



CITY OF NEWARK, CALIFORNIA

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February 1, 2012

Mr. Bruce Wolfe
Executive Officer
California Regional Water Quality Control Board,
San Francisco Bay Region
1515 Clay St., Suite 1400
Oakland, CA 94612

RE: CITY OF NEWARK BASELINE TRASH LOAD AND SHORT-TERM TRASH
LOAD REDUCTION PLAN

Dear Mr. Wolfe:

Enclosed is the City of Newark's Baseline Trash Load and Short-Term Trash Load Reduction Plan as required under Provisions C.10.a(i) and C.10.a(ii) of the Municipal Regional Stormwater NPDES Permit No. CAS612008, Order R2-2009-0074.

I certify, under penalty of law, that this document and all attachments were prepared under my direction or supervision, or were prepared by consultants of the Alameda Countywide Clean Water Program, 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.

If you have any questions or comments regarding this submittal, or require further information, please contact me by telephone at (510) 578-4286 or by email at soren.fajeau@newark.org.

Sincerely,

SOREN FAJEAU, P.E.
Senior Civil Engineer/Stormwater Program Manager

Enclosures



CITY OF NEWARK, CALIFORNIA

37101 Newark Boulevard • Newark, California 94560-3796 • (510) 578-4000 • FAX (510) 578-4306

September 1, 2010

Mr. Bruce Wolfe
Executive Officer
California Regional Water Quality Control Board,
San Francisco Bay Region
1515 Clay St., Suite 1400
Oakland, CA 94612

**SUBJECT: SIGNATORY AUTHORITY AND CLEAN WATER PROGRAM
MANAGEMENT COMMITTEE REPRESENTATIVE**

Dear Mr. Wolfe:

Please be advised that Peggy Claassen, Public Works Director, and Soren Fajeau, Senior Civil Engineer, are duly authorized to sign all reports, certifications or other submittals required by the Regional Water Board and the Municipal Regional Stormwater Permit (NPDES Permit No. CAS612008 as may be amended, revised or reissued) on behalf of the City of Newark.

Soren Fajeau, Senior Civil Engineer, and Michael Carmen, Assistant Engineer are designated as the primary and alternate representatives respectively to the Alameda Countywide Clean Water Program Management Committee. This designation is made pursuant to the Agreement to Implement the Alameda Countywide Clean Water Program.

If you have any questions, Mr. Fajeau can be reached by telephone at (510) 578-4286 or by email at soren.fajeau@newark.org. and Mr. Carmen can be reached by telephone at (510) 578-4320 or by email at michael.carmen@newark.org.

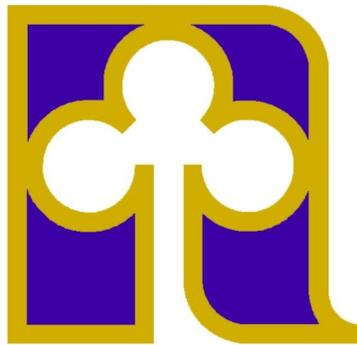
Sincerely,

JOHN BECKER
City Manager

cc: Jim Scanlin, ACCWP

City of Newark

Baseline Trash Load and Short-Term Trash Load Reduction Plan



Submitted by:

City of Newark

37101 Newark Boulevard

Newark, CA 94560

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

FEBRUARY 1, 2012

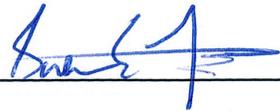
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**CITY OF NEWARK
SHORT-TERM TRASH LOAD REDUCTION PLAN**

CERTIFICATION STATEMENT

"I certify, under penalty of law, that this document and all attachments were prepared under my direction or supervision, or were prepared by consultants of the Alameda Countywide Clean Water Program, 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:



Soren Fajeau, P.E.
Senior Civil Engineer

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, the City of Newark 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 City of Newark'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 minimum 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 City of Newark 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 2012).

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 2011e).

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 that were not anticipated at the time of

this submission, the City of Newark 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 City of Newark’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

Note: Tables and information presented in this section are subject to change based on the results of a third monitoring event of the BASMAA Baseline Trash Loading Rates Project. Therefore, this section of the Short-Term Plan may be updated with revised trash generation rates, baseline loading rates, and baseline loads.

This section provides the estimated annual trash baseline load from the City of Newark's Municipal Separate Storm Sewer System (MS4). In compliance with Provision C.10.a.ii of the MRP, the City of Newark worked collaboratively with other MRP Permittees through BASMAA to develop data and the process necessary to establish baseline trash loading estimate from our MS4. The collaborative project was managed through the BASMAA Trash Committee and included a series of steps described in BASMAA (2012) 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 MS4s, while acknowledging that uncertainty in trash loads still exists. The approach entailed the following steps:

1. Conduct literature review;
2. Develop conceptual model;
3. Develop and implement sampling and analysis plan;
4. Test conceptual model;
5. Develop and apply default trash **generation rates** to Permittee effective loading areas;
6. Adjust default trash generation rates based on baseline levels of control measure implementation by the Permittee to develop trash **baseline loading rates**; and,
7. Calculate Permittee-specific annual trash **baseline load**.

Through the collaborative BASMAA project, default baseline trash generation rates (volume per area) 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 effective loading areas in applicable jurisdictional areas within the City of Newark. Trash generation rates were then adjusted based on baseline street sweeping, storm drain inlet maintenance, and stormwater pump station maintenance conducted in each applicable area. The sum of the trash loads (i.e., rate multiplied by area) from each effective loading area represents the City of Newark's baseline trash load from its MS4. A full description of the methods by which trash baseline loads were developed is included in BASMAA (2012a) and is summarized below.

