

Baseline Trash Load and Short-Term Trash Load Reduction Plan

Submitted by:

Alameda County

399 Elmhurst Street

Hayward, CA 94544

In compliance with Provisions C.10.a(i) and C.10.a(ii) of Order R2-2009-0074

February 1, 2012

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Alameda County
SHORT-TERM TRASH LOAD REDUCTION PLAN

CERTIFICATION STATEMENT

"I certify, under penalty of law, that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to ensure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted, is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

Signature by Duly Authorized Representative:



Daniel Woldesenbet, Ph.D., P.E.
Director of Public Works

February 1, 2012

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Abbreviations

BASMAA	Bay Area Stormwater Management Agencies Association
BID	Business Improvement District
CalRecycle	California Department of Resources Recycling and Recovery
Caltrans	California Department of Transportation
CASQA	California Stormwater Quality Association
CDS	Continuous Deflection Separator
CEQA	California Environmental Quality Act
CY	Cubic Yards
EIR	Environmental Impact Report
EPA	Environmental Protection Agency
GIS	Geographic Information System
MRP	Municipal Regional Stormwater NPDES Permit
MS4	Municipal Separate Storm Sewer System
NGO	Non-Governmental Organization
NPDES	National Pollutant Discharge Elimination System
Q	Flow
SFRWQCB	San Francisco Regional Water Quality Control Board
SWRCB	State Water Resource Control Board
TMDL	Total Maximum Daily Load
USEPA	United States Environmental Protection Agency
Water Board	San Francisco Regional Water Quality Control Board
WDR	Waste Discharge Requirements

PREFACE

This Baseline Trash Load and Short-Term Trash Load Reduction Plan (Plan) is submitted in compliance with provision C.10.a(i) and C.10.a(ii) of the Municipal Regional Stormwater NPDES Permit (MRP) for Phase I communities in the San Francisco Bay (Order R2-2009-0074). This Plan was developed using a regionally consistent format developed by the Bay Area Stormwater Management Agencies Association (BASMAA). Based on new information that becomes available during the implementation of this Short-Term Plan (e.g., revisions to baseline loading estimates or load reduction credits of quantification formulas, etc), or if circumstances arise during implementation that were not anticipated at the time of this submission, Alameda County may choose to amend or revise this Plan. If revisions or amendments are necessary, a revised Short-Term Plan will be submitted to the Water Board via the Alameda County's annual reporting process.

1.0 INTRODUCTION

The Municipal Regional Stormwater NPDES Permit for Phase I communities in the San Francisco Bay (Order R2-2009-0074), also known as the Municipal Regional Permit (MRP), became effective on December 1, 2009. The MRP applies to 76 large, medium and small municipalities (cities, towns and counties) and flood control agencies in the San Francisco Bay Region, collectively referred to as Permittees. Provision C.10 of the MRP (Trash Load Reduction) requires Permittees to reduce trash from their Municipal Separate Storm Sewer Systems (MS4s) by 40 percent before July 1, 2014.

Required submittals to the San Francisco Bay Regional Water Quality Control Board (Water Board) by February 1, 2012 under MRP provision C.10.a (Short-Term Trash Loading Reduction Plan) include:

1. (a) Baseline trash load estimate and (b) description of the methodology used to determine the load level.
2. A description of the Trash Load Reduction Tracking Method that will be used to account for trash load reduction actions and to demonstrate progress and attainment of trash load reduction levels.
3. A **Short-Term Trash Loading Reduction Plan** that describes control measures and best management practices that will be implemented to attain a 40 percent trash load reduction from its MS4 by July 1, 2014;

This Short-Term Trash Load Reduction Plan (Short-Term Plan) is submitted by the Alameda County in compliance with the portions of MRP provision C.10.a.i listed as 1a and 3 above. In compliance with 1b, BASMAA submitted a progress report on behalf of Permittees that briefly describes the methodologies used to develop trash baseline loads (BASMAA 2011a). These methods are more fully described in BASMAA (2011b, 2011c). Lastly, the *Trash Load Reduction Tracking Method Technical Report* (BASMAA 2011d) was submitted by BASMAA on behalf of Permittees in compliance with submittal 2 described above. The Baseline Loading Rates and Tracking Method projects are briefly described below.

Baseline Trash Generation Rates Project

Through approval of a BASMAA regional project, Permittees agreed to work collaboratively to develop a regionally consistent method to establish baseline trash loads from their MS4s. The project, also known as the *BASMAA Baseline Trash Generation Rates Project* assists Permittees in establishing a baseline to demonstrate progress towards MRP trash load reduction goals (i.e., 40 percent). The intent of the project was to provide a scientifically-sound method for developing (default) baseline trash generation rates that can be adjusted, based on Permittee/site specific conditions; and used to develop baseline loading rates and loads. Baseline loads form the reference point for comparing trash load reductions achieved through control measure implementation.

Baseline trash loading rates are quantified on a volume per unit area basis and based on factors that significantly affect trash generation (e.g., land use, population density, and economic profile). The method used to establish baseline trash loads for each Permittee builds off "lessons learned" from previous trash loading studies conducted in urban areas (Allison and Chiew 1995; Allison et al. 1998; Armitage et al. 1998; Armitage and Rooseboom 2000; Lippner et al. 2001; Armitage 2003; Kim et al. 2004; County of Los Angeles 2002, 2004a, 2004b; Armitage 2007). The method is based off a conceptual model developed as an outgrowth of these studies (BASMAA 2011b). Baseline trash loading rates were developed through the quantification and characterization of trash captured in Water Board recognized

full-capture treatment devices installed in the San Francisco Bay area. Methods used to develop trash baseline loading rates are more fully described in BASMAA (2011b, 2011c, and 2012a).

Trash Load Reduction Tracking Method Summary

The trash load reduction tracking method, described in the *Trash Load Reduction Tracking Method Technical Report*, assists Permittees in demonstrating progress towards reaching trash load reduction goals defined in the MRP (e.g., 40 percent). The tracking method is based on information gained through an extensive literature review and Permittee experiences in implementing stormwater control measures in the San Francisco Bay Area. The literature review was conducted to evaluate quantification methods used by other agencies to assess control measure effectiveness or progress towards quantitative goals. Results are documented in the *Trash Load Reduction Tracking Method: Technical Memorandum # 1 – Literature Review* (BASMAA 2011d).

Methods attributable to specific trash control measures fall into two categories: 1) trash load reduction quantification formulas; and 2) load reduction credits (BASMAA 2011e). Quantification formulas were developed for those trash control measures that were deemed feasible and practical to quantify load reductions at this time. Load reduction credits were developed for all other control measures included in the methodology development. Both categories of methods assume that as new or enhanced trash control measures are implemented by Permittees, a commensurate trash load reduction will occur. Progress towards load reduction goals will be demonstrated through comparisons to established trash baseline load estimates developed through the BASMAA *Baseline Generation Rates Project*.

Short-Term Trash Load Reduction Plan

The purpose of this Short-Term Plan is to describe the current level of implementation of control measures and best management practices, and identify the type and extent to which new or enhanced control measures and best management practices will be implemented to attain a 40 percent trash load reduction from their MS4 by July 1, 2014. The Short-Term Plan was developed using a template created by BASMAA through a regional project. New and enhanced trash control measures (i.e., Best Management Practices) that Permittees may implement to demonstrate trash load reduction goals are included in Table 1.1. This list was developed collaboratively through the BASMAA Trash Committee, which included participation from Permittee, stormwater program, Water Board and non-governmental organization (NGO) staff. The list of control measures is based on: 1) the potential for Permittees to implement; 2) the availability of information required to populate formulas and develop credits; and 3) the expected benefit of implementation. Load reductions associated with each control measure are demonstrated either through a quantification formula (QF) or credits (CR) described in the *Trash Load Reduction Tracking Method Technical Report* (BASMAA 2012b).

