATION

What Happens

The screened septage enters large primary settling tanks (clarifiers) where it is held for several hours. Heavier solids sink to the bottom as primary sludge; fats, oils, and greases (FOG) float to the surface as scum. Both fractions are collected and pumped off for separate processing. The remaining liquid (primary effluent) moves forward to biological treatment.

Regulatory Standard

Primary treatment must reduce BOD and total suspended solids (TSS) sufficiently to avoid shocking or overloading the biological treatment stage downstream. The primary sludge collected at this stage becomes subject to biosolids management requirements under 40 CFR Part 503, requiring pathogen and vector attraction reduction before any use or disposal.

PHASE 7: SECONDARY (BIOLOGICAL) TREATMENT

What Happens

The primary effluent enters aeration tanks, where colonies of beneficial microorganisms (bacteria and protozoa) consume dissolved organic matter. Air is continuously pumped into the tanks to keep the aerobic organisms active. This biological step is the workhorse of modern wastewater treatment and is responsible for the majority of pathogen reduction in the liquid fraction. After aeration, the mixed liquor passes to secondary clarifiers where remaining biological solids settle out.

Regulatory Standard

Secondary treatment must reduce BOD to below 30 mg/L and TSS to below 30 mg/L before discharge, per EPA secondary treatment standards under 40 CFR Part 133. Many California POTWs are required to meet more stringent limits set by the RWQCB for their specific receiving waters.

PHASE 8: PATHOGEN REDUCTION — THE 40 CFR PART 503 REQUIREMENTS

This is the most technically complex and legally significant phase, governed entirely by federal regulations under 40 CFR Part 503 — the EPA Biosolids Rule.

The solids fraction (biosolids) must meet one of two pathogen classifications before any beneficial use or disposal:

Class A Biosolids

Must be treated to reduce pathogens to below detectable levels. Permitted treatment methods include:

- Heat treatment — specific temperature and time combinations (e.g., 70°C for 30 minutes) to pasteurize the material.
- Alkaline stabilization — lime addition to raise pH above 12 for 72 hours, followed by pH maintenance above 11.5 for 12 additional months.
- Advanced anaerobic digestion — thermophilic (high-temperature) digestion meeting specific time-temperature requirements.
- Composting — achieving 55°C for 3 or more consecutive days (windrow) or 55°C for 15 days (in-vessel).

Class A biosolids may be used as fertilizer on public contact sites, home gardens, and agricultural land with minimal restrictions.

Class B Biosolids

Must be treated to significantly reduce (but not eliminate) pathogens, typically through mesophilic anaerobic digestion (35°C for at least 15 days), aerobic digestion, or lime stabilization. Class B biosolids face land application restrictions — they may not be applied to public contact sites, turf, or home gardens, and carry crop harvest time restrictions. Most porta-potty septage processed at POTWs results in Class B biosolids unless the facility uses advanced treatment.

Vector Attraction Reduction

Separately from pathogen requirements, biosolids must be treated to reduce their attractiveness to disease-carrying vectors — rats, flies, and mosquitoes. This is an independent requirement under 40 CFR Part 503. Methods include: volatile solids reduction of at least 38% through digestion; specific oxygen uptake rate limits for aerobic digestion; or pH adjustment to 12 or above for two hours followed by pH above 11.5 for 22 additional hours.

Why This Matters for the Cotton Case: Raw, undigested porta-potty septage stored in open or improperly sealed tanks at an intermediate yard like the United Rentals facility has undergone NONE of these pathogen or vector attraction reduction steps. It is biologically active, highly odorous, and maximally hazardous. Federal regulations exist precisely to prevent raw septage from being handled in open-air conditions adjacent to occupied properties — which is what the photographic evidence documents at 6144 Federal Blvd.

PHASE 9: TERTIARY TREATMENT & EFFLUENT DISCHARGE

What Happens

The treated liquid effluent may undergo additional filtration (sand filters, membrane bioreactors), UV disinfection, or chlorination/dechlorination before discharge to a receiving water body or transfer to a water reclamation system. The effluent must meet NPDES permit limits specific to the receiving water established by the RWQCB.

Regulatory Standard

Advanced treatment typically achieves BOD below 10 mg/L and TSS below 10 mg/L. California water recycling standards (Title 22, CCR) apply when treated effluent is reused for irrigation, industrial purposes, or groundwater recharge. Disinfection requirements are set to ensure no detectable fecal coliform organisms remain in the discharged effluent.

PHASE 10: BIOSOLIDS DISPOSAL — FINAL DESTINATION OF THE SOLIDS

The treated solids (biosolids) have three legally permitted disposal pathways under 40 CFR Part 503:

- **Land Application** — Class A or Class B biosolids spread on agricultural land, forests, or mine reclamation sites as fertilizer or soil amendment. Subject to agronomic rate limits based on nitrogen uptake by crops, buffer distances from waterways and dwellings, site access restrictions, and detailed record-keeping. Annual reports must be submitted to the permitting authority by February 19 each year.
- **Surface Disposal** — Placement in a dedicated biosolids surface disposal site permitted under Part 503 Subpart C, with specific design, operational, and monitoring requirements including pollutant limits and vector attraction reduction.
- **Incineration** — Burning in a permitted sewage sludge incinerator (SSI) subject to Clean Air Act emission standards under 40 CFR Part 60 Subpart LLLL, with continuous monitoring of pollutant emissions including particulate matter, heavy metals, and dioxins.