Permittee Characteristics

Incorporated in 1955, the City of Newark covers 9,009 acres in Alameda County, and has a jurisdictional area of 4,498 acres. According to the 2010 Census, it has a population of 42,573, with a population density of 3,068.3 people per square mile, and average household size of 3.27. Of the 42,573 who call the City of Newark home, 25.4% are under the age of 18, 9.0% are between 18 and 24, 29.8% are between 25 and 44, 25.2% are between 45 and 65, and 10.6% are 65 or older.

Top employers in the City of Newark include Newark Unified School District, WorldPac, FullBloom Baking Company, Risk Management Solutions, SMART Modular Technologies, and Cargill Salt. The median household income was \$69,350 in 2000¹.

Default Trash Generation Rates (Regional Approach)

A set of default trash generation rates was 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 Loading 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 (Winter 2011/12), this section of the Short-Term Plan may 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 Annual Trash Generation Rates by Land Use Category.

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

Jurisdictional and Effective Loading Areas

Default trash baseline generation rates presented in Table 2-1 were applied to effective loading areas with **jurisdictional areas** within the City of Newark. The City of Newark’s jurisdictional areas includes all urban land areas within the City of Newark boundaries that are subject to the requirements in the MRP. Land use areas identified by the ABAG 2005 land use dataset and Permittee knowledge that were not included within the City’s jurisdictional areas include:

- Federal and State of California Facilities and Roads (e.g., Interstates, State Highways, Military Bases, Prisons);
- Roads Owned and Maintained by Alameda County;

¹ From the 2000 Census. The median household income for the City of Newark from the 2010 Census is not currently available.

- Colleges and Universities (Private or Public);
- Non-urban Land Uses (e.g., agriculture, forest, rangeland, open space, wetlands, water);
- Communication or Power Facilities (e.g., PG & E Substations);
- Water and Wastewater Treatment Facilities; and
- Other Transportation Facilities (e.g., airports, railroads, and maritime shipping ports).

Once the City of Newark’s jurisdictional area was delineated, an effective trash loading area was developed by creating a 200-foot buffer around all streets within the City’s jurisdictional area. The purpose of the effective loading area is to eliminate land areas not directly contributing trash to the City’s MS4 (e.g., large backyards and rooftops). Both the jurisdictional and the effective loading areas for the City of Newark are presented in Table 2-2. Please note that this estimate was based on the best information available at the time the estimate was developed, but certain inaccuracies in the land use data have been noted that will be corrected and resubmitted in September with the City of Newark’s annual report. The discrepancies are primarily associated with residential areas that should be categorized as low density instead of high density.

Table 2-2: Jurisdictional Areas and Effective Loading Areas in the City of Newark by Land Use Classes Identified by ABAG (2005).

Land Use Category	Jurisdictional Area (Acres)	Effective Loading Area (Acres)	% of Effective Loading Area
High Density Residential	510	479	14
Low Density Residential	1,893	1,841	54
Rural Residential	32	30	1
Commercial and Services/ Heavy, Light and Other Industrial	1,343	627	18
Retail and Wholesale	364	233	7
K-12 Schools	222	106	3
Urban Parks	135	88	3
TOTAL	4,498	3,404	100%

Permittee-Specific Baseline Trash Loading Rates

Regional default trash generation rates developed through the BASMAA regional collaborative project were applied to effective loading areas within the City of Newark based on identified 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 implemented by the City. These adjustments were conducted in GIS due to the site specificity of baseline generation rates and baseline control measure implementation. The following sections describe the baseline level of implementation for these three control measures. A summary of trash baseline generation and loading rates for the City of Newark are provided in Table 2-3 and areas associated with these rates are illustrated in Figure 2-1.

Baseline Street Sweeping

A "baseline" street sweeping program is defined as the sweeping frequency and parking enforcement implemented by the City of Newark 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 City of Newark's baseline and current street sweeping program includes sweeping all residential streets within in the City once per month, and sweeping arterial streets and retail areas twice per month.

The City of Newark does not have any parking enforcement signs for street sweeping, but parking enforcement equivalent exists on most arterial roads. The estimated trash load reduced via baseline street sweeping is presented in Table 2-3.

Baseline Storm Drain Inlet Maintenance

Within the City, 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 City of Newark has an annual effectiveness rating of 5%. The estimated trash load reduced via baseline storm drain inlet maintenance is presented in Table 2-3.

Baseline Stormwater Pump Station Maintenance

The City of Newark owns and maintains one stormwater pump station. This station has trash racks that capture trash and allow for removal during maintenance. The estimated volume of trash removed annually from this pump station prior to the effective date of the MRP is considered the baseline level of implementation. To determine the baseline volume of trash removed from pump stations, an effectiveness rating of 25% removal of the baseline trash load attributable to the area draining to the pump station is assumed. This effectiveness rating is based on methods developed in BASMAA (2012b). The estimated trash load reduced via baseline pump station maintenance is presented in Table 2-3.

Baseline Trash Loading Estimate

The estimated baseline trash load from the City of Newark was calculated as the sum of the loads from the City's effective loading area, adjusted for baseline implementation of street sweeping, storm drain inlet maintenance, and pump station maintenance. The preliminary annual trash baseline load for the City of Newark is presented in Table 2-3. Preliminary baseline trash loading rates are presented in Figure 2-1 to provide a geographical illustration of areas with estimated low, moderate, high and very high trash loading rates.

Table 2-3: Preliminary Annual Trash Baseline Load for the City of Newark.