In efforts to reduce trash discharged from MS4s, Permittees may choose to implement control measures that are not included in Table 1.1 or described more fully in BASMAA (2012b). If a Permittee chooses to do so, methods specific to calculating trash load reductions for that control measure would need to be developed. Additionally, at that point, consideration should be given to updating this Short-Term Plan.

Additionally, based on new information that becomes available during the implementation of this Short-Term Plan (e.g., revisions to baseline loading estimates or load reduction credits of quantification formulas, etc), or if circumstances arise during implementation of the Plan that were not anticipated at the time of submission, the Alameda County may amend or revise this Plan. If revisions or amendments

are necessary, a revised Short-Term Plan will be submitted to the Water Board via the Alameda County's annual reporting process.

Table 1.1. Trash control measures for which load reduction quantification credits or formulas were developed to track progress towards trash load reduction goals.

Load Reduction Credits
Single-use Carryout Plastic Bag Ordinances
Polystyrene Foam Food Service Ware Ordinances
Public Education and Outreach Programs
Activities to Reduce Trash from Uncovered Loads
Anti-Littering and Illegal Dumping Enforcement Activities
Improved Trash Bin/Container Management Activities
Single-Use Food and Beverage Ware Ordinances
Quantification Formulas
On-land Trash Pickup (Volunteer and/or Municipal)
Enhanced Street Sweeping
Partial-Capture Treatment Devices
Enhanced Storm Drain Inlet Maintenance
Full-Capture Treatment Devices
Creek/Channel/Shoreline Cleanups (Volunteer and/or Municipal)

This Short-Term Plan is organized into the following sections:

- Introduction;
- Trash Baseline Load Estimate;
- Load Reduction Calculation Process
- Planned Implementation of New or Enhanced Control Measures;
- Implementation Schedule; and
- References

2.0 BASELINE TRASH LOADING ESTIMATE

In compliance with Provision C.10.a.ii of the MRP, Alameda County worked collaboratively with other MRP Permittees through BASMAA to develop data and the process necessary to establish baseline trash loading estimates to MS4s. The collaborative project was managed through the BASMAA Trash Committee and included a series of steps described in BASMAA (2012a) and listed below. The approach was intended to be cost-effective and consistent, but still provide an adequate level of confidence in trash loads from municipal separate storm sewer systems (MS4s), while acknowledging that uncertainty in trash loads still exists.

- Step #1:** Conduct literature review
- Step #2:** Develop conceptual model
- Step #3:** Develop and implement sampling and analysis plan
- Step #4:** Test conceptual model
- Step #5:** Develop default trash generation rates
- Step #6:** Develop trash baseline loading rates by adjusting trash generation rates based on existing levels of control measure implementation
- Step #7:** Apply trash baseline loading rates and calculate baseline load

Through the collaborative BASMAA project, default baseline trash generation rates (volume per area) for wet and dry seasons were developed for a finite set of categories, based on factors that significantly affect trash loads (e.g., land use). These trash generation rates were then applied to applicable jurisdictional areas within the Alameda County Unincorporated Area. Trash generation rates were then adjusted based on baseline street sweeping and storm drain inlet maintenance conducted in each applicable area. The sum of the trash loads (i.e., rate multiplied by area) from each jurisdictional area represents Alameda County's baseline trash load from its MS4. A full description of the methods by which trash baseline loads were developed is included in BASMAA

This section provides a summary of land use characteristics and demographics in the Alameda County Unincorporated Area that, based on the results of the BASMAA *Trash Generation Rates Project*, appear to affect trash generation rates. The process by which the County's trash baseline loading estimate was developed is also more fully described below.

Default Trash Generation Rates (Regional Approach)

A set of default trash generation rates for wet and dry seasons were developed via the BASMAA regional collaborative project (BASMAA 2012a). Default generation rates were developed based on a comparison between trash characterization monitoring results, land uses, economic profiles, and other factors that were believed to possibly affect trash generation. Three trash characterization monitoring events were scheduled via the *Trash Generation Rates Project*. Due to the compliance timeline in the MRP, only two of three trash characterization monitoring events were used to develop trash generation rates described in BASMAA (2012a) and presented in this section. Following the completion of the third characterization event (Fall/Winter 2011), this section of the Plan will be updated to reflect the most up-to-date trash generation and loading rates available. Trash generation rates based on the results of two of the three characterization events are shown in Table 2-1 for each trash loading category.

Table 2-1: Regional Default Trash Generation Rates.

Land Use Category	Generation Rates (Gallons/acre/year)
High Density Residential	17.04
Low Density Residential	1.25
Rural Residential	0.17
Commercial and Services/ Heavy, Light and Other Industrial	7.08
Retail and Wholesale	29.99
K-12 Schools	13.14
Urban Parks	2.14

Permittee Characteristics

The Unincorporated Area of the County of Alameda covers 273,885 acres, and has a jurisdictional area of 16,384 acres. Unincorporated communities in the County include Ashland, Castro Valley, Cherryland, Fairview, Sunol, and San Lorenzo. Collectively, the population of the Alameda County Unincorporated Area is 140,825.

Land Use

Land uses within Alameda County Unincorporated Area depicted in ABAG (2005) are provided in Table 2-2. Although most of the Alameda County Unincorporated Area is open space/rural, the urbanized portions are primarily comprised of low and high density residential land uses.

Table 2-2: Percentages of the Alameda County Unincorporated Area's jurisdictional area¹ within land use classes identified by ABAG (2005).

Land Use Category	Jurisdictional Area (Acres)	Effective Loading Area (Acres)	% of Effective Loading Area
High Density Residential	2,410	2,253	20
Low Density Residential	8,636	6,181	55
Rural Residential	2,300	993	9
Commercial and Services/ Heavy, Light and Other Industrial	1,385	907	8
Retail and Wholesale	402	331	3
K-12 Schools	450	243	2
Urban Parks	800	245	2
TOTAL	16,384	11,154	100%

Permittee-Specific Baseline Trash Loading Rates

Regional default trash generation rates developed through the BASMAA regional collaborative project were applied to specific geographical areas in Alameda County Unincorporated Area based on the areas' land uses. These generation rates were then adjusted based on the calculated effectiveness of baseline street sweeping, storm drain inlet maintenance and pump station maintenance. These adjustments were conducted in GIS due to the site specificity of baseline generation rates and baseline control measure implementation. A summary of trash baseline loading rates for the County are provided in Table 2-3 and areas associated with these rates are illustrated in Figure 2-1.

Accounting for Baseline Street Sweeping

A "baseline" street sweeping program is defined as the sweeping frequency and parking enforcement implemented by the County of Alameda prior to effective date of the MRP. Baseline street sweeping differs from "enhanced" street sweeping, which includes increased parking enforcement and/or sweeping conducted at a frequency greater than baseline ceiling (i.e., once per week for retail land uses and twice per month for all other land uses). The baseline ceiling was created to not penalize implementers of enhanced street sweeping programs prior to the effective date of the MRP. For those Permittees that sweep less frequent than the baseline ceiling, their current sweeping frequency serves as their baseline.

The County of Alameda's baseline and current street sweeping program includes sweeping most streets within the communities of Castro Valley, San Lorenzo, Ashland, Cherryland, Fairview, and Dougherty once per month. The community of Ashland is swept twice a month.

¹ A Permittee's jurisdictional area is defined as the urban land area within a Permittee's boundary that is not subject to stormwater NPDES Permit requirements for traditional and non-traditional small MS4s (i.e. Phase II MS4s) or the California Department of Transportation, or owned and maintained by the State of California, the U.S. federal government or other municipal agency or special district (e.g., flood control district).

Posting of parking enforcement signs for street sweeping occurs throughout the community of Ashland and about one quarter of the community of San Lorenzo. No other communities have parking enforcement signs for street sweeping. The estimated trash load reduced via baseline street sweeping is presented in Table 2-3.

