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1000 SAN PABLO AVENUE
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510 524-9543

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February 1, 2014

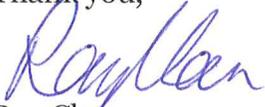
Bruce Wolfe, Executive Officer
San Francisco Bay Regional Water Quality Control Board
1515 Clay Street, Suite 1400
Oakland, CA 94612

Mr. Wolfe,

The City of Albany is hereby submitting a Trash Long-Term Reduction Plan and Progress Assessment Strategy in compliance with provision C.10.c of the Municipal Regional Stormwater NPDES Permit for Phase I communities in the San Francisco Bay (Order R2-2009-0074).

Please feel free to contact Erin Smith, the Project Manager, at (510) 559-4270 or myself at (510) 559-7255 if you have any questions regarding the information contained herein.

Thank you,



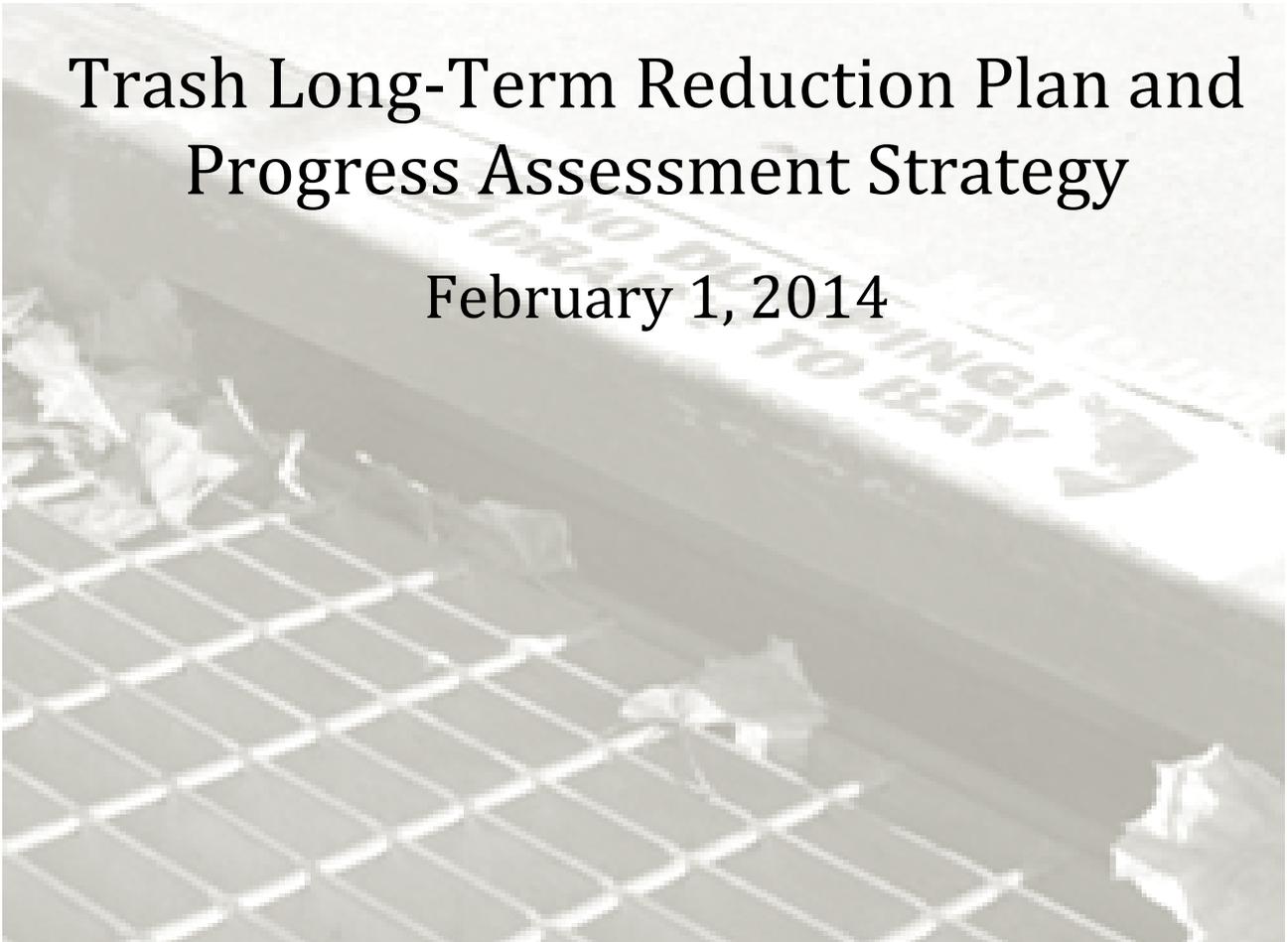
Ray Chan

Public Works Director/City Engineer

rchan@albanyca.org

Trash Long-Term Reduction Plan and Progress Assessment Strategy

February 1, 2014



Submitted by:
City of Albany
1000 San Pablo Ave,
Albany, CA 94706



In compliance with Provisions C.10.c of Order R2-2009-0074

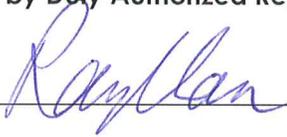
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**CITY OF ALBANY
LONG-TERM TRASH LOAD REDUCTION PLAN AND
ASSESSMENT STRATEGY**

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:



Ray Chan
Public Works Director/City Engineer

February 1, 2014

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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 Long-Term Trash Load Reduction Plan and Assessment Strategy (Long-Term Plan) is submitted in compliance with provision C.10.c of the Municipal Regional Stormwater NPDES Permit (MRP) for Phase I communities in the San Francisco Bay (Order R2-2009-0074). The Long-Term Plan was developed using a regionally consistent outline and guidance developed by the Bay Area Stormwater Management Agencies Association (BASMAA) and reviewed by San Francisco Bay Regional Water Quality Control Board staff. The Long-Term Plan is consistent with the Long-Term Trash Load Reduction Framework developed in collaboration with Water Board staff. Its content is based on the City of Albany's current understanding of trash problems within its jurisdiction and the effectiveness of control measures designed to reduce trash impacts associated with Municipal Separate Storm Sewer (MS4) discharges. This Long-Term Plan is intended to be iterative and may be modified in the future based on information gained through the implementation of trash control measures. The City of Albany therefore reserves the right to revise or amend this Long-Term Plan at its discretion. If significant revisions or amendments are made by the City a revised Long-Term Plan will be submitted to the Water Board through the City's annual reporting process.

1.0 INTRODUCTION

1.1 Purpose of Long-Term Trash Reduction Plan