Category	Annual Load (gallons)
Preliminary Generation Trash Load	23,478
Load Removed via Baseline Street Sweeping	7,922
Load Removed via Baseline Storm Drain Inlet Maintenance	778
Load Removed via Baseline Stormwater Pump Station Maintenance	29
Preliminary Trash Baseline Load	14,749

3.0 LOAD REDUCTION CALCULATION PROCESS

Using the guiding principles and assumptions described BASMAA (2012b), 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.³ 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.

³ 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".

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).

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 by the City of Newark. The enhanced control measures described are designed to reach a minimum 40% reduction by July 1, 2014. New and enhanced control measures that will be implemented by the City of Newark include those listed in Table 4-1.

Table 4-1. Trash control measures that will be implemented by the City of Newark to reach the minimum 40% trash load reduction.

Control Measure
Single-use Carryout Plastic Bag Ordinances, CR-1
Public Education and Outreach Programs, CR-3
Activities to Reduce Trash from Uncovered Loads, CR-4
Full-Capture Treatment Devices, QF-5

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 (ACWMA or 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. The City of Newark 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 Enhancements

The City of Newark will receive a ten (10%) percent reduction credit for implementing specific enhanced control measures described in Enhanced Level of Implementation section above. The ten (10%) percent reduction credit will be applied to the City of Newark's baseline trash load. This percent reduction credit is consistent with methods presented in the BASMAA (2012b) for the following tiers of retail outlets:

- Large Supermarkets – 8%
- Retailers that sell Packaged Food – 2%

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.

The City of Newark is not proposing an enhanced level of implementation at this time. However, the City may consider potential future enhancements such as prohibiting food vendors from distributing polystyrene foam ware at City-sponsored events or on City-owned property, or prohibiting the use of polystyrene ware altogether as part of a statewide, regional, or countywide action.

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

The City of Newark implemented the following public education and outreach control measures prior to the effective date of the MRP.

Media Campaigns

The City of Newark participated in an Alameda County 2011 Used Oil Recycling Media Campaign with many other local jurisdictions. This campaign ran from May 16th to June 12th, 2011 and consisted of outdoor advertising, radio advertisements, and a cell phone texting service for oil recycling drop-off locations. Advertisements were also placed in the Valley Yellow Pages identifying the locations of local certified oil recyclers. The City provides a continuous radio broadcast on 1610 AM related to stormwater pollution prevention for residents and businesses that runs 24 hours per day, 7 days per week.

Public Outreach

The City's Stormwater Program participates in a minimum of 4 public outreach events annually to satisfy Provision C.7.e of the MRP. These typically include participation at the Alameda County Fair for the Clean Water Program exhibit, the City's Community Resource Fair, the Newark Days Information Faire, and a combination of smaller public outreach events including Farmer's Markets, volunteer clean-up days, and holiday pancake feeds.

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

The City of Newark will implement the following public education and outreach control measures prior to July 1, 2014.

Litter Reduction Advertising Campaigns

BASMAA Youth Outreach Campaign (Regional)

Through participation and funding of the regional **BASMAA Youth Outreach Campaign** the City of Newark 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 campaigns (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.

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 City of Newark plans to implement this control measure through participation in the Countywide Program, but is not seeking credit for reduction at this time.

Media Relations

BASMAA Regional Media Relations Project (Regional)

Through participation and funding of the **BASMAA Regional Media Relations Project**, the City of Newark 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.

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 City of Newark plans to use the Litter Outreach kit at as many events per year as possible. However, the City is not seeking

Percent Reduction from Enhancements

The City of Newark will receive a total of four percent (4%) 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 *Trash Load Reduction Tracking Method*:

- Litter Reduction Advertising Campaigns – 3%
- Outreach to School-age Children or Youth – 0 %
- Media Relations – 1%
- Community Outreach Events – 0 %

These four percent (4%) reduction credits will be applied against the City of Newark’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.

The City of Newark may evaluate increased outreach to school-age children and focused community outreach events for increased trash reduction efforts in the future.

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 escapes⁴, 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 the City of Newark had 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 City of Newark implemented the following enhanced control measures to reduce trash from vehicles with uncovered loads prior to adoption of the MRP. Pursuant to Chapter 8.04.170 of the Newark Municipal Code, any garbage hauled on public streets must be enclosed in a watertight, leak-proof, insect-proof, and rodent-proof container having in place a tight-fitting cover so as to prevent, leakage, spill or overflow and must be hauled by a person who has been issued a permit for such hauling from the county health officer. These requirements are extended to all municipally-contracted trash haulers and on all construction contracts involving debris hauling. This portion of the Newark Municipal Code and related sections of the California Vehicle Code are enforced by the Newark Police Department. There are currently no municipal or privately-owned landfills or transfer stations within Newark city limits.

Percent Reduction from Enhancements

The City of Newark will receive a one percent (1%) reduction credit for previously implementing the specific enhanced control measures described in the *Enhanced Level of Implementation* section above. The one percent (1%) 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 the City of Newark. This percent reduction credit was obtained from the *Trash Load Reduction Tracking Method Report* (BASMAA 2012b) and is presented in the Trash Load Reduction Summary Table included in Section 4.

⁴ 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.

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 the City of has adopted a basic anti-littering and illegal dumping enforcement program that entails receiving and responding to complaints from citizens as resources allow. Complaints and reports of dumping within public rights-of-way and City-owned property are dealt with on a regular basis by the City's Maintenance Division and there has been a noticeable increase in dumping in the last several years. Crews remove and dispose of this material, as resources allow, some of which has the potential to migrate to the storm drain system.

The City of Newark is not proposing an enhanced level of implementation at this time, but will evaluate potential future enhancements as an additional control measure for required future reductions. This may include increased enforcement and investigation of dumping, use of surveillance cameras, and installation of physical barriers to minimize access to potential dumping sites.

