CITY OF OAKLAND

AGENDA REPORT

TO:	Steven Falk Interim City Administrator	**FROM:**	G. Harold Duffey Director, Oakland Public Works
SUBJECT:	Stormwater Trash Load Reduction Compliance Informational Report	**DATE:**	March 27, 2023

City Administrator Approval  Date: Apr 14, 2023

RECOMMENDATION

Staff Recommends That The City Council Receive An Informational Report On The Status Of The City's Compliance With The Municipal Regional Stormwater Permit (MRP) Trash Reduction Requirements And Changes To Those Requirements In The Reissued MRP.

EXECUTIVE SUMMARY

This Informational Report provides: 1) a compliance update on the progress by the City of Oakland (City) to meet trash reduction requirements in the Municipal Regional Stormwater National Pollutant Discharge Elimination System (NPDES) Permit (MRP 2.0), issued and enforced by the San Francisco Bay Regional Water Quality Control Board (Water Board); and 2) a description of changes to trash reduction regulations in the reissued permit (MRP 3.0) and its impact to the City.

Through significant financial investment in trash capture, trash management, and litter prevention actions, the City exceeded the MRP 2.0 trash load reduction requirements. Under MRP 3.0, which went into effect on July 1, 2022, the method for calculating trash load reduction will eliminate several categories of compliance credit upon which the City previously relied (these requirements will be phased in through 2026). The City must use these more stringent calculation methods to demonstrate trash load reductions of 100 percent based on benchmarks established during the MRP 1.0 permit term. This will require the City to install and maintain many new full trash capture devices, which will be technically challenging and costly. MRP 3.0 also imposes new trash reduction requirements that will require significant staff time and consultant resources to achieve compliance.

BACKGROUND / LEGISLATIVE HISTORY

In 1987, under amendments to the 1972 Clean Water Act, the Federal Environmental Protection Agency imposed regulations that mandate control and reduction of pollutants in stormwater runoff through the NPDES permitting program. In the Bay Area, under the authority of the Porter-Cologne Water Quality Control Act, the Water Board issues and enforces municipal stormwater NPDES permits.

The City is now regulated by the third iteration of the Municipal Regional Stormwater NPDES Permit (MRP 3.0), which was approved by the Water Board in May 2022 and applies to all municipalities throughout Alameda, San Mateo, Santa Clara, and Contra Costa counties, as well as the cities of Fairfield, Suisun City, and Vallejo. Each MRP mandates specific actions and reporting requirements, and failure by municipalities to comply with the permit requirements may result in significant enforcement action by the Water Board or legal actions by third-party entities. MRP 3.0 went into effect on July 1, 2022, but certain MRP 2.0 requirements remain in effect as some new MRP 3.0 requirements are phased in over the next five years.

On February 22, 2022, Oakland Public Works (OPW) presented an informational report to the Public Works and Transportation Committee regarding the status of compliance with the trash load reduction requirements in the MRP. This report followed informational reports presented on April 30, 2021, February 25, 2020, February 19, 2019, and April 25 and October 24, 2017. This report responds to the Committee's request for an annual update on the City's comprehensive trash reduction strategy, including programs and activities, compliance status, and next steps to meet future requirements.

ANALYSIS AND POLICY ALTERNATIVES

This section provides a compliance update on how the City met the Fiscal Year (FY) 2021/22 MRP 2.0 trash load reduction requirements by June 30, 2022, including a description of all compliance trash reduction programs. It also describes changes to trash reduction requirements and impact to the City from the reissued MRP 3.0.

Trash Load Reduction Compliance Status

By July 1, 2019, under MRP 2.0 Provision C.10, "Trash Load Reduction," the City was required to reduce trash loads from the City's storm drain system to waterways by 80 percent based on trash generation rate benchmarks set during the first permit term of the MRP (MRP 1.0 was effective from 2009-2015). "Trash generation" is a term used to describe the level of trash deposited onto land areas that could potentially be transported to the storm drain system and waterways. The trash generation rate benchmarks (baseline trash levels) were calculated using a formula that includes land use classifications, median household income, and observed trash levels. Following MRP formulas, the City then used local knowledge and assessments to confirm or refine the level of trash generation and developed a map depicting four types of trash generation areas throughout the City: Very-High, High, Moderate, and Low (see ***Attachment A*** – Baseline Trash Generation and Full Trash Capture Systems Map). The method for calculating percent trash load reduction is prescribed in the applicable MRP and is specific to the type of

trash control action implemented (for example, some trash control actions provide credits and offsets, and others provide actual volumes of trash removed).

