

STATE OF CALIFORNIA
REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

STAFF SUMMARY REPORT: Derek Beauduy
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ITEM: 6

California Department of Transportation, Update on Compliance with Cease and Desist Order No. R2-2019-0007, Implementing Trash Requirements

DISCUSSION

This item provides an update on the California Department of Transportation's (Caltrans) compliance with the subject [Cease and Desist Order](#), as [amended](#), (CDO) which the Board first issued to Caltrans in February 2019 to control trash discharges.

Consistent with the requirements of the Caltrans Statewide NPDES Municipal Stormwater Permit ([Order No. 2012-0011-DWQ, as amended](#)) (Permit) and the [Statewide Trash Amendments](#) to the Water Quality Control Plans for Ocean Waters and for Inland Surface Waters, Enclosed Bays, and Estuaries, Caltrans must control discharges of trash from significant trash generating areas (STGAs) of its right-of-way (ROW) by no later than 2030. The Board adopted the CDO because Caltrans had not appropriately characterized STGAs within its ROW or proposed an acceptable plan and schedule to timely control trash discharges via full trash capture devices or full trash capture equivalency controls. The CDO established the following enforceable ROW acreage of trash control benchmarks and a schedule for their achievement, as well as planning and reporting requirements sufficient to demonstrate that Caltrans will substantially control trash discharges from the STGAs on its ROW by 2026, and fully control those discharges by 2030.

- 2,000 acres or more by June 30, 2020;
- 4,000 acres or more by June 30, 2022;
- 6,000 acres or more by June 30, 2024;
- 8,800 acres or more by June 30, 2026; and
- All additional significant trash generating areas of ROW identified by visual assessments conducted in 2021, 2025, and 2029 by December 2, 2030.

Trash control is typically accomplished via the implementation of full trash capture devices or via a combination of alternative measures equivalent to full trash capture, such as source controls to prevent the discharge of trash in the first place, and trash removal from streets and highways before it can discharge to the storm drain, such as by street sweeping or maintenance crews.

Caltrans' most recent Annual Report claims compliance with the CDO's June 30, 2022, benchmark of 4,000 acres of STGAs controlled for trash. The claimed compliance is comprised of a combination of control measures implemented on and off Caltrans ROW. Half of the total, the 2020 benchmark of 2000 acres, was accomplished via full trash capture devices. The additional 2,000 acres are claimed as controlled via Caltrans' implementation of enhanced maintenance measures (EMMs), such as increased street sweeping and trash pickups. While EMMs have value and have improved trash conditions in some areas of ROW, Caltrans has not

demonstrated that they are sufficient to prevent trash discharges and meet full trash capture equivalency (FTCE). As described further below, our evaluation of the EMMs, including field inspection of some ROW areas where they are being implemented, found that they are not yet equivalent to full trash capture. As a result, Caltrans did not meet the June 30, 2022, 4,000-acre benchmark.

To demonstrate that trash is appropriately controlled by EMMs and meets FTCE, Caltrans must demonstrate that those EMMs, potentially in combination with other measures, are implemented at a level and frequency that exceeds the rate of trash generation in all areas of the associated ROW, are conducted at appropriate times of the year (e.g., prior to and during the rainy season) sufficient to prevent trash discharges through the MS4, and appropriately control the range of trash discharged, e.g., trash particles 5 mm or greater.

In addition, Caltrans is required to periodically visually assess its ROW to ensure it is controlling trash from STGAs. It has been using a visual assessment approach similar to that used by Bay Area municipalities and accepted by the Board. In December 2021, the Board amended the CDO to give Caltrans an additional year, until December 31, 2022, to submit an updated visual assessment. Recognizing that Caltrans was working with Google to improve the existing visual assessment methodology, the Board also required Caltrans to submit an updated visual assessment methodology by June 30, 2022. However, what Caltrans submitted did not include an updated methodology; it is completing the updated assessment using the existing approach. More recently, Caltrans has proposed a new approach that appears to allow for a ROW area to have significant levels of trash up to half of the time or more and still be claimed as a non-STGA, which would not be acceptable. We are working with Caltrans to obtain more information on this visual assessment methodology and related interpretation to determine its acceptability or improvements needed to make it acceptable.