CR-6: Improved Trash Bin/Container Management

Receptacles used to place/store trash or recyclables prior to collection by a public agency or private waste hauler reduce the potential for littering and trash loading to stormwater conveyance systems and receiving waters (City of Los Angeles 2004). For the purposes of assigning trash load reduction credits, receptacles fall into the following two categories:

- **Private Trash/Recycling Bins:** A receptacle for placing trash or recyclables generated from a household, business, or other location that is serviced by a trash hauler. Bins are specifically-designed, heavy-duty plastic wheeled containers with hinged lids; or large multi-yard metal or plastic containers rectangular in shape.
- **Public Area Trash Containers:** A receptacle for placing incidental trash generated in public spaces that provides people with a convenient and appropriate place to dispose of trash. The design and size of public area trash containers vary widely, depending on their setting and use.

The effectiveness of bins/containers and bins in reducing trash in the environment is likely dependent upon: the location and density of the receptacles, size of the bin/container in relationship to the size needed to service users, frequency of maintenance, and the ability of the bin/container to capture and contain the trash deposited.

Baseline Level of Implementation

The baseline trash load described in Section 2.0, assumes that the City of Newark has not implemented enhanced trash bin/container management practices prior to effective date of the MRP.

The City of Newark is not proposing an enhanced level of implementation at this time, but will evaluate potential future enhancements as an additional control measure for required future reductions. These enhancements may include a program that ensures adequate sizing of private trash services and implementation of a strategic plan for public area trash containers.

CR-7: Single-Use Food and Beverage Ware Ordinance(s)

Single-use food and beverage ware have been found to contribute substantially to the litter stream (City of Oxnard 2004, City of San Francisco 2008, City of San Jose 2009, Clean Water Action 2011) and can cause adverse environmental impacts throughout their lifecycles (Ackerman 1997, Alliance for Environmental Innovation 2000, EPA 2009). Due to the magnitude of food and beverage packaging litter emanating from commercial business districts, many California municipalities have taken action to eliminate the distribution of certain types of single-use beverage and food ware (e.g., polystyrene foam) and this control expands these actions to all single-use food and/or beverage ware.

Baseline Level of Implementation

Prior to adoption of the MRP, no agencies within the Bay area have enacted ordinances related to all types of single-use food and beverage ware. Therefore, the baseline level of implementation is not applicable for this control measure.

The City of Newark is not proposing an enhanced level of implementation at this time, but will evaluate potential future enhancements as an additional control measure for required future reductions. This may include adoption of an ordinance to require food establishments to offer a discount to consumers who utilize re-usable containers and a fee for single-use containers

QF-1: Enhanced On-Land Trash Cleanups (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

The City of Newark implemented the following on-land cleanup activities prior to the effective date of the MRP. The City's Maintenance Division removes and disposes dumped garbage from public rights-of-way and City-owned property on a regular basis, as resources allow. In 2010-2011, the City collected approximately 480 cubic yards of trash from City parks and streets. This is in addition to the approximate 826 cubic yards of removal through street sweeping activities. Activities include regularly scheduled trash pick-up from City parks and removal of trash from illegal dumping areas. This sometimes includes homeless encampment removals. The City's Code Enforcement Division of the Community Development Department also notifies private property owners when dumping occurs on their properties, again as resources allow. 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*.

The City of Newark is not proposing an enhanced level of implementation at this time, but will evaluate potential future enhancements to on-land trash cleanups for required future trash reductions using the approved quantitative formulas. These enhancements may include more rigorous illegal dump site response and abatement, enhanced scheduled litter pick-up and removal from City parks and other public areas, and potential volunteer-led trash removal efforts.

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. The City of Newark's baseline street sweeping program includes sweeping at a frequency of two (2) times per month on average on arterial streets and in retail areas and one (1) time per month on average in all other areas. The City of Newark does not implement parking enforcement specifically for street sweeping activities, but the majority of arterial street segments have no parking restrictions which are enforced by the Newark Police Department. This allows for street curb sweeping in the high-frequency sweeping areas.

Enhancements to street sweeping frequencies and parking enforcement (or equivalent measures) control measures are not being proposed at this time, but may be considered in the future. Any future additional control measures would be used to calculate loads reduced from enhanced street sweeping, consistent with the submitted trash load reduction tracking method (BASMAA 2012b).

QF-3: Partial-Capture Treatment Devices

Partial-capture devices are treatment devices that have not been approved as full-capture by the San Francisco Bay Regional Water Quality Control Board, but capture trash at a known effectiveness value. Partial-capture devices may be similar to full-capture devices, but do not meet the full capture definition due to engineering challenges; or they may be completely different types of devices. Partial-capture devices include curb inlet screens (e.g., automated retractable screens), litter booms/curtains and stormwater pump station track racks. Trash loads reduced via partial-capture devices within a Permittee's jurisdictional boundaries may be used to demonstrate attainment of trash load reduction goals.

Baseline Level of Implementation

Curb Inlet Screens and Litter Booms/Curtains

Prior to effective date of the MRP, some Permittees within the Bay area have installed and maintained curb inlet screens and litter booms/curtains. To avoid penalizing these early implementers, the 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. Furthermore, the trash load removed via these devices installed prior to the MRP is not accounted for in baseline trash loads. Therefore, the baseline level of implementation is not applicable for this control measure, as devices installed prior to the effective date of the MRP and associated loads reduced will be grandfathered in as enhanced measures.