Accounting for Baseline Storm Drain Inlet Maintenance

Within the Unincorporated Area, storm drain inlets were cleaned at a baseline level of one time per year prior to the effective date of the MRP. Based on this baseline frequency and the effectiveness rating developed in BASMAA (2012b), the baseline storm drain maintenance program in the County of Alameda has an annual effectiveness rating of 5%. The estimated trash load reduced via baseline storm drain inlet maintenance is presented in Table 2-3.

Accounting for Baseline Pump Station Maintenance

Alameda County maintains 1 stormwater pump station in the Unincorporated Area but it does not have a trash rack that captures trash that can be remove when maintained. The estimated trash load reduced via baseline pump station maintenance is presented in Table 2-3.

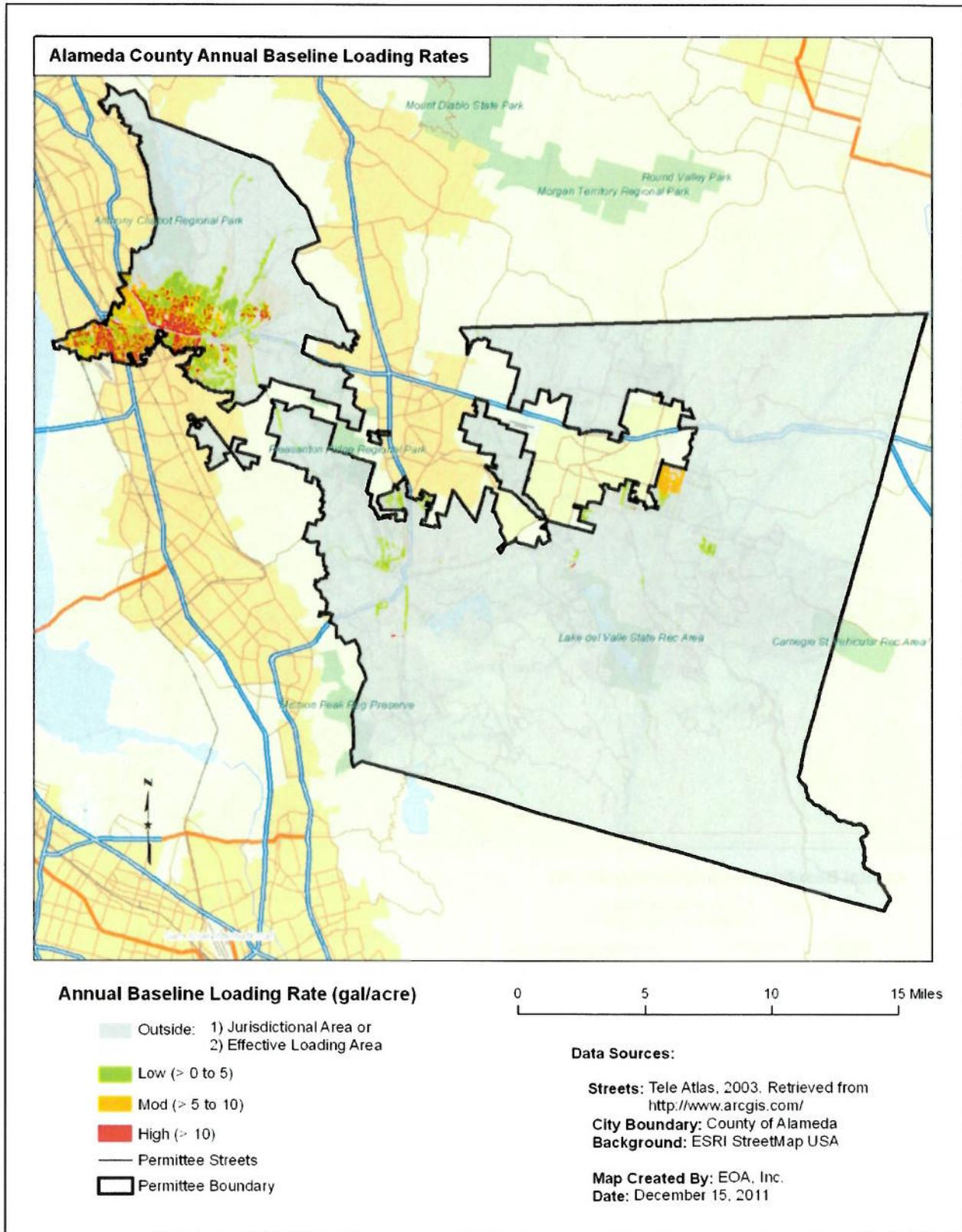
Baseline Trash Loading Estimates

Within the Unincorporated Area, storm drain inlets were cleaned at a baseline level of one time per year prior to the effective date of the MRP. Based on this baseline frequency and the effectiveness rating developed in BASMAA (2012b), the baseline storm drain maintenance program in the County of Alameda has an annual effectiveness rating of 5%. The estimated trash load reduced via baseline storm drain inlet maintenance is presented in Table 2-3.

Table 2-3: Preliminary rash baseline load in the Alameda County Unincorporated Area

Category	Load (gallons)
Preliminary Baseline Trash Generation Load	66,359
Load Removed via Baseline Street Sweeping	18,420
Load Removed via Baseline Storm Drain Inlet Maintenance	2,397
Load Removed via Baseline Stormwater Pump Station Cleaning	0
Preliminary Baseline Trash Load	45,543

Figure 2-1: Estimated trash baseline loading rates in geographical Alameda County Unincorporated Area