Caltrans is completing work and pursuing additional actions to come into compliance with the 4,000-acre benchmark and to achieve future CDO benchmarks. Caltrans has recently developed a new full trash capture device that may be feasible to implement across a broad amount of its ROW, and it is evaluating opportunities to implement that device. Caltrans also continues to work with adjacent municipalities to implement cooperative projects off its ROW that also treat Caltrans ROW. As we note above, while EMMs as now implemented provide benefit, Caltrans needs to complete additional work to ensure their implementation achieves full trash capture equivalency, and to ensure that it has established a sustainable funding stream to implement the enhanced maintenance going forward. There is a need for Caltrans to increase the area and quality of EMM implementation, hasten the installation of on-ROW trash capture devices, and significantly increase efforts to install trash capture devices in collaboration with local municipalities.

In the remainder of this report, we provide background that led to the CDO and additional detail on compliance with CDO benchmarks, visual trash assessments, cooperative trash control implementation projects with municipalities, on-ROW trash control projects, and the Clean California Initiative. We conclude with a summary and next steps.

Background

We have worked with Caltrans for over eight years to communicate expectations for appropriate planning and implementation of trash controls that would bring about compliance with the Permit's region-specific trash reduction requirements. The State Water Board included trash

control requirements in the Permit in 2012. In May 2014, we requested that Caltrans submit its first trash load reduction workplan (Workplan) to describe planned trash reduction actions and a schedule for addressing high trash generation areas of ROW, as well as a long-term trash reduction implementation strategy to reach full trash capture equivalency throughout the Department's ROW by July 1, 2025. We received Caltrans' first Workplan in August 2014 and found it deficient in identifying trash control actions and a schedule sufficient to timely control trash. After subsequent meetings, resubmittal of the Workplan in June 2016, and correspondence including Water Board comment letters on the Workplan, Caltrans had still not identified sufficient trash control actions and a schedule, so the Water Board issued a Notice of Violation (NOV) to Caltrans on December 14, 2016, for failure to demonstrate timely implementation of trash control measures in high trash generations areas of ROW, as required by the Permit. The NOV required resubmittal of the Workplan with updated information describing Caltrans' detailed plan and schedule for specific trash control implementation actions to be taken. The NOV also notified Caltrans that the Water Board would consider issuing an enforcement order if the resubmitted Workplan was deficient. We found subsequent Workplan submittals and the pace of on-the-ground implementation of trash controls to be deficient. Consequently, the Board issued the CDO because of Caltrans' lack of trash control implementation and because it did not submit a Workplan that appropriately described an implementation plan and schedule to control trash from its ROW.

CDO Compliance Update

Caltrans met the CDO's 2020 benchmark of 2,000 acres of ROW controlled for trash via full trash capture devices. These devices were a combination of on-ROW retrofit projects, cooperative implementation projects with local municipalities, and ROW treated by existing municipal structural trash controls. The next benchmark required control of trash discharges from an additional 2,000 acres of ROW, or 4,000 total acres of ROW by June 30, 2022. Caltrans' September 30, 2022, Trash Reduction Annual Report (Annual Report) claimed compliance with the 2022 CDO benchmark, identifying over 2,000 acres of STGAs that Caltrans claimed to have been converted to low trash generation through implementation of EMMs.

In October and November 2022, we inspected STGA segments of highway and surrounding ROW to evaluate Caltrans' claimed compliance with the 2022 CDO benchmark. We conducted independent field inspections of highway segments in Alameda County and conducted joint field inspections with Caltrans staff on highway segments in Santa Clara County. Overall, we inspected and observed trash conditions in over half of the highway segments for which Caltrans claimed that EMMs had converted moderate or greater STGAs to low trash generation rates. Some highway segments in Santa Clara County were relatively free of trash, but most of the highway segments in Alameda County that were inspected had trash continuously distributed throughout the highway shoulders, especially in landscaped areas off the pavement, but still within the ROW. Overall, the inspected highway segments in Santa Clara County were less littered than those in Alameda County. That was likely because they were inspected shortly after a significant rainfall, and because Caltrans completed a coordinated cleanup effort of those areas prior to the inspections.

The inspections also reinforced a challenge of completing accurate visual assessments of trash along highway ROW, which is that smaller pieces of trash are difficult to observe. For safety, visual assessments are typically completed from a moving car. We observed several highway segments that appeared mostly trash-free while driving. However, once on the ground, we observed that most areas had small pieces of trash scattered through the ROW, which could build up to a significant level and impair water quality if allowed to discharge. Trash generation

conditions of the majority of the inspected highway segments, including those in Santa Clara County, were observed as moderate or higher, indicating EMMs were not being conducted at a frequency sufficient to turn the ROW into a low trash generation rate or achieve full trash capture equivalency.