Stormwater Pump Station Racks

Similar to the devices described above, some Permittees within the Bay area have installed and maintained trash racks on their stormwater pump stations. Existing pump station trash racks are assumed to remove roughly 25% of the trash that enters the pump station (BASMAA 2011e). The baseline trash load removed via these devices is accounted for in baseline trash loads. The City of Newark has one pump station equipped with trash racks that collects stormwater runoff from an approximate 17-acre catchment area. It is estimated that approximately 29 gallons of trash are removed annually as a result.

The City of Newark is not seeking credit for any additional partial-capture treatment devices at this time. The City does have several Continuous Deflective Separator (CDS) units installed and maintained within public streets. However, these devices are not equipped with the required 5mm screens for full capture. At some time in the future, the City may choose to replace the existing screens with appropriate screens in order to take full-capture credits. No other partial capture devices are being considered by the City of Newark at this time.

QF-4: Enhanced Storm Drain Inlet Maintenance

In accordance with countywide Stormwater Conveyance System Operation and Maintenance Performance Standards, storm drain inlets are maintained at least once per year by Permittees. Permittees who have enhanced storm drain inlet maintenance by increasing the frequency of cleanouts may use the load of trash reduced to MS4s to demonstrate attainment of trash load reduction goals required by the MRP.

Baseline Level of Implementation

The baseline trash load described in Section 2.0 assumes that the City of Newark currently maintains and removes material from storm drain inlets at least once per year. This baseline frequency is consistent with the frequency of storm drain inlet maintenance in the City of Newark prior to the effective date of the MRP.

The City of Newark does not plan to enhance storm drain inlet maintenance activities at this time, other than increased maintenance as necessary for the installation of full trash capture devices as described in the following section, QF-5. The need for enhanced inlet maintenance may be evaluated at a future date for potential quantitative formula reductions in trash loading.

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 2012b). 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

A total of 159 trash full-capture treatment devices will be installed in the City of Newark prior to July 1, 2014. All of these devices will be collector pipe screens from pre-approved manufacturers installed within existing storm drain inlets. It is anticipated that these installations will take place in two phases, the first of which is being funded by a grant from the Association of Bay Area Governments (ABAG) and administered by the San Francisco Estuary Partnership. The City of Newark will focus on installations in areas categorized as Retail/Wholesale (approximately 75% of initial phase installations). An additional phase will primarily focus on installations in high-density residential areas.

A list of these full-capture devices is included in Table QF-5-1. All devices listed within this table are enhanced trash control measures. Table QF-5-1 also includes an assigned device identification, the street and cross street associated with the existing inlet, and the anticipated date of installation. The average effective area treated by each collector screen in an inlet is estimated to be approximately 2.5 acres based on the City's total effective loading area of 3,404 acres and total of 1,372 storm drain inlets. The average trash level reduced per installation is estimated to be 29.8 gallons (4.0 cubic feet) annually. 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 634 cubic feet (4,744 gallons). This volume is equal to approximately a 32.2 percent reduction in the baseline trash load to urban creeks from the municipal separate storm sewer system (MS4) owned and operated by the City of Newark. 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 City of Newark that are planned for installation by July 1, 2014.

Device No.	Device ID	Location (Cross Streets)	Anticipated Installation Date
001	FC-1Nwk	Newark Blvd.(SR-84)	October 1, 2012
002	FC-2Nwk	Newark Blvd.(Jarvis Ave.)	October 1, 2012
003	FC-3Nwk	Newark Blvd. (Jarvis Ave.)	October 1, 2012
004	FC-4Nwk	Newark Blvd. (Jarvis Ave.)	October 1, 2012
005	FC-5Nwk	Newark Blvd. (Lido Faire)	October 1, 2012
006	FC-6Nwk	Newark Blvd. (Cedar Blvd.)	October 1, 2012
007	FC-7Nwk	Newark Blvd. (Cedar Blvd.)	October 1, 2012
008	FC-8Jar	Jarvis Ave. (Newark Blvd.)	October 1, 2012
009	FC-9Jar	Jarvis Ave. (Newark Blvd.)	October 1, 2012
010	FC-10Jar	Jarvis Ave. (Newark Blvd.)	October 1, 2012
011	FC-11Jar	Jarvis Ave. (Newark Blvd.)	October 1, 2012
012	FC-12Jar	Jarvis Ave. (Newark Blvd.)	October 1, 2012
013	FC-13Jar	Jarvis Ave. (Newark Blvd.)	October 1, 2012
014	FC-14Jar	Jarvis Ave. (Newark Blvd.)	October 1, 2012
015	FC-15Jar	Jarvis Ave. (Newark Blvd.)	October 1, 2012
016	FC-16Jar	Jarvis Ave. (Newark Blvd.)	October 1, 2012
017	FC-17Dum	Dumbarton Ct.	October 1, 2012
018	FC-18Dum	Dumbarton Ct.	October 1, 2012
019	FC-19Dum	Dumbarton Ct.	October 1, 2012
020	FC-20Lid	Lido Blvd.	October 1, 2012
021	FC-21Lid	Lido Blvd.	October 1, 2012
022	FC-22Lid	Lido Blvd.	October 1, 2012
023	FC-23Lid	Lido Blvd.	October 1, 2012
024	FC-24Lid	Lido Blvd.	October 1, 2012
025	FC-25Lid	Lido Court	October 1, 2012
026	FC-26Ced	Cedar Blvd.	October 1, 2012
027	HJ-1Jar	Jarvis Ave.	October 1, 2012
028	HJ-2Jar	Jarvis Ave.	October 1, 2012
029	HJ-3Hal	Haley St.	October 1, 2012
030	HJ-4Hal	Haley St.	October 1, 2012
031	OT-1Tho	Thornton Ave. (Cherry St.)	October 1, 2012
032	OT-2Chr	Cherry St. (Thornton Ave.)	October 1, 2012
033	OT-3Tho	Thornton Ave. (Cherry St.)	October 1, 2012
034	OT4-Tho	Thornton Ave. (Mulberry St.)	October 1, 2012
035	OT5-Tho	Thornton Ave. (Olive St.)	October 1, 2012

Table QF-5-1 (continued). Trash full-capture treatment devices within the jurisdictional boundaries of the City of Newark that are planned for installation by July 1, 2014.