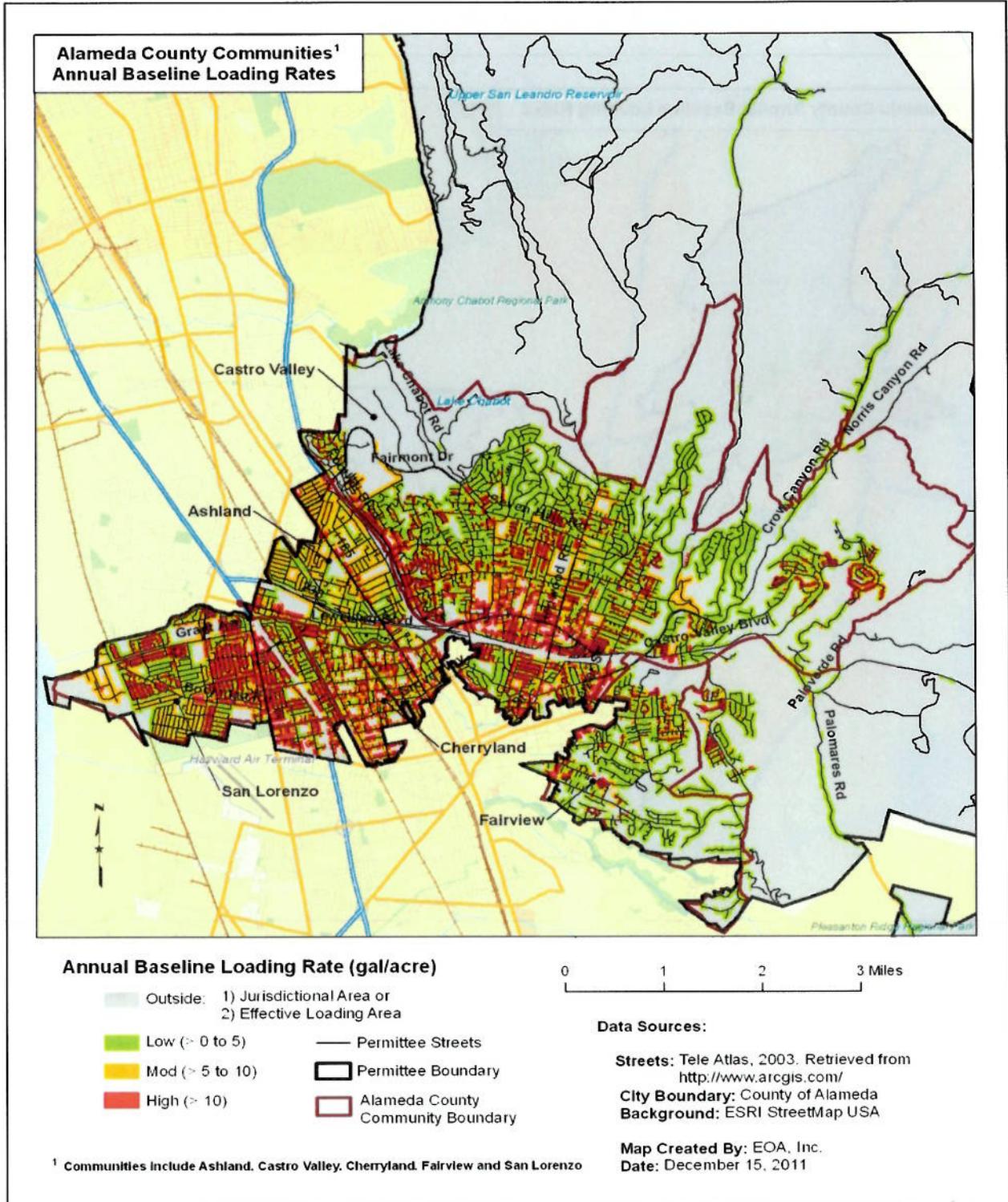


Figure 2-2: Estimated trash baseline loading rates for geographical areas in the County of Alameda communities of Ashland, Castro Valley, Cherryland, Fairview, and San Lorenzo.

3.0 LOAD REDUCTION CALCULATION PROCESS

Using the guiding principles and assumptions described BASMAA (2012e), a stepwise process for calculating trash load reductions was developed collaboratively through BASMAA. This process is fully described in Trash Load Reduction Tracking Method Technical Report (BASMAA 2011e) and is briefly summarized in this section. The process takes into at what point in the trash generation and transport process a trash control measure: 1) prevents trash generation, 2) intercepts trash in the environment prior to reaching a water body, or 3) removes trash that has reached a water body. In doing so, it avoids double-counting of trash load reductions associated with specific control measures.

To demonstrate trash load reductions, baseline trash loading rates will be adjusted using the following process:

- Step #1:** Existing Enhanced Street Sweeping
- Step#2:** Trash Generation Reduction
- Step #3:** On-land Interception
- Step #4:** Trash Interception in the Stormwater Conveyance System
- Step #5:** Trash Interception in Waterways
- Step #6:** Comparison to Baseline Trash Load

Reductions calculated in Steps 2 and 5 are assumed to be implemented at a constant rate on an “area-wide” basis. For example, if a new region-wide public education strategy is implemented within the San Francisco Bay area, all Permittees can apply load reduction credits associated with this control measure. In contrast, Steps 1, 3 and 4 are “area-specific” reductions that only apply to specific areas within a Permittee’s jurisdiction. Area-specific control measures include full-capture treatment devices and enhanced street sweeping. Area-specific reductions may require the use of a Geographic Information System (GIS) to calculate.

Reductions are generally applied in the sequence as presented in Figure 2-1 and described below, although some reductions may be applied “in-parallel” and calculated during the same sub-step in the process.

Step #1: Existing Enhanced Street Sweeping

Trash load reductions due to existing enhanced street sweeping implemented prior to the effective date of the MRP and conducted at levels above baseline levels are not incorporated into each Permittee’s trash baseline load. Therefore, load reductions associated with existing enhanced are accounted for first in the trash load reduction calculation process. Existing enhanced street sweeping includes street sweeping conducted at a frequency greater than 1x/week for streets within retail land use areas or greater than 2x/month for streets in all other land use areas. The result of adjustments made to trash baseline loads due to the implementation of existing enhanced street sweeping is a set of current baseline loading rates and a current baseline load.

Step #2: Trash Generation Reduction Control Measures

Trash generation reduction control measures prevent or greatly reduce the likelihood of trash from being deposited onto the urban landscape. They include the following area-wide control measures:

- CR-1: Single-Use Carryout Plastic Bag Ordinances
- CR-2: Polystyrene Foam Food Service Ware Ordinances
- CR-3: Public Education and Outreach Programs
- CR-4: Reduction of Trash from Uncovered Loads
- CR-5: Anti-Littering and Illegal Dumping Enforcement
- CR-6: Improved Trash Bin/Container Management
- CR-7: Single-Use Food and Beverage Ware Ordinances

Load reductions associated with trash generation reduction control measures are applied on an area-wide basis.² Therefore, reductions in current baseline loading rates are adjusted uniformly based on the implementation of the control measure and the associated credit claimed.

Baseline loading rate adjustments for all generation reduction controls measures implemented may be applied in-parallel, but should be applied prior to calculating on-land interception measures discussed in Step #3. The result of adjustments to trash baseline loading rates due to the implementation of these enhanced control measures will be a set of street loading rates. The street load is the volume of trash estimated to enter the environment and available for transport to the MS4 if not intercepted via on-land control measures described in Step #2.

Step #3: On-land Interception Control Measures

Once trash enters the environment, it may be intercepted and removed through the following control measures prior to reaching the stormwater conveyance system:

- QF-1: On-land Trash Cleanups (Volunteer and/or Municipal) (Area-wide)
- QF-2: Enhanced Street Sweeping (Area-specific)

Since on-land trash cleanups can affect the amount of trash available to street sweepers, load reductions associated with their implementation will be quantified first, followed by street sweeping enhancements. On-land trash cleanups will be applied as an area-wide reduction and all effective loading rates will be adjusted equally. Enhanced street sweeping, however, is an area-specific control measure and only those effective loading rates associated with areas receiving enhancements will be adjusted. Due to the spatial nature of enhanced street sweeping, GIS may be needed to conduct this step.

The result of adjustments to effective loading rates due to the implementation of these enhanced control measures will be a set of conveyance system loading rates. The conveyance load is the volume of trash estimated to enter the stormwater conveyance system (e.g., storm drains).

² The only exception to this statement are load reductions associated with the establishment of Business Improvement Districts (BIDs) or equivalent, which are specific to geographic areas and considered "area-specific".

Step #4: Control Measures that Intercept Trash in the MS4

Control measures that intercept trash in the stormwater conveyance system are area-specific. Therefore, they only apply to land areas and associated trash loads reduced. Conveyance system loading rates developed as a result of Step #3 should be adjusted in-parallel for the following control measures:

- QF-3a: Partial-capture Treatment Device: Curb Inlet Screens (Area-specific)
- QF-3b: Partial-capture Treatment Device: Stormwater Pump Station Trash Racks Enhancements (Area-specific)
- QF-4: Enhanced Storm Drain Inlet Maintenance (Area-specific)
- QF-5: Full-Capture Treatment Devices (Area-specific)

Load reductions for these control measures are calculated in-parallel because they are applied to independent geographical areas. Reductions from all control measures described in this step are area-specific and may require the use of GIS to calculate a set of **waterway loading rates**. Once waterway loading rates have been determined, a **waterway load** will be developed and used as a starting point for calculating load reductions associated with trash interception in waterways discussed in Step #5.

Step #5: Control Measures that Intercept Trash in Waterways

The load of trash that passes through the stormwater conveyance system without being intercepted may still be removed through interception in waterways. There are two control measures associated with interception in waterways:

- QF-3c: Partial-capture Treatment Device: Litter Booms/Curtains (Area-wide)
- QF-7: Creek/Channel/Shoreline Cleanups (Volunteer and/or Municipal) (Area-wide)

As these control measures are implemented, load reduction estimates can be calculated in-parallel for these two measures.