Visual Trash Assessments

The CDO requires Caltrans to visually reassess the trash generation conditions in low and moderate trash generating areas of its ROW in 2021, 2025, and 2029. These assessments are required to enable Caltrans to identify and ensure it is controlling trash from all its STGAs sufficient to meet CDO benchmarks and trash reduction requirements by 2030.

In December 2021, the Board amended the CDO to allow an extra year, until December 31, 2022, for Caltrans to conduct its first reassessment. The CDO amendment also required Caltrans to submit an updated visual trash assessment methodology by June 30, 2022, and a sample trash generation map of a portion of Department ROW that incorporates the updated assessment methodology by August 30, 2022. Caltrans has not submitted an updated visual trash assessment methodology that improved upon the methodology used to generate Caltrans' current map. Instead, the June 2022 submittal proposed to use the same driving visual assessment methodology that Caltrans used for their original trash generation map. On August 31, 2022, Caltrans submitted a sample map of a portion of Department ROW that is characterized by the current driving visual assessment methodology; the updated sample map included more STGAs than the old map, indicating that the segment's trash condition either had worsened between assessments or the recent assessment better characterized trash conditions.

Since the June 2022 submittal, Caltrans has proposed a new visual assessment methodology. In meetings with us and in the submitted Annual Report, Caltrans proposed a level of service visual assessment methodology (LOS methodology), which involves quarterly driving assessments to determine trash generation ratings. Caltrans has not yet submitted a detailed description of the LOS methodology, and the Annual Report has limited information on it. It is not yet clear how the LOS observations compare to the current visual assessment approach. However, what has been submitted does not demonstrate that the LOS methodology is an acceptable visual assessment methodology. Specifically, Caltrans' proposed use of the LOS methodology would only require two out of four assessments over a year (50 percent) to result in a roughly low generation rating for a highway segment to be considered low trash generating in compliance with the CDO. Based on information provided, the LOS methodology allows for trash conditions to be moderate, high, or very high up to half the time which does not meet the requirement to demonstrate full trash capture equivalency (FTCE). We will continue to work with Caltrans to ensure that the visual assessment methodology is acceptable and sufficient to determine whether trash control measures implemented and considered compliant consistently reduce trash to the low level or FTCE.

Cooperative Trash Control Implementation Projects

Due to safety issues, limited ROW, and the logistical constraints of installing and maintaining trash capture devices or implementing EMMs on Caltrans ROW, Caltrans must work with local municipalities to identify and implement projects to install devices on municipality property that capture trash from both municipality and Caltrans ROW. Caltrans and municipalities also benefit from these types of projects because they are often able to install large trash capture devices within the municipality's storm drain system to capture trash from relatively large drainage areas, which is more cost effective than installing numerous small devices to treat smaller areas. Caltrans has collaborated with several municipalities to execute agreements to fund these types

of projects via financial contribution only (FCO) funding or cooperative implementation agreements (CIAs). FCO projects are funded through the State Highway Operation and Protection Program (SHOPP), under which Caltrans provides funding to the municipality for the off-ROW trash control project and the municipality agrees to design, construct, operate, and maintain it. Currently, the FCO program can only fund construction capital costs for the portion of the project that treats Caltrans' ROW. We have recently heard from Caltrans and municipalities that some FCO projects are falling behind schedule and at risk of losing funding due to delays in project development and design. We and municipal staff have urged Caltrans to find creative ways to fund elements of these projects in addition to construction costs, like project design, to ensure these projects get funded and built prior to funding windows closing. CIAs, which usually are funded by available, unused transportation funds in a fiscal year, can fund a broader range of project elements including design and environmental documentation.

During FY 2021-22, Caltrans and cooperative project partners (Suisun City, Daly City, Marin County, San Jose, and Oakland) developed five new CIA projects, which would treat over 800 acres of Caltrans STGAs. A total of 22 cooperative agreements have been executed with municipalities as of the end of FY 2021-2022. Six cooperative projects were implemented prior to the June 2020 benchmark. Subsequent to that benchmark and prior to the June 2022 benchmark, only two local projects completed construction, treating less than 100 acres of Caltrans' STGAs. This is likely associated with delays in the planning and design of many of these projects due to reduced staff resources during Covid-19; Caltrans is requesting funding extensions from the California Transportation Commission to keep the local projects with executed agreements funded and on track for construction.