Device No.	Device ID	Location (Cross Streets)	Anticipated Installation Date
036	OT6-Tho	Thornton Ave. (Olive St.)	October 1, 2012
037	OT7-Tho	Thornton Ave. (Olive St.)	October 1, 2012
038	OT8-Tho	Thornton Ave. (Mulberry St.)	October 1, 2012
039	OT9-Tho	Thornton Ave. (Mulberry St.)	October 1, 2012
040	OT10-Tho	Thornton Ave. (Sycamore St.)	October 1, 2012
041	OT11-Tho	Thornton Ave. (Sycamore St.)	October 1, 2012
042	OT12-Tho	Sycamore St. (Thornton Ave.)	October 1, 2012
043	OT13-Tho	Sycamore St. (Thornton Ave.)	October 1, 2012
044	OT-14-Tho	Thornton Ave. (UPRR)	October 1, 2012
045	OT-15Tho	Thornton Ave. (UPRR)	October 1, 2012
046	OT-16Tho	Thornton Ave. (Ash St.)	October 1, 2012
047	OT-17Tho	Thornton Ave. (Elm St.)	October 1, 2012
048	OT-18Tho	Thornton Ave. (Locust St.)	October 1, 2012
049	OT-19Tho	Thornton Ave. (Locust St.)	October 1, 2012
050	NP-1Ced	Cedar Blvd.	October 1, 2012
051	NP-2Ced	Cedar Blvd. (Birch St.)	October 1, 2012
052	NP-3Ced	Cedar Blvd. (Mowry Ave.)	October 1, 2012
053	NP-4Alp	Alpenrose Ct. (Mowry)	October 1, 2012
054	NP-5Alp	Alpenrose Ct. (Mowry)	October 1, 2012
055	NP-6Mow	Mowry Ave. (Newpark Entrance)	October 1, 2012
056	NP-7Mow	Mowry Ave. EB	October 1, 2012
057	NP-8Mow	Mowry Ave. WB	October 1, 2012
058	NP-9Ced	Cedar Blvd. (Mowry Ave.)	October 1, 2012
059	NP-10Ced	Cedar Blvd. (Mowry Ave.)	October 1, 2012
060	NP-11Ced	Cedar Blvd. (Mowry Ave.)	October 1, 2012
061	NP-12Ced	Cedar Blvd. (N. Mall Entrance)	October 1, 2012
062	NP-13Ced	Cedar Blvd. (N. Mall Entrance)	October 1, 2012
063	NP-14Ced	Cedar Blvd. (S. Mall Entrance)	October 1, 2012
064	NP-15Ced	Cedar Blvd. (S. Mall Entrance)	October 1, 2012
065	NP-16Ced	Cedar Blvd. (High School) NB	October 1, 2012
066	NP-17Bal	Cedar Blvd. (High School) SB	October 1, 2012
067	NP-18Ced	Cedar Blvd. (Joaquin Murrieta)	October 1, 2012
068	NP-19Ced	Cedar Blvd. (Joaquin Murrieta)	October 1, 2012
069	NP-20Ced	Cedar Blvd. NB	October 1, 2012
070	NP-21Ced	Cedar Blvd. SB	October 1, 2012

Table QF-5-1 (continued). Trash full-capture treatment devices within the jurisdictional boundaries of the City of Newark that are planned for installation by July 1, 2014.

Device No.	Device ID	Location (Cross Streets)	Anticipated Installation Date
071	NP-22Ced	Cedar Blvd. (Mowry School Rd.)	October 1, 2012
072	NP-23Ced	Cedar Blvd. (Mowry School Rd.)	October 1, 2012
073	NP-24Ced	Cedar Blvd. (Stevenson Blvd.)	October 1, 2012
074	NP-25Bal	Balentine Dr. (Mall Entrance)	October 1, 2012
075	NP-26Bal	Balentine Dr. (Mall Entrance)	October 1, 2012
076	NP-27Bal	Balentine Dr. (Mall Entrance)	October 1, 2012
077	NP-28Bal	Balentine Dr. (S of Mall Entrance)	October 1, 2012
078	NP-29Bal	Balentine Dr. (S of Mall Entrance)	October 1, 2012
079	NP-30Jmd	John Muir Drive (Balentine)	October 1, 2012
080	NP-31Jmd	John Muir Drive (Balentine)	October 1, 2012
081	NP-32Bal	Balentine N of MSR NB	October 1, 2012
082	NP-33Bal	Balentine N of MSR SB	October 1, 2012
083	NP-34Msr	Mowry School Rd. (Balentine)	October 1, 2012
084	NP-35Msr	Mowry School Rd. (Balentine)	October 1, 2012
085	NP-36Msr	Mowry School Rd. (Balentine)	October 1, 2012
086	NP-37Bal	Balentine Dr. S of MSR NB	October 1, 2012
087	NP-38Bal	Balentine Dr. S of MSR SB	October 1, 2012
088	NP-39Bal	Balentine Dr. N of Stevenson	October 1, 2012
089	NP-40Stv	Stevenson Blvd. (Cedar)	October 1, 2012
090	NP-41Msr	Mowry School Rd.	October 1, 2012
091	NP-42Jmr	John Muir Dr.	October 1, 2012
092	NP-43Jmr	John Muir Dr.	October 1, 2012
093	NP-44Bal	Balentine Dr. (Cedar)	October 1, 2012
094	JQ-1Jqm	Joaquin Murrieta (Cedar)	July 1, 2014
095	JQ-2Jqm	Joaquin Murrieta (Cedar)	July 1, 2014
096	JQ-3Jqm	Joaquin Murrieta W (Cedar)	July 1, 2014
097	JQ-4Jqm	Joaquin Murrieta W (Cedar)	July 1, 2014
098	JQ-5Jqm	Joaquin Murrieta mid-block (Cedar)	July 1, 2014
099	JQ-6Jqm	Joaquin Murrieta mid-block (Cedar)	July 1, 2014
100	JQ-7Jqm	Joaquin Murrieta E (Cherry)	July 1, 2014
101	JQ-8Jqm	Joaquin Murrieta E (Cherry)	July 1, 2014
102	JQ-9Jqm	Joaquin Murrieta (Cherry)	July 1, 2014
103	JQ-10Jqm	Joaquin Murrieta (Cherry)	July 1, 2014
104	JQ-11Chr	Cherry St. (Joaquin Murrieta)	July 1, 2014
105	JQ-12Chr	Cherry St. S (Joaquin Murrieta)	July 1, 2014