Step #6: Comparison to Baseline Trash Load

Applying the four steps described in the processes above will provide an estimated trash load (volume) remaining after trash control measures are implemented. As depicted in the following equation, the relative percent difference between the baseline load and the load remaining after control measures are implemented is the percent reduction that will be used to assess progress towards MRP trash load reduction goals.

$$\frac{\text{Baseline Load} - \text{Remaining Load}}{\text{Baseline Load}} = \% \text{ Reduction}$$

4.0 ENHANCED TRASH CONTROL MEASURES

This section describes the new or enhanced trash control measures planned for implementation in the Alameda County Unincorporated Area. The enhanced control measures described are designed to reach a 40% reduction by July 1, 2014. New and enhanced control measures that will be implemented in Alameda County Unincorporated Area include those listed in Table 4.1.

Table 4.1. Trash control measures that will be implemented in the Alameda County Unincorporated Area to reach the 40% trash load reduction.

Control Measure
Single-use Carryout Plastic Bag Ordinances
Polystyrene Foam Food Service Ware Ordinances
Public Education and Outreach Programs
Activities to Reduce Trash from Uncovered Loads
Anti-Littering and Illegal Dumping Enforcement Activities
Enhanced Street Sweeping
Full-Capture Treatment Devices

CR-1: Single-use Carryout Plastic Bag Policy

Single-use plastic carryout bags have been found to contribute substantially to the litter stream and to have adverse effects on marine wildlife (United Nations 2009, CIWMB 2007, County of Los Angeles 2007). The prevalence of litter from plastic bags in the urban environment also compromises the efficiency of systems designed to channel storm water runoff. Furthermore, plastic bag litter leads to increased clean-up costs for the Permittees and other public agencies.

Based on recent experiences of municipalities throughout the State, the process Permittees must go through to enact a single-use carryout plastic bag policy/ordinance is difficult due to intense scrutiny and opposition from not only public interest groups and lobbyists, but also merchants and community members. In most cases, most opposition groups are pressing for the development of Environmental Impact Reports (EIRs) in accordance with the California Environmental Quality Act (CEQA).

Baseline Level of Implementation

Prior to adoption of the MRP, Permittees within the Bay area have enacted policies or ordinances on Single-use Carryout Plastic Bags. To avoid penalizing these early implementers, an applicable control measure implemented by a Permittee prior to the effective date of the MRP will be credited equally to a control measure implemented after the effective date. Therefore, the baseline level of implementation is not applicable for this control measure.

Enhanced Level of Implementation

On January 25, 2012, the Alameda County Waste Management Authority (StopWaste.org) adopted a countywide ordinance for all the jurisdictions within Alameda County prohibiting the distribution of single-use carryout plastic bags at the cash register at retail stores covered by the ordinance and establishing mandatory fees for other carryout bags. Jurisdictions may decide to opt out of the ordinance. Alameda County is not opting out. The ordinance will take effect on January 1, 2013 affecting all retail stores that sell packaged food in the City. Single-use plastic carryout bags are banned. A minimum fee of 10 cents will be charged for every paper carryout bag or reusable plastic carryout bag provided to the customer at the cash register. The total percent of trash reduced from MS4s as a result of implementing this single-use carryout bag reduction ordinance will be reported in the Annual Report submitted each September to the Water Board.

Reduction from Implementing Control Measure

Alameda County will receive a 10 percent reduction credit for implementing specific enhanced control measures described in Enhanced Level of Implementation section above. The ten percent reduction credit will be applied to the County's baseline trash load. This percent reduction credit is consistent with methods presented in the BASMAA (2012b). A summary of all load reductions anticipated through the implementation of this plan are included in Section 5.0.

CR-2: Polystyrene Foam Food Service Ware Policy

Polystyrene foam is used as food ware in the food service industry. According to the USEPA, floatable debris in waterways, such as products made of polystyrene, is persistent in the environment and has physical properties that can have serious impacts on human health, wildlife, the aquatic environment and the economy (USEPA 2002). Due to its properties, polystyrene foam used as food ware is typically not recycled. Since 1990, over 100 government agencies within the United States, including over twenty within the Bay area have enacted full or partial bans on polystyrene foam food service ware.

Baseline Level of Implementation

Prior to adoption of the MRP, over twenty agencies within the Bay area enacted full or partial bans on polystyrene foam food service ware. To avoid penalizing these early implementers, an applicable control measure implemented by a Permittee prior to the effective date of the MRP will be credited equally to a control measure implemented after the effective date. Therefore, the baseline level of implementation is not applicable for this control measure.

Enhanced Level of Implementation

Alameda County does not currently have a polystyrene food ware ban though is currently developing a policy that prohibits the distribution of polystyrene foam single-use food and beverage ware at County-sponsored events or on County-owned property. The policy is due to be in place by January 1, 2013. The percent trash reduction from MS4s as a result of implementing a polystyrene foam food service ware policy will be reported in the Annual Report submitted each September.

Percent Reduction from Enhancements

Alameda County will receive a two percent reduction credit for implementing specific enhanced control measures described in Enhanced Level of Implementation section above. The two percent reduction credit will be applied to the County's baseline trash load. This percent reduction credit is consistent with methods presented in the BASMAA (2012b). A summary of all load reductions anticipated through the implementation of this plan are included in Section 5.0.

CR-3: Public Education and Outreach Programs

Permittees in the San Francisco Bay Area have implemented public education and outreach programs to inform residents about stormwater issues relating to pollutants of concern, watershed awareness and pollution prevention. Public education and outreach efforts include developing and distributing brochures and other print media; posting messages on websites and social networking media (Facebook, Twitter etc.), attending community outreach events, and conducting media advertising. In recent years, some municipal agencies have implemented anti-litter campaigns to increase public awareness about the impacts of litter on their communities and water quality; and to encourage the public to stop littering.

Baseline Level of Implementation

Alameda County implemented the following public education and outreach control measures prior to the effective date of the MRP. These control measures are considered baseline because they were either not related to trash reduction specifically, or they are not planned to be continued during the term of the MRP. New actions or actions started prior to the effective date of the MRP and continued into the future are described under the next section.

Enhanced Level of Implementation

Alameda County will implement the following public education and outreach control measures prior to July 1, 2014.

Litter Reduction Advertising Campaign(s)

BASMAA Youth Outreach Campaign (Regional)

Through participation and funding of the regional **BASMAA Youth Outreach Campaign** the County will implement an outreach campaign designed to reduce littering from the target audience in the Bay Area. The Youth Outreach Campaign was launched in September 2011 (post-MRP effective date) and aims to increase the awareness of Bay Area Youth (ages 16-24) on litter and stormwater pollution issues, and eventually change their littering behaviors. Combining the ideas of Community Based Social Marketing with traditional advertising, the Youth Campaign aims to engage youth to enable the peer-to-peer distribution of Campaign messages. The Campaign will at least run from FY 11-12 through FY 13-14. A brief description of the Campaign activities is provided below:

- Raising Awareness: The Campaign will begin by raising awareness of the target audience on litter and stormwater pollution issues. Partnerships with youth commissions, high schools, and other youth focused organizations will be developed to reach the target audience. Messages targeted to youth will be created and distributed via paid advertising, email marketing, Campaign website and social networking sites (e.g., Facebook and twitter).
- Engage the Youth - The advertisements will encourage the audience to participate in the Youth Campaign by joining a Facebook page, entering a contest, taking an online quiz, etc., and providing their contact information. At the beginning of FY 12-13, a video contest will be launched to get Bay Area youth further involved in the Campaign. An online voting system will be used to select the winning entry. Media advertising will be conducted to promote the winning entry.