There is a significant lack of new cooperative projects in the pipeline, which will hinder Caltrans' ability to meet future CDO benchmarks. We have heard from Caltrans that they have CIA and FCO funds to spend but municipalities are not stepping up with potential projects. We have committed to working with Caltrans to identify municipalities that may need to implement trash capture projects to achieve trash reduction requirements in the Municipal Regional Stormwater NPDES Permit (MRP). If municipalities are unwilling or unable to assess and bring forth potential projects due to resource constraints or for other reasons, Caltrans will need to do work on its own to identify potential cooperative partners, evaluate storm drain connections and potential locations for trash capture devices within the municipality, and complete or fund planning and design of trash capture devices.

The lack of potential future cooperative projects in the pipeline may also be due to Caltrans' inability to fund project design through SHOPP FCO funding and municipalities' lack of identified funding to plan and design these projects. Potential projects that may provide significant trash reduction may never be implemented because municipalities lack funding and resources to complete planning and advance project design to a level (usually to 65 percent design) sufficient for Caltrans to execute agreements and provide funding. Some municipalities have not been able to develop potential projects with enough detail, such as treatment areas, device locations, and trash capture device types, sufficient for Caltrans to execute agreements. This funding limitation can impede municipal partnerships if Permittees cannot fund their proportional share of the project or fund early project planning and development and maintenance.

We continue to encourage Caltrans to overcome the barriers to implementing cooperative projects and identify ways to provide funding to municipalities early in the project identification and development phase to allow for project initiation and to keep these projects progressing. Cooperating municipalities, which are subject to MRP trash reduction requirements, also need to do their share to develop these projects and identify internal funding sources to advance projects through the design and construction phase.

On-ROW Trash Control Projects

Caltrans has not made much progress in installing trash capture devices within its ROW. Caltrans has a limited toolbox of approved structural full trash capture devices, and deployment of the devices that are approved is limited by safety and maintenance constraints. We have continued to urge Caltrans to expand its toolbox by allowing widely used trash capture devices, such as hydrodynamic separators, to be installed in storm drain systems in the ROW, but Caltrans has not made progress on this to date. However, Caltrans has recently developed a new inlet-based device that Caltrans staff claims can be widely deployed, including in areas previously considered infeasible for trash capture device installation. Caltrans is currently evaluating projects where it can install this new device. We have urged Caltrans to expedite the deployment of the newly approved device including finding locations to install the device on projects currently in construction or projects soon to be constructed. Expanding the toolbox and expediting installation of new and/or currently unapproved devices will be needed for Caltrans to make up for the shortage of trash control projects currently planned and that can contribute to meeting future benchmarks.

Clean California Initiative

Caltrans is implementing the Clean California Initiative, a three-year, \$1.1 billion program authorized in the 2021 state budget to increase trash removal from state highways, fund local beautification and litter abatement projects, and implement a public education campaign. This statewide initiative dedicates approximately \$418 million to litter abatement and over \$580 million to support state and local beautification projects and municipal coordination. Caltrans District 4, which covers the Bay Area, is receiving funds from the program to hire additional maintenance staff for picking up trash and to deliver green stormwater infrastructure and beautification projects with municipalities. The initiative's funding to control trash is a welcome addition to existing efforts. At the same time, there remains a need to identify whether it is sufficient to control trash consistent with CDO and Permit requirements, and how it or other funding sources can be sustainable over time.

Summary

Caltrans has not demonstrated compliance with the June 2022 benchmark, and we continue to have concerns with Caltrans' ability to comply with future benchmarks without committing to significantly accelerating the rate of installation of structural trash capture devices on its ROW, significantly expanding coordination with municipalities to implement cooperative projects, increasing maintenance activities, and allocating sufficient long-term funding to ensure sustainability of trash control measures. We will continue to meet regularly with Caltrans staff to discuss trash control implementation progress, identify additional trash control project opportunities, solidify funding commitments, further develop trash control implementation feasibility criteria, and assess and demonstrate the effectiveness of non-structural trash control measures.

Additionally, the CDO requires by December 31, 2023, submittal, of an updated Trash Control Implementation Workplan that describes how Caltrans will plan, fund, and implement trash control measures sufficient to meet CDO benchmarks, and a Feasibility Study Report that assesses the feasibility of implementing trash controls over no less than 80 percent of Caltrans' STGA ROW in the region. These submittals will provide us with important information to assess Caltrans' plan and efforts to identify and fund implementation of trash controls toward making up the shortfall in meeting the 2022 and future trash control benchmarks.