Table QF-5-1 (continued). Trash full-capture treatment devices within the jurisdictional boundaries of the City of Newark that are planned for installation by July 1, 2014.

Device No.	Device ID	Location (Cross Streets)	Anticipated Installation Date
106	JQ-13Chr	Cherry St. S (Joaquin Murrieta)	July 1, 2014
107	JQ-14Chr	Cherry St. (Buena Vista)	July 1, 2014
108	JQ-15Chr	Cherry St. (Buena Vista)	July 1, 2014
109	JQ-16Chr	Cherry St. (Stevenson)	July 1, 2014
110	JQ-17-Pot	Potrero Dr. (Buena Vista)	July 1, 2014
111	JQ-18-Pot	Potrero Dr. (Buena Vista)	July 1, 2014
112	JQ-19-Pot	Potrero Dr.	July 1, 2014
113	JQ-20-Pot	Potrero Dr	July 1, 2014
114	JQ-21-Pot	Potrero Dr.	July 1, 2014
115	JQ-22-Pot	Potrero Dr	July 1, 2014
116	JQ-23-Pot	Potrero Dr.	July 1, 2014
117	JQ-24-Pot	Potrero Dr	July 1, 2014
118	JQ-25-Pot	Potrero Dr.	July 1, 2014
119	JQ-26-Pot	Potrero Dr	July 1, 2014
120	JQ-27-Pot	Potrero Dr. (Parada)	July 1, 2014
121	JQ-28-Pot	Potrero Dr. (Parada)	July 1, 2014
122	JQ-29-Bnv	Parada (Potrero)	July 1, 2014
123	JQ-30-Bnv	Parada (Potrero)	July 1, 2014
124	JQ-31-Bnv	Parada (Buena Vista)	July 1, 2014
125	JQ-32-Bnv	Parada (Buena Vista)	July 1, 2014
126	JQ-33-Bnv	Buena Vista (Parada)	July 1, 2014
127	JQ-34-Bnv	Buena Vista	July 1, 2014
128	JQ-35-Bnv	Buena Vista	July 1, 2014
129	JQ-36-Bnv	Buena Vista (Stevenson)	July 1, 2014
130	JQ-37-Bnv	Buena Vista (Stevenson)	July 1, 2014
131	JQ-38-Ced	Cedar Blvd. (Stevenson)	July 1, 2014
132	JQ-39-Stv	Stevenson Blvd. (Cedar)	July 1, 2014
133	JQ-40-Bnv	Stevenson Blvd. (Cherry)	July 1, 2014
134	SW-1-Syc	Sycamore St. (Rich)	July 1, 2014
135	SW-2-Syc	Sycamore St. (Rich)	July 1, 2014
136	SW-3-Syc	Sycamore St. (Rich)	July 1, 2014
137	SW-4-Syc	Sycamore St. (Carter)	July 1, 2014
138	SW-5-Syc	Sycamore St. (Carter)	July 1, 2014
139	SW-6-Syc	Sycamore St. (Graham)	July 1, 2014
140	SW-7-Syc	Sycamore St. (Graham)	July 1, 2014

Table QF-5-1 (continued). Trash full-capture treatment devices within the jurisdictional boundaries of the City of Newark that are planned for installation by July 1, 2014.

Device No.	Device ID	Location (Cross Streets)	Anticipated Installation Date
141	SW-8-Car	Carter St. (T7005)	July 1, 2014
142	SW-9-Car	Carter St. (T7005)	July 1, 2014
143	SW-10-Snw	Snow Ave. (Ash)	July 1, 2014
144	SW-11-Ash	Ash St. (mid-block)	July 1, 2014
145	SW-12-Ash	Ash St. (mid-block)	July 1, 2014
146	SW-13-Oak	Oak St.(mid-block)	July 1, 2014
147	SW-14-Oak	Oak St. (mid-block)	July 1, 2014
148	SW-15-Oak	Oak St. (Wells) N	July 1, 2014
149	SW-16-Oak	Oak St. (Wells) N	July 1, 2014
150	SW-17-Oak	Oak St. (Wells) S	July 1, 2014
151	SW-18-Oak	Oak St. (Wells) S	July 1, 2014
152	SW-19-Wls	Wells Ave. (Ash)	July 1, 2014
153	SW-20-Wls	Wells Ave. (Ash)	July 1, 2014
154	SW-21-Wls	Wells Ave. (Elm) N	July 1, 2014
155	SW-22-Wls	Wells Ave. (Elm) N	July 1, 2014
156	SW-23-Wls	Wells Ave. (Elm) S	July 1, 2014
157	SW-24-Wls	Wells Ave. (Elm) S	July 1, 2014
158	SW-25-Wls	Wells Ave. (Locust – Elm)	July 1, 2014
159	SW-26-Wls	Wells Ave. (Locust – Elm)	July 1, 2014

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 the City of Newark'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.