- Change Behaviors: To move the audience along the behavior change continuum, the Campaign will use electronic platforms such as email marketing and social networking sites to encourage participants to engage in increasingly more difficult behavior changes, such as participating in a clean-up, organizing a clean-up, etc.
- Maintain Engagement: The Campaign will continue to interact with the target audience through email marketing and social media websites.

The Youth Campaign will include a pre and post campaign survey to evaluate the effectiveness of outreach. The pre-campaign survey will be conducted in FY 11-12 and the post campaign survey in FY 13-14. Other evaluation mechanisms, such as website hits, number of youth engaged in the Campaign's social networking website, etc. will also be used to evaluate its effectiveness in increasing awareness and changing behavior.

Advertising campaign(s) (Countywide Program)

Outreach to Alameda County youth may be limited by scope and budget of the BASMAA Regional Youth Campaign. Therefore the Clean Water Program will supplement the Regional Youth Outreach campaign in order to increase the number of participants in Alameda County.

Advertising Campaign (Local)

Alameda County will assess the Youth Campaign as it gets underway to identify opportunities to enhance the regional/countywide effort at a local level.

Outreach to School-age Children or Youth

The Countywide Program is currently conducting stormwater pollution prevention and anti-littering outreach to school-age children through contracts with five environmental education organizations. The current contracts expire in 2014. The Program intends to initiate new contracts for outreach to school-age children in 2014. The outreach programs will have an increased focus on anti-littering messages and will be revised to fulfill the required number of events as described in BASMAA (2012b). The County plans to implement this control measure through participation in the Countywide Program.

Media Relations

BASMAA Regional Media Relations Project (Regional)

Through participation and funding of the **BASMAA Regional Media Relations Project**, the County plans to continue to implement a media relations project partially designed to reduce littering from target audiences in the Bay Area. The goal of the BASMAA Media Relations Project is to generate media coverage that encourages individuals to adopt behavior changes to prevent water pollution, including littering. At least two press releases or PSAs focus on litter issues each year (e.g., creek clean-up activities, preventing litter by using reusable containers, etc.).

Media Relations (Countywide Program)

Clean Water Program has already developed a media and community relations plan and contact list. The Program will regularly release articles and information to the appropriate publications, blogs and community publications on litter issues. Articles will be timed with regular events, such as Coastal Cleanup in September and the beginning of the rainy season, as well as other current events, if applicable. The media and community outreach list contains many smaller publications and online sites as well as larger newspapers, which will increase the chances the

articles are published and read. This effort goes beyond the scope of the Regional Media Relations plan by going deeper into the community through highly localized media channels.

Media Relations (Local)

Alameda County will continue to utilize materials developed through the Regional Media Relations effort and Countywide Clean water program, develop our own on local issues, and follow up with local media including our community access channel, local weekly papers, and on-line community “Patch” newspapers.

Community Outreach Events

The Countywide Program will develop a “Litter Outreach” kit for community events. Going beyond the usual table with literature, the kit will include such interactive activities as pledge posters to foster commitment to behavior change, and directly relevant promotional items such as reusable bags. This kit will be provided to all Program member agencies for use at their local events. The County plans to use the Litter Outreach kit at 8 events per year including San Lorenzo and Castro Valley Farmers Markets, the Cherryland Festival, and the Castro Valley Fall Festival.

Percent Reduction from Enhancements

Alameda County will receive a total of eight percent reduction credit for implementing specific enhanced control measures described in *Enhanced Level of Implementation* section above. This percent reduction is comprised of the following credits, consistent with the *Load Reduction Tracking Method*:

- Litter Reduction Advertising Campaigns – 3%
- Outreach to School-age Children or Youth –2%
- Media Relations – 1%
- Community Outreach Events -2%

These eight percent reduction credits will be applied against Alameda County’s baseline trash load. This percent reduction credit is consistent with methods presented in the BASMAA (2012b). A summary of all load reductions anticipated through the implementation of this plan are included in Section 5.0.

CR-4: Reduction of Trash from Uncovered Loads

Although it is currently illegal to operate a vehicle that is improperly covered and which its' contents escapes³, vehicles remain an important trash source to MS4s and local waterways. Specifically, vehicles that do not secure or cover their loads when transporting trash and debris have a high risk of contributing trash to MS4s. Land areas that generate trash from vehicles include roads, highways (on/off ramps, shoulders or median strips) and parking lots. To help address the dispersion of trash from unsecured or uncovered vehicles destined for landfills and transfer stations, Permittees may require municipally-contracted trash haulers to cover or secure loads or work with municipal or private landfill and transfer station operators to educate waste haulers on securing loads and/or to enhance enforcement of existing regulations.

Baseline Level of Implementation

The baseline trash load described in Section 2.0, assumes that prior to adoption of the MRP Alameda County has not adopted control measures to reduce trash from vehicles with uncovered loads. Therefore, implementation of any of the control measures described in this section is considered to be enhanced implementation.

Enhanced Level of Implementation

The Alameda County will implement the following uncovered load control measures prior to July 1, 2014.

Alameda County currently has language in our hauling service contract(s) that requires contracted trash and construction debris haulers to cover loads when transporting trash and debris to municipally or privately-owned landfills and transfer stations.

The County's Public Works Agency and Code Enforcement Department will coordinate to actively work with local law enforcement to establish an enhanced enforcement program for vehicles with uncovered loads. Enhanced enforcement programs may include the following:

- Adoption of an ordinance prohibiting the transportation of trash or debris without a cover
- Citations and fines for vehicles spotted on roads in an individual Permittee's jurisdictional area with uncovered loads; or,
- Landfill/Transfer Station "incentive" or "disincentive" efforts such as distribution of tarps for a fee to haulers or other vehicles that arrive at landfills and transfer stations with uncovered loads. Each subsequent visit without a tarp will result in an additional fee for a tarp, prompting haulers to bring their own tarp (if this is not feasible, than another "point of contact" effort.

Percent Reduction from Enhancements

Alameda County will receive a five percent reduction credit for implementing specific enhanced control measures described in *Description of Enhanced Level of Implementation* section above.

³ In accordance with the California Vehicle Code Sections 23114 and 23115, it is against the law to operate a vehicle on the highway which is improperly covered, constructed, or loaded so that any part of its contents or loads spills, drops, leaks, blows, or otherwise escapes from the vehicle. Exempted materials include hay and straw, clear water and feathers from live birds. Additionally, any vehicle transporting garbage, trash, or rubbish, used cans or bottles, waste papers, waste cardboard, etc. must have the load covered to prevent any part of the load from spilling on the highway (CVC 2011). Significant fines are possible for non-compliance.

The five percent reduction credit will be applied to the baseline trash load to urban creeks from the municipal separate storm sewer system (MS4) owned and operated by Alameda County. This percent reduction credit was obtained from the *Trash Load Reduction Tracking Method Report* (BASMAA 2011e) and is presented in the Trash Load Reduction Summary Table included in Section 5.

CR-5: Anti-Littering and Illegal Dumping Enforcement Activities

Successful anti-littering and illegal dumping enforcement activities include laws or ordinances that make littering or dumping of trash illegal. Laws are enforced by various municipal agency staff (e.g., police, sheriff and public works department staff) who issue citations in response to citizen complaints or other enforcement methods (e.g., surveillance cameras, signage and/or physical barriers installed at illegal dumping hot spots). In some California jurisdictions, the minimum fine for littering is \$500 and the maximum penalty for highway littering is \$1000 (City of San Francisco 2001). However, it is difficult to enforce small littering events unless they are witnessed or solid proof exists linking the offender to the litter. As a result, enforcement tends to focus on larger scale illegal dumping activities.