The Municipal Regional Stormwater National Pollutant Discharge Elimination System (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.c of the MRP requires Permittees to submit a *Long-Term Trash Load Reduction Plan* (Long-Term Plan) by February 1, 2014. Long-Term Plans must describe control measures that are currently being implemented, including the level of implementation, and additional control measures that will be implemented and/or increased level of implementation designed to attain a 70% trash load reduction by July 1, 2017, and 100% (i.e., “No Visual Impact”) by July 1, 2022.

This Long-Term Plan is submitted by the City of Albany in compliance with MRP provision C.10.c. Consistent with provision C.10 requirements, the goal of the Long-Term Plan is to solve trash problems in receiving waters by reducing the impacts associated with trash in discharges from Albany’s municipal separate storm sewer system (MS4) that are regulated by NPDES Permit requirements. The Long-Term Plan includes:

1. Descriptions of the current level of implementation of trash control measures, and the type and extent to which new or enhanced control measures will be implemented to achieve a target of 100% (i.e. full) trash reduction from MS4s by July 1, 2022, with an interim milestone of 70% reduction by July 1, 2017;
2. A description of the *Trash Assessment Strategy* that will be used assess progress towards trash reduction targets achieved as a result of control measure implementation; and,
3. Time schedules for implementing control measures and the assessment strategy.

The Long-Term Plan was developed using a regionally consistent outline and guidance developed by the Bay Area Stormwater Management Agencies Association (BASMAA) and reviewed by the San Francisco Bay Regional Water Quality Control Board (Water Board) staff. The Long-Term Plan is consistent with the Long-Term Trash Load Reduction Framework (see section 1.2.1) developed in collaboration with Water Board staff. Its content is based on the City of Albany’s current understanding of trash problems within its jurisdiction and the effectiveness of control measures designed to reduce trash impacts associated with Municipal Separate Storm Sewer (MS4) discharges. The Long-Term Plan builds upon trash control measures implemented by the City prior to the adoption of the MRP and during the implementation of the Short-Term Trash Load Reduction Plan submitted to the Water Board on February 1, 2012.

1.2 Background

1.2.1 Long-Term Trash Load Reduction Plan Framework

A workgroup of MRP Permittee representatives and Water Board staff met between October 2012 and March 2013 to better define the process for developing and implementing Long-Term Plans, methods for assessing progress toward reduction goals, and tracking and reporting requirements associated with provision C.10. Through these discussions, an eight-step framework for developing and implementing Long-Term Plans was created by the workgroup (Figure 1).