The City of Newark is not seeking quantitative formula reductions in trash loading for any creek, channel, or shoreline cleanups at this time. The City of Newark is surrounded by the City of Fremont and does not have significant shoreline access. There are no natural creeks that run through Newark and all flood control channels within the City are maintained by the Alameda County Flood Control and Water Conservation District. The City of Newark did identify two trash hot spots within flood control channels and these are cleaned on at least an annual basis in accordance with Provision C.10.b.iii of the MRP.

There are no enhancements proposed at this time. However, the City of Newark may consider new clean-up events in the future that could potentially be City and volunteer collaborative activities, or limited to City-led activities.

5.0 SUMMARY OF TRASH CONTROL MEASURE ENHANCEMENTS

The City of Newark 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 5-1. The enhancements are intended to comply with the minimum 40% trash load reduction goal in MRP provision C.10.

Single-Use Carryout Plastic Bag Ordinance (CR-1). The City of Newark is not planning to opt out of the recently adopted Single-Use Bag Ban adopted by the Alameda County Waste Management Authority (ACWMA or StopWaste.org). The ordinance bans single-use bags at check out at retailers selling packaged food countywide. Recycled content paper or reusable bags may be provided but only if the retailer charges a minimum price of \$0.10 per bag. This countywide ordinance will significantly reduce the number bags that end up in local MS4s and downstream channels and creeks. All jurisdictions not opting out of this ordinance can take up to a ten percent (10%) reduction credit as previously detailed in Section 4.0, CR-1.

Public Education and Outreach Programs (CR-3). The City of Newark will receive a four percent (4%) reduction credit for participating in implementation of the regional Litter Reduction Advertising Campaigns (3%) and Media Relations (1%) through BASMAA and the Alameda Countywide Clean Water Program. These efforts are detailed in Section 4.0, CR-3. The City of Newark will also continue with efforts to Outreach to School-age Children through the existing countywide program, but is not seeking additional credit for reduction at this time. The City may evaluate increased school-age children outreach as well as focused community outreach events for additional trash reduction credits in the future.

Activities to Reduce Trash from Uncovered Loads (CR-4). The City of Newark previously adopted a local ordinance prohibiting the transfer of garbage in any uncovered vehicles. The requirements associated with this ordinance extend to all municipally-contracted waste haulers and construction contracts. The Newark Police Department enforces this portion of the Newark Municipal Code and related portions of the California Vehicle Code. These activities were not taken into consideration for the baseline loading and therefore the City is applying a one percent (1%) credit for trash reduction as further detailed in Section 4.0, CR-4.

Full-Capture Treatment Devices (TF-5). As describe in detail in Section 4.0, TF-5, the City of Newark will install 159 full-capture treatment devices prior to July 1, 2014. These devices will be connector pipe screens installed within existing storm drain inlets. All devices have been previously certified as full-capture devices by the Regional Water Quality Control Board – San Francisco Bay. These installations will take place in two phases, the first of which is under the Association of Bay Area Governments (ABAG) Agreement for Local Agency Participation in Grant-Funded Bay Area-wide Trash Capture Demonstration Project administered by the San Francisco Estuary Partnership. The City of Newark anticipates that a total of 634 cubic feet (4,744 gallons) of trash will be removed at the point of entry into the MS4 as a result of these installations. This translates to a 32.2 percent reduction of the trash load in Newark.

Additional trash reduction enhancements may be considered by the City of Newark in the future to meet upcoming minimum standards for trash reduction under the MRP.

Table 5-1. Planned enhanced trash control measure implementation within the jurisdictional boundaries of the City of Newark and associated trash loads reduced.

Trash Control Measure	% Reduction (Credits)	Trash Load Reduced (gallons)	Cumulative % Reduction (Compared to Baseline)
Single-use Carryout Plastic Bag Ordinance (CR-1)	10	NA	10
Public Education and Outreach Programs (CR-3)	4	NA	14
Activities to Reduce Trash from Uncovered Loads (CR-4)	1	NA	15
Full-capture Treatment Devices (QF-5)	NA	4,744	47.2

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

Consistent with MRP Provision C.10.d (i), the City of Newark 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, the City of Newark 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 City of Newark is currently planned to occur in a timeframe consistent with MRP requirements. A preliminary implementation schedule for all planned enhancements is described in Table 6-1. This schedule provides a timeframe for reducing trash discharged from the City of Newark'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 that were not anticipated at the time of this submission, the City of Newark chooses 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 the City of Newark's annual reporting process.

Table 6-1. Preliminary implementation schedule for enhanced trash control measures in the City of Newark.

Trash Control Measure	Beginning Date of Implementation
Single-use Carryout Plastic Bag Ordinance (CR-1)	January 1, 2013
Public Education and Outreach Programs (CR-3)	July 1, 2014
Activities to Reduce Trash from Uncovered Loads (CR-4)	October 2009
Full-capture Treatment Devices (QF-5)	Phase 1: October 1, 2012 Phase 2: July 1, 2014

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