Baseline Level of Implementation

The baseline trash load described in Section 2.0, assumes that Alameda County has adopted a basic anti-littering and illegal dumping enforcement program that entails receiving and responding to complaints from citizens as resources allow. Incoming calls go into the Alameda County Public Works Agency dispatch office where they generate a work order. Depending on the nature of the call either an illicit discharge inspector or County's M&O staffs will follow through with clean-up and abatement and enforcement (coordinating with County Code Enforcement

Enhanced Level of Implementation

Alameda County has implemented and/or will implement the following enhanced anti-littering and illegal dumping enforcement control measures [prior to July 1, 2014].

The County has an active anti-littering and illegal dumping enforcement program that includes:

- Thorough investigations of complaints received from an illegal dumping hotline;
- The implementation of enforcement procedures including citations (as warranted); and,
- The collection of evidence (e.g., names, addresses, etc.) from illegal dump sites (i.e., public and private) in an attempt to identify offenders;
- Use of Surveillance Cameras – Installation and use of surveillance cameras to deter and prosecute illegal dumping at high priority sites identified within the County's jurisdictional area.
- Use of Physical Barriers or Improvements –Installation of physical barriers (e.g., fences, walls) or physical improvements (e.g., maintenance) which eliminate or deter illegal dumping at high priority sites identified within the County's jurisdictional area.

The County will do a comprehensive assessment of PWA's anti-littering and illegal dumping program to ensure its functionality and viability.

Percent Reduction from Enhancements

Alameda County will receive a five percent reduction credit for implementing specific enhanced control measures described in *Description of Enhanced Level of Implementation* section above. The five percent reduction credit will be applied to the baseline trash load to urban creeks from the municipal separate storm sewer system (MS4) owned and operated by Alameda County. This percent reduction credit was obtained from the *Trash Load Reduction Tracking Method Report* (BASMAA 2011e) and is presented in the Trash Load Reduction Summary Table included in Section 5.

QF-1: Enhanced On-Land Trash Cleanups (Volunteers and/or Municipal)

On-land cleanups conducted by Permittees and volunteers have been successful in removing trash from identified trash hot spots and engaging local citizenry in improving their communities. Permittees have several programs in place to address on-land trash. Municipal efforts relate to ongoing beautification of impacted areas and coordination of cleanup events. Volunteer on-land cleanups involve the meeting of individuals, creek and watershed groups, civic organizations, businesses and others at designated or adopted on-land sites to remove trash. On-land trash cleanups are conducted as single-day or throughout the year.

Baseline Level of Implementation

Alameda County implements several on-land trash clean-up activities. These control measures are considered baseline because they were accounted for in the preliminary trash generation rates established through the BASMAA *Baseline Trash Loading Rates Project*. New or enhanced actions that began or are planned to begin after to the effective date of the MRP are described under the next section.

Enhanced Level of Implementation

Prior to July 1, 2014, the Alameda County will evaluate baseline levels of “on-land” trash clean-up activities and consider “on-land” trash clean-up efforts in future trash reduction strategies.

QF-2: Enhanced Street Sweeping

Street sweeping is conducted by most, if not all, Bay Area municipalities to remove trash and debris that collect in the gutters at the edge of streets. Parked cars and large storms that produce significant runoff can impact the effectiveness of street sweepers. However, increasing parking enforcement or more frequent street sweeping (as compared to the frequency of storm events) may increase the trash load reduced to MS4s. Permittees who choose to enhance street sweeping may do so to demonstrate trash load reductions to their MS4s and progress towards trash load reduction goals required by the MRP.

Baseline Level of Implementation

The baseline trash load described in Section 2.0 incorporates the trash load reductions due to baseline street sweeping. Alameda County's baseline street sweeping program includes sweeping at a frequency of one time per month on average in retail areas and one times per month on average in all other areas.

The County of Alameda's baseline and current street sweeping program includes sweeping most streets within the communities of Castro Valley, San Lorenzo, Ashland, Cherryland, Fairview, and Dougherty once per month. The community of Ashland is swept twice a month.

Posting of parking enforcement signs for street sweeping occurs throughout the community of Ashland and about one quarter of the community of San Lorenzo. No other communities have parking enforcement signs for street sweeping. The estimated trash load reduced via baseline street sweeping is presented in Table 2-3.

Enhanced Level of Implementation

Enhancements to street sweeping frequencies and parking enforcement (or equivalent measures) control measures will be used to calculate loads reduced from enhanced street sweeping, consistent with the trash load reduction tracking method (BASMAA 2011b). A list of planned enhancements is included in Table QF-3-1 and illustrated in Figure QF-3-1. Enhancements include:

Alameda County will sweep the three main commercial retail/whole sale areas where load rates are high on a weekly basis. Sweeping will be done in the late night/early morning hours while cars are not parked on these streets and there is little road use.

Percent Reduction from Enhancements

The total estimated annual volume of trash that will be reduced by July 1, 2014 as a result of enhanced street sweeping is 2,262 cubic feet. As described in Trash Load Reduction Summary Table included in Section 5, this volume is equal to approximately a 4.5 percent reduction in the baseline trash load to urban creeks from the municipal separate storm sewer system (MS4) owned and operated by Alameda County.

Table QF-3-1. Planned enhanced street sweeping program in the Alameda County Unincorporated Area

Route ID	Approximate Length Swept (curb miles)	Baseline		Enhanced	
		Frequency	Parking Enforcement	Frequency	Parking Enforcement
Hesperian Blvd; San Lorenzo	8	Monthly	No	Weekly	Yes
Castro Valley Blvd; Castro Valley	9	Monthly	No	Weekly	Yes
Redwood Road; Castro Valley	33	Monthly	No	Weekly	Yes

QF-5: Full-Capture Treatment Devices

As defined by the Municipal Regional Stormwater Permit (MRP), a full-capture system or device is any single device or series of devices that traps all particles retained by a 5 mm mesh screen and has a design treatment capacity of not less than the peak flow rate (Q) resulting from a one-year, one-hour, storm in the sub-drainage area. A list of the full-capture systems and devices recognized by the San Francisco Bay Regional Water Quality Control Board (Water Board) is included in *Trash Load Reduction Tracking Method Report* (BASMAA 2011e). Trash loads reduced via publically or privately owned and operated devices within a Permittee's jurisdictional area that have been recognized by the Water Board as full-capture may be used to demonstrate attainment of trash load reduction goals.

Baseline Level of Implementation

Prior to adoption of the MRP, some Permittees installed and maintained full capture devices. To avoid penalizing these early implementers, an applicable control measure implemented within a Permittee's jurisdictional area prior to the effective date of the MRP will be credited equally to a control measure implemented after the effective date. Therefore, the baseline level of implementation is no trash full-capture devices have been installed.

Enhanced Level of Implementation

At least one trash full-capture treatment devices will be installed in the Alameda County Unincorporated Area prior to July 1, 2014. The device is included in Table QF-6-1. All devices listed within this table are enhanced trash control measures. Table QF-6-1 also includes the area treated and the calculated trash load reduced from the full-capture treatment device. These calculations are consistent with the approach described in the *Trash Load Reduction Tracking Method Report* (BASMAA 2012b).

Percent Reduction from Enhancements

The total estimated annual volume of trash that will be reduced by July 1, 2014 as a result of implementing full capture devices is 2,876 gallons/year. This volume is equal to approximately a 6.3 percent reduction in the baseline trash load to urban creeks from the municipal separate storm sewer system (MS4) owned and operated by Alameda County. Both values provided within this section are included in Trash Load Reduction Summary Table included in Section 5.