As of July 2022, the City has exceeded and is maintaining the MRP 2.0 compliance mandate to reduce trash loads by 80 percent of the baseline trash levels (using the MRP 2.0 calculation method, the City reduced trash loads by more than 100 percent by July 1, 2022). This was achieved through numerous efforts including the installation of underground full trash capture systems in the City's storm drainage system, above-ground efforts, including numerous City initiatives such as the Excess Litter Fee Program, the Business Improvement Districts, the street sweeping program, cleanup of illegal dumping sites and homeless encampments, and volunteer programs and events to remove litter in the streets and other areas before it enters inlets and waterways, as further described below.

Trash Reduction Programs

Under MRP 2.0, trash reduction credits were taken in five established Trash Load Reduction Action categories:

1. Full Trash Capture Systems
2. Creek & Shoreline Cleanups
3. Source Control Actions
4. Direct Trash Discharge Control Program
5. Other Control Measures

Table 1 below provides a summary of Trash Load Reduction Action categories and corresponding reduction credits for FY 2018/19, FY 2019/20, FY 2020/21, and FY 2021/22.

Table 1: Trash Reduction Credit Summary

Trash Load Reduction Action	FY 18/19	FY 19/20	FY 20/21	FY 21/22
1) Full Trash Capture Systems*	12.4%	11.9%	11.6%	11.5%
2) Creek & Shoreline Cleanups	10.0%	10.0%	10.0%	10.0%
3) Source Control Actions**	10.0%	10.0%	10.0%	10.0%
4) Direct Trash Discharge Program	15%	15.0%	15.0%	15.0%
5) Other Control Measures***	48.4%	49.4%	56.8%	61.5%
TOTAL	95.8%	96.3%	>100%	>100%

** The percent trash reduction from full trash capture systems changed from 12.4% (FY 2018/19) to 11.5% (FY 2021/22) due to the reassessment of trash capture devices installed and areas addressed by connector pipe screens associated with the East Bay Bus Rapid Transit Project.*
*** This category includes plastic bag and polystyrene product bans.*
**** This category includes Business Improvement Districts and Excess Litter Fee activities, street sweeping, illegal dumping and homeless encampment clean-up, Adopt-a-Spot, and other on-land clean-up efforts.*

1. Full Trash Capture Systems

Full trash capture (FTC) systems are devices installed in storm drainage infrastructure that collect trash before it enters nearby waterways. The two main types of FTC devices are large

underground units, such as hydrodynamic separators, that capture trash as stormwater flows through the storm drainage system, and connector pipe screens, which are screens installed in a storm drain inlets that trap trash and prevent it from entering the storm drainage system. Green stormwater infrastructure (GSI) facilities, such as sunken landscaped areas known as rain gardens that are designed to filter stormwater, can also be designed as approved FTC systems. Stormwater runoff from roadways and other surfaces is diverted into GSI facilities where trash and other pollutants are removed from the storm drain system, allowing clean runoff to filter back into the system before entering waterways.

FTC devices are an effective method for preventing trash from entering waterways, and they ensure full trash reduction credit for the area treated; however, they are expensive to install and maintain. Also, because they are underground solutions, they do not provide cleaner streets and neighborhoods, and therefore do not necessarily enhance the quality of life for residents. GSI FTC facilities are the exception because they provide landscaping and beautification in addition to treating stormwater.

The City has installed 219 FTC devices which treat over 1,200 acres of Moderate, High, and Very-High trash generating areas resulting in a total of 11.5 percent reduction credit. The FTC devices are primarily installed in conjunction with capital improvement and transportation projects (see ***Attachment A*** – Baseline Trash Generation and Full Trash Capture Systems Map). Currently, the City is not taking trash reduction credit for any GSI facilities until an assessment is complete on what retrofits are necessary to ensure they qualify as FTC and until Water Board staff provide updated guidance on requirements for using GSI as FTC.

2. Creek and Shoreline Cleanups

Through June 30, 2025, the City receives the maximum available annual trash load reduction credit (the MRP refers to these as “offsets”) of 10 percent in this category through the implementation of numerous trash removal/cleanup events, such as the annual Earth Day and Creek to Bay Day events, at Lake Merritt, local creeks, and on the Bay shorelines. Over 492,000 gallons of trash were removed from local waterways during FY 2021/22, which exceeded the volume required for the City to receive the 10 percent trash load reduction.

3. Source Control Actions

For the past five years, the City has received an additional 2 percent for a total of 10 percent source reduction credit for the Alameda countywide plastic bag ban and the City polystyrene food service ware ban. The additional 2 percent is for the expansion of the countywide single-use plastic bag ban to include all retail facilities. The plastic bag ban is implemented through the Alameda County Waste Management Authority. This credit was removed when MRP 3.0 went into effect July 1, 2022.

4. Direct Trash Discharge Control Program

In FY 2021/22, the City received the maximum available trash load reduction credit of 15 percent for the implementation of a Direct Trash Discharge Control Program. This program, approved by the Water Board in April 2019, allows the City to receive trash reduction credit for its activities and programs that reduce the impacts of trash from homeless encampments and

illegal dumping into local creeks and the storm drain system within 500 feet of a waterway. Last FY, the City removed more than 25 million gallons of trash from streets, parks, and public rights-of-way through these programs, over 4 million gallons of which was within 500 feet of a waterway and hence eligible for credit. To receive the full 15 percent trash reduction credit available in this category, the City must remove a minimum of 735,000 gallons within 500 feet of a waterway. The Direct Trash Discharge Control Program allows the City to leverage the enormous efforts already devoted to illegal dumping and homeless encampment litter abatement to receive valuable trash reduction credit. Under MRP 3.0, this credit (or "offset" as described in the MRP) will be available through December 31, 2025 after the Water Board approves an updated Direct Trash Discharge Control Plan submitted by the City in January 2023.

5. Other Control Measures

In FY 2020/21, the City received an additional 4.7 percent in trash reduction credit for other control measures for a total of 61.5 percent. This category measures the effectiveness of many of the City's above-ground trash reduction efforts that include:

- **Street Sweeping:** Continuing the City's street sweeping program is the most widespread trash control measure that targets High and Very-High trash producing areas, including downtown, business districts, and major arterials, with three (3) or more sweeping events per week. The City has posted signs on all routes, has a rigorous enforcement program, and spends more than $6.5 million dollars on street sweeping operations annually.

- **Adopt-a-Spot Program:** The City manages an award-winning Adopt-a-Spot program that supports individuals, neighborhood groups, civic organizations, and businesses in the ongoing cleaning and greening of parks, creeks, shorelines, streets, trails, and other public spaces. In FY 2021/22, volunteers contributed over 49,000 on-land clean-up hours at adopted spots and parks citywide.

- **Adopt-a-Drain Program:** The Adopt-a-Drain program enhances the City's efforts to clean up storm drains throughout the city. More than 1,500 of the City's estimated 13,600 storm drains have been adopted since the program began.

- **Excess Litter Fee Program:** The City's Excess Litter Fee Program is implemented near fast-food businesses, convenience markets, gasoline station markets, and liquor stores. Fees collected under this program provide funds for a contracted crew to remove trash around businesses that sell/provide large amounts of disposable materials to customers. The contracted crew services more than 800 business sites throughout the city and focuses on known locations of high street litter and illegal dumping.

- **Business Improvement Districts (BIDs):** There are 10 BIDs in neighborhood commercial areas throughout the city that encompass a total area of over 750 acres. These organizations hire full-time staff to remove litter and dedicate funding to maintain trash containers, manage the number and capacity of trash containers needed, install and maintain cigarette butt receptacles, and install public anti-litter signage.

- **Oaktown PROUD (Prevent and Report Oakland's Unlawful Dumping):** In 2019, OPW launched Oaktown PROUD, a multifaceted education and outreach campaign designed to reduce illegal dumping that has disproportionately harmed Black and brown communities. This program includes community involvement, education, eradication, enforcement, and services designed to help residents dispose of bulky trash and make a difference in their neighborhoods.

To calculate trash reduction credit in this category (Other Control Measures), the City is required to conduct visual assessments of street segments using a Water Board-approved protocol developed by permittees in 2015 known as On-land Visual Trash Assessments (OVTAs). The protocol provides qualitative estimates of the amount of trash on the streets that may be carried into the storm drain system as observed through field assessments along a designated percentage of randomly selected stretches of street in each trash management area (the MRP required the City to establish trash management areas throughout the City). A category of trash condition, from Low to Very-high, is assigned to each trash management area based on OVTA trash count and visual condition as recorded through photographs. The assigned trash condition determines if the area qualifies for trash reduction credit using the standardized formula in the protocol. The past five years of OVTAs have demonstrated that in some areas of the City, trash reduction activities such as enhanced trash removal by the BIDs, Adopt-a-Spot volunteer efforts, and the three times or more a week of street sweeping in commercial areas and downtown have reduced the amount of trash found from Very-High to Moderate trash levels.

More information about the City's trash load reduction program, including purpose, permit requirements, and compliance status, is available in the City of Oakland Annual Report to the Water Board: https://cao-94612.s3.amazonaws.com/documents/Oakland-MRP-FY-21-22-AnnualReport_Final.pdf.

Municipal Regional Permit 3.0 Trash Reduction Requirements

By June 30, 2026, MRP 3.0 will phase out all compliance credits for which the City currently receives 35 percent of its trash reduction credit, including the 10 percent source control credit (i.e., single-use plastic bag and polystyrene bans), the 10 percent creek and shoreline cleanup credit, and the 15 percent Direct Trash Discharge Control Program credit, which will make it more difficult for the City meet the permit's 100 percent trash load reduction requirement. By June 30, 2025, the City must achieve 100 percent trash load reduction, but may take 15 percent credit for the Direct Trash Discharge Control Program and 10 percent credit for the Creek & Shoreline Cleanups. If the updated Direct Trash Discharge Control Plan submitted by the City to the Water Board in January 2023 is approved, this deadline will be moved to December 31, 2025. By June 30, 2026, the City must achieve 100 percent trash load reduction without any of the credits.

To achieve compliance given these changes, the City will need to install a significant number of FTC devices, and will continue implementing all the aforementioned trash management measures and conducting On-Land Visual Assessments (OVTAs). MRP 3.0 also requires the City to implement a new program to ensure that private land areas greater than 10,000 ft^2 in Moderate, High, and Very-High trash generating areas that drain to the City's storm drain system are equipped with full trash capture devices or are effectively managed to control trash discharges.

FTC devices installed in the storm drainage system reduce trash discharges to waterways but do not result in cleaner streets and neighborhoods. They also add a significant maintenance burden as they need to be cleaned once to several times per year, depending on location. Unlike FTC devices, the aforementioned trash management measures, which will continue to be implemented, have numerous co-benefits, such as addressing blight in disadvantaged communities and deterring future illegal dumping, as well as providing MRP trash reduction credit through OVTA scores. For example, the City's illegal dumping program and encampment management actions remove large volumes of trash from Oakland's neighborhoods. Volunteer cleanups help improve the health of Oakland's waterways and offer an opportunity to educate and engage residents to create long-lasting neighborhood and watershed stewardship. Existing source control actions adopted by the City and Alameda County have significantly decreased the prevalence of single-use products in storm drain systems and waterways and help prevent these products from littering Oakland. In addition, all measures that remove trash from Oakland's streets that are treated using FTC devices will reduce FTC maintenance costs.

Table 2 below summarizes how and when the Trash Load Reduction Action categories and credits have changed under MRP 3.0.

Table 2: MRP 3.0 Trash Reduction Credit Changes

Trash Load Reduction Action	FY 2021/22**	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26
1) Full Trash Capture Systems	11.5%	11.5%	11.5%	11.5%	11.5%
2) Creek & Shoreline Cleanups	10.0%	10.0%	10.0%	10.0%	0%
3) Source Control Actions	10.0%	0%	0%	0%	0%
4) Direct Trash Discharge Control Program	15.0%	15.0%	15.0%	15.0%	0%
5) Other Control Measures	61.5%	61.5%	61.5%	61.5%	61.5%
Total*	>100%	98%	98%	98%	73%
Compliance Requirement	-	90%	90%	100%	100%
Trash Credits Needed	-	-	-	2%	27%

** For the purposes of showing the additional trash reduction credits needed under MRP 3.0, the total percentages achieved do not show increases in compliance through Full Trash Capture Systems and Other Control Measures; however, these actions will need to comprise a greater percentage of the compliance strategy to bridge the 100% compliance requirement gap.*
*** The City was under MRP 2.0 in FY 2021/22.*

Ongoing and Planned Compliance Actions and Estimated Costs

Installation of Full Trash Capture Systems

The City will use existing bond funding, transportation funding, capital project funding, and grants to install the estimated number of FTC needed to meet and maintain the 100 percent trash load reduction requirement in MRP 3.0. The City Council has provided direction to staff on several occasions to look for opportunities for FTC implementation.

- On June 12, 2017, City Council adopted Resolution No. 86773 C.M.S. for the identification of Capital Improvement Projects funded by the General Obligation Bond (Measure KK), including the adoption of a Trash Capture Transportation Map that

showed transportation project locations in high trash generation areas to ensure that those projects incorporate FTC as feasible.

- On June 12, 2018, City Council adopted Resolution No. 87238 C.M.S., authorizing the City to enter a Cooperative Implementation Agreement with Caltrans for a large FTC project in the Ettie Street watershed. Caltrans was not able to proceed with the agreement at that time, but the terms of the agreement have now been finalized, and Caltrans will provide $2.9 million for the Mandela Parkway at 24th Street Full Trash Capture project that is estimated for construction in 2024.

- On November 14, 2019, City Council adopted Resolution No. 87919 C.M.S. authorizing the submission of an Ordinance on the March 3, 2020, Statewide Primary Election ballot for a 20-year parcel tax to raise revenues necessary to maintain, protect and improve parks and recreational facilities and services, to provide homeless support services, and to improve water quality. Oakland voters passed Measure Q, which provides $21 million annually with approximately $1 million per year for stormwater system improvement and trash reduction efforts, including FTC installation. Measure Q funds will be used in FY 2023/24 and FY 2024/25 to install approximately 400 FTC devices by June 30, 2025.

- On June 21, 2022, City Council adopted Resolution No. 89257 C.M.S., authorizing the City to enter a Cooperative Implementation Agreement with Caltrans for a large FTC project in the Cary Avenue watershed. Through this agreement Caltrans will provide $2.3 million for the Cary Avenue Full Trash Capture Project in East Oakland.

To support Council's direction on installing FTC devices, staff developed an internal Standard Operating Procedure (SOP) which requires the inclusion of FTC in capital improvement and transportation projects in High and Very-High trash generating areas. The SOP also includes FTC standard specifications and standard details to facilitate the installation of FTC with City contractors.

The City plans to spend approximately $5.64 million to implement the following FTC projects that will install approximately 1882 FTC devices:

- Install approximately 80 small FTC devices (known as connector pipe screen (CPS) units) as part of the Active Transportation Program 20th Street Project, Highway Safety Improvement Program Cycle 7 Telegraph Avenue Improvement Project, Fruitvale Alive Gap Closure Project, and International Boulevard Pedestrian Lighting Project. It is expected that these devices will be installed by June 30, 2025.
- Install approximately 250 CPS units as part of the Sewer Rehabilitation Program. These devices need to be installed by June 30, 2025.
- Install approximately 1,200 CPS units in Very-High, High, and Moderate trash generating areas receiving paving rehabilitation as part of the 3-Year Paving Program. These devices need to be installed by June 30, 2026.
- Install two large FTC devices, one in the Ettie Street watershed and one in the Cary Avenue watershed with funding from Caltrans. These projects will be installed by December 31, 2025 (as noted, the June 30, 2025 compliance deadline for achieving 100 percent trash load reduction is expected to be extended to December 31, 2025 after the

Water Board approves the City's revised Direct Trash Discharge Control Program submitted in January 2023).

- Install approximately 350 CPS units in Very-High, High, and Moderate trash generating areas using Measure Q funding. These devices need to be installed by June 30, 2025.

In addition, estimated annual maintenance costs will triple for storm drains with installed FTC devices, which will increase annual labor costs, and capital costs for maintenance equipment will increase to handle the new demand for storm drainage maintenance.

Implementation and Expansion of Other Control Measures

The City will continue to implement numerous trash control actions already underway to remove litter in streets, parks, and other publicly-owned spaces before it enters inlets and waterways, including volunteer programs and events, the Excess Litter Fee Program, BIDs, street sweeping program, and clean-up of illegal dumping sites and homeless encampments. Moving forward, new actions the City will explore and/or undertake include, but are not limited to:

- Examine the fee structure, fee amount, and definition of Excess Litter Fee program-eligible businesses.

- Work with stakeholders to encourage the formation of BIDs in new areas. The City's Economic and Workforce Development Department entered into a contract with Urban Place Consulting (UPC) to provide technical assistance, potentially including BID feasibility studies, to underserved commercial corridors seeking to organize. With direction from the City, UPC has been engaging groups of business owners and property owners in underserved commercial corridors throughout the City. One outcome is a BID feasibility study is being planned in Little Saigon.

- Explore the feasibility of expanding limitations on disposable food service ware.

- Consider recommendations and findings from a citywide street sweeping evaluation on how the City can improve trash levels on streets, reduce redundancies in trash control measures, and improve the cost-efficiency of the City's Street Sweeping Program.

- In January 2023 the City submitted the Direct Trash Discharge Control Program for authorization under MRP 3.0. The City expects the Water Board to approve the program which provides valuable 15 percent trash reduction through FY 2024/25 for activities and programs that reduce the impacts of trash from homeless encampments and illegal dumping into local creeks and the storm drain system.

- Implement a new program required by MRP 3.0 to ensure that private land areas greater than 10,000 ft2 in Moderate, High, and Very-High trash generating areas that drain to the City's storm drain system are equipped with full trash capture devices or are effectively managed to control trash discharges (as required by MRP 3.0). The cost to develop and implement this program is currently being assessed.

FISCAL IMPACT

This item is for informational purposes only and does not have a direct fiscal impact or cost.

PUBLIC OUTREACH / INTEREST

While this item is for informational purposes and did not require additional public outreach other than the required posting to the City's website, many of the activities and programs described in this report include a public outreach component to educate residents about litter and illegal dumping prevention and abatement with the goal of encouraging and fostering personal responsibility for proper disposal of unwanted items through enhancement of civic pride, re-emphasizing the laws and consequences for illegally dumping, and connecting residents and businesses with resources and support to assist them with finding the proper disposal options available to them. This includes but is not limited to the education and outreach campaign Oaktown PROUD, the Adopt-a-Spot program which fosters community engagement to clean, green, and beautify public spaces, and the Bulky Block Party events which provide an opportunity for residents to dispose of large/bulky waste items.

In addition, the City will continue to promote green stormwater infrastructure and build public support for the implementation of GSI in the City, where feasible, particularly in communities most impacted by racial disparities where the addition of trees and plants in the public rights-of-way have the potential to enhance health, safety, and aesthetic appeal.

COORDINATION

The Office of the City Attorney, the Budget Bureau, and the City Administrator's Office were consulted for the preparation of this report.

SUSTAINABLE OPPORTUNITIES

Economic: Although this informational report has no direct economic impacts, the continued efforts to reduce trash and litter will improve the physical appearance of the City of Oakland, which helps attract and retain businesses and promote civic pride.

Environmental*:* Although this informational report has no direct environmental impacts, the continued efforts to reduce trash and litter entering the storm drain systems improve the health of Oakland's creeks and waterways, improves water quality, protects native flora and fauna, and prevents pollutants from entering San Francisco Bay.

Race & Equity*:* Although this informational report has no direct race and equity impacts, implementation of the trash reduction programs described in this report results in cleaner, healthier, and safer communities throughout the city. Frontline and disadvantaged communities are disproportionally affected by litter and debris. The trash reduction programs implemented to comply with the MRP occur primarily in those communities and can help alleviate some of the impacts of environmental injustice and racial disparities.

ACTION REQUESTED OF THE CITY COUNCIL

Staff recommends that the City Council receive an informational report on the status of the City's compliance with the Municipal Regional Stormwater Permit (MRP) trash reduction requirements and changes to those requirements in the reissued MRP.

For questions regarding this report, please contact Terri Fashing, Acting Watershed and Stormwater Division Manager, at (510) 238-7276.

Respectfully submitted,

G. Harold Duffey

G. HAROLD DUFFEY
Director, Oakland Public Works

Reviewed by:
Siew-Chin Yeong, P.E., Assistant Director
Bureau of Design & Construction

Terri Fashing, Acting Watershed Manager
Watershed & Stormwater Management Division
and DD Bond Manager

Prepared by:
Ben Livsey, Watershed Specialist
Watershed & Stormwater Management Division

Attachments (1):

A: Baseline Trash Generation and Full Trash Capture Systems Map

Signature:

Email: HDuffey@oaklandca.gov