Annual Reporting Requirement: Certain treatment works specified by Part 503 are required to submit an annual report on biosolids treatment and management practices to their permitting authority by February 19 of each year. Non-reporting is an independent violation of the self-implementing federal rule.

COMPLETE REGULATORY FRAMEWORK

The following regulations apply simultaneously to portable sanitation waste processing operations. Each represents an independent basis for regulatory complaint or civil liability.

Regulation / Authority	Scope	Relevant to United Rentals
40 CFR Part 503 (EPA Biosolids Rule)	Pathogen reduction, vector attraction reduction, land application, surface disposal, incineration of sewage sludge including portable toilet pumpings	Self-implementing — applies with or without a permit. Governs all solids handling at the 6144 property.
Clean Water Act / NPDES 40 CFR Part 122	Discharge of pollutants to navigable waters; stormwater from industrial activities; POTW pretreatment standards	Any wash water, spill, or runoff reaching a storm drain at 6144 Federal Blvd. is a CWA violation.
California Water Code §13260 (RWQCB, San Diego Region 9)	Waste Discharge Requirements (WDRs) for all waste handling facilities; permits required for any discharge to land or water	The transfer/storage operation at 6144 Federal Blvd. requires WDRs or a waiver from RWQCB Region 9.
California Health & Safety Code §41700 (State Air Resources Board)	Prohibits discharge of air contaminants causing nuisance, injury, or annoyance to the public	Odors crossing the shared property line with 6176 Federal Blvd. are a direct violation.
SDAPCD Rule 51 (San Diego Air Pollution Control District)	Prohibits discharge of air contaminants causing nuisance or annoyance to a considerable number of persons	Basis for APCD complaint. City inspectors and multiple witnesses have already documented the odors.
California Code of Regulations, Title 27 (CalEPA)	Containment, leak prevention, operational standards for waste handling and storage facilities	Governs tank containment, secondary containment, and operational procedures at the 6144 yard.
Cal/OSHA — Title 8 29 CFR Part 1910 (Federal OSHA)	Worker safety requirements for handling biologically active waste, including exposure limits for hydrogen sulfide, methane, and other sewer gases	Workers offloading raw septage at the 6144 yard require specific PPE, confined space protocols, and H2S monitoring.
San Diego County DEHQ Sewage Hauler Operating Permit	All vehicles hauling septic/portable toilet waste in San Diego County must have current operating permits. Annual renewal required.	Every United Rentals vacuum truck operating in San Diego County must hold a current DEHQ Sewage Hauler Operating Permit.
City of San Diego IWCP Trucked Domestic Waste Hauler Permit	Required for any hauler discharging domestic waste to San Diego public sewer. Annual renewal. Separate permit per vehicle.	United Rentals must hold active permits for each truck and each discharge location. Permits are on file and publicly verifiable.
San Diego Municipal Code (Zoning / CUP)	Zoning and conditional use permit requirements for liquid waste processing facilities; odor, setback, and operational standards	The waste offloading and storage operation at 6144 Federal Blvd. may require a Conditional Use Permit not required for standard equipment rental yards.

CONCLUSION: WHAT UNITED RENTALS IS REQUIRED TO DO VS. WHAT THE EVIDENCE SHOWS

The ten-phase regulatory framework described above assumes a fully compliant operation: collected septage moves in a sealed, documented chain from the porta-potty unit to a licensed POTW, with any intermediate transfer point operating under enclosed, odor-controlled, permitted conditions. At every stage, the waste is either sealed in transit, enclosed during transfer, or undergoing active treatment — it is never stored in open-air containers adjacent to occupied properties.

The evidence in the Cotton matter documents a materially different operation at 6144 Federal Blvd.: • Vacuum trucks offloading collected human sewage in the open air at 5:30 a.m. • IBC totes and storage tanks staged in the open yard immediately on the shared property line • No visible enclosed offloading bay or odor control infrastructure • No secondary containment visible around the IBC totes • Open-top or minimally covered frac tanks visible in photographs • Operations generating odors severe enough to cause a City of San Diego Environmental Services inspector to initially attribute them to Cotton's urban farm operations, to drive away a fully-contracted \$935,000 buyer, and to generate independent complaints from adjacent business owners reporting illness and lost customers

If United Rentals is operating this intermediate consolidation point without the required Sewage Hauler Operating Permit (DEHQ), Waste Discharge Requirements (RWQCB), APCD operating permit, and appropriate odor and containment controls, it is potentially in simultaneous violation of federal, state, and local regulations — each of which is an independent basis for regulatory complaint and civil liability, all arising from the same open-air operation that has already cost Darryl Cotton a \$935,000 sale and Jeff Davies his commission.

Immediate Action: The May 27, 2026 demand letter requested production of all permits authorizing the CWP Operations. That demand went unanswered. Counsel should immediately pursue production of those permits through litigation discovery and file complaints with the SDAPCD, San Diego County DEHQ, and RWQCB Region 9 to trigger parallel regulatory investigations.

This document is an informational overview prepared for discussion purposes only and does not constitute legal advice. All regulatory citations should be independently verified by a licensed California attorney experienced in environmental and real estate nuisance matters.