Table QF-5-1. Trash full-capture treatment devices within the jurisdictional boundaries of the Alameda County Unincorporated Area that are planned for installation by July 1, 2014

Device ID	Public or Private	Device Name	Location (Cross Streets)	Installation Date/Anticipated Installation Date	Total Area Treated (acres)	Trash Load Reduced (gallons/year)
1	Public	Storm Flo Screen or GSRD (Roscoe Moss)	Bochman Canal/Via Catherine	Prior to 11/1/2012	960	2,876

QF-6: Creek/Channel/Shoreline Cleanups

Creek/channel/shoreline cleanups have been successful in removing large amounts of trash from San Francisco Bay area creeks and waterways; and increasing citizen's awareness of trash issues within their communities. Creek/channel/shoreline cleanups are conducted as single-day events or throughout the year by volunteers and municipal agencies. Since volunteers and municipal agencies have the common goal of clean creeks and waterways, their efforts sometimes overlap. This is apparent with some municipal agencies using volunteers to help assess and clean designated trash hot spots during single-day volunteer events.

Baseline Level of Implementation

Trash reduced via creek/channel/shoreline cleanups was not accounted for in Alameda County's baseline trash load described in Section 2.0. Therefore, implementation of any of the control measures described in this section is considered to be an enhancement and can be used to demonstrate progress towards load reduction goals.

Enhanced Level of Implementation

Prior to July 1, 2014, Alameda County will conduct MRP-required⁴ and the following non MRP-required creek/channel/shoreline cleanups⁵ listed below. Both types of cleanups will be conducted each year and the volume of trash removed will be tracked to demonstrate trash loads reduced.

Alameda County will evaluate baseline levels of Creek/channel/ shoreline trash clean-up activities and consider Creek/channel/shoreline trash clean-up efforts in future trash reduction strategies.

⁴ Creek/channel/shoreline cleanups conducted in accordance with Permit Provision C.10.b.

⁶All "other" creek/channel/shoreline cleanups conducted by a municipality that are not required by Provision C.10.b.

5.0 SUMMARY OF TRASH CONTROL MEASURE ENHANCEMENTS

Alameda County is committed to reducing the potential for trash impacts in local water bodies in the San Francisco Bay Area. The planned enhanced trash control measures described in Section 3.0 are also listed in Table 4-1. The enhancements are intended to comply with the 40% trash load reduction goal in MRP provision C.10.

Table 5-1. Planned enhanced trash control measure implementation within the jurisdictional boundaries of the Alameda County Unincorporated Area and associated trash loads reduced.

Trash Control Measure	Summary Description of Control Measure	% Reduction (Credits)	Trash Load Reduced Gal/year	Cumulative % Reduction (Compared to Baseline)
Single-use Carryout Plastic Bag Ordinance (CR-1)	Adopted Countywide Ordinance	10	4,554	10
Polystyrene Foam Food Service Ware Ban (CR-2)	Implement policy prohibiting at County events/events on Property	2	911	12
Public Education and Outreach Programs (CR-3)	Fully implement all enhancement activities	8	3643	20
Activities to Reduce Trash from Uncovered Loads (CR-4)	Ordinance and enhance enforcement program	5	2,277	25
Anti-Littering and Illegal Dumping Enforcement Activities (CR-5)	Investigation and enforcement, use of surveillance cameras, placement of barriers	5	2,277	30
Improved Trash Bin/Container Management (Municipally or Privately-Controlled) (CR-6)	n/a	0	0	30
Single-Use Food and Beverage Ware Ordinance (CR-7)	n/a	0	0	30
Enhanced On-land Trash Cleanups (Volunteer and/or Municipal) (QF-1)	n/a	NA	0	30
Enhanced Street Sweeping (QF-2) – (Existing and Future Enhanced)	Increase frequency in high retail/wholesale areas Parking enforcement equivalent	NA	2,262	35
Curb Inlet Screens (Partial-capture Treatment Device) (QF-3a)	n/a	NA	0	35
Enhanced Storm Drain Inlet Maintenance (QF-4)	n/a	NA	0	35
Full-capture Treatment Devices (QF-5)	One large device with estimated drainage area of 960 acres	NA	2,876	41.3
Enhanced Pump Station Trash Rack Cleaning	n/a	NA	0	41.3
Litter Booms (Partial-capture Treatment Device) (QF-3c)	n/a	NA	0	41.3
Creek/Chan/Shoreline Cleanups (Volunteer and/or Municipal) (QF-6)	n/a	NA	0	41.3

5.1 Annual Reporting and Progress Toward Trash Load Reduction Goal(s)

Consistent with MRP Provision C.10.d (i), Alameda County intends to report on progress towards MRP trash load reduction goals on an annual basis beginning with the Fiscal Year 2011-2012 Annual Report. Annual reports will include:

1. A brief summary of all enhanced trash load reduction control measures implemented to-date;
2. The dominant types of trash likely removed via these control measures;
3. Total trash loads removed (credits and quantifications) via each control measure implementation; and
4. A summary of progress towards trash load reduction goals.

Similar to other MRP provision, annual reporting formats will be consistent region-wide. Annual reports are intended to provide a summary of control measure implementation and assess progress toward MRP trash reduction goals. For more detailed information on specific control measures, Alameda County will retain supporting documentation on trash load reduction control measure implementation. These records should have a level of specificity consistent with the trash load reduction tracking methods described in the *BASMAA Trash Load Reduction Tracking Method Technical Report* (BASMAA 2011e).

5.2 Considerations of Uncertainties

Baseline trash loading and load reduction estimates are based on the best available information at the time this Short-Term Plan was developed. As with any stormwater loading and reduction estimate, a number of assumptions were used during calculations and therefore uncertainty is inherent in the baseline trash load estimate presented in Section 2.0 and the load reduction estimate presented in this section. For these reasons, the baseline loading estimates presented in this plan should be considered first-order estimates. During the implementation of this Short-Term Plan and subsequent plans, additional information may become available to allow the calculation of a more robust baseline load.

6.0 IMPLEMENTATION SCHEDULE

Implementation of enhanced trash control measures by the Alameda County is currently planned to occur in a timeframe consistent with MRP requirements. A preliminary implementation schedule for all planned enhancements is described in Table 5-1. This schedule provides a timeframe for reducing trash discharged from Alameda County's MS4 by 40%.

Based on new information that becomes available during the implementation of this Short-Term Plan (e.g., revisions to baseline loading estimates or load reduction credits of quantification formulas, etc), or if circumstances arise during implementation of the Plan that were not anticipated at the time of submission, Alameda County may choose to amend or revise this Plan and/or the associated implementation schedule. If revisions or amendments occur, a revised Short-Term Plan and implementation schedule will be submitted to the Water Board via Alameda County's annual reporting process.

Table 6-1: Preliminary implementation schedule for enhanced trash control measures in the Alameda County Unincorporated Area.

Trash Control Measure	Beginning Date of Implementation
Single-use Carryout Plastic Bag Ordinance (CR-1)	January 2013
Polystyrene Foam Food Service Ware Ban (CR-2)	Prior to July, 2014
Public Education and Outreach Programs (CR-3)	Current and ongoing
Activities to Reduce Trash from Uncovered Loads (CR-4)	Currently Require hauler Enforce enhancement prior to July 2014
Anti-Littering and Illegal Dumping Enforcement Activities (CR-5)	Activities current Assessment and needed changes implemented by prior to July 2014
Improved Trash Bin/Container Management (Municipally or Privately-Controlled) (CR-6)	n/a
Single-Use Food and Beverage Ware Ordinance (CR-7)	n/a
On-land Trash Cleanups (Volunteer and/or Municipal) (QF-1)	n/a
Enhanced Street Sweeping (QF-2)	February 2012
Curb Inlet Screens (Partial-capture Treatment Device) (QF-3a)	n/a
Enhanced Storm Drain Inlet Maintenance (QF-4)	n/a
Full-capture Treatment Devices (QF-5)	November 2012
Enhanced Pump Station Trash Rack Cleaning (Partial-capture Treatment Device) (QF-3b)	n/a
Litter Booms (Partial-capture Treatment Device) (QF-3c)	n/a
Creek/Channel/Shoreline Cleanups (Volunteer and/or Municipal) (QF-6)	n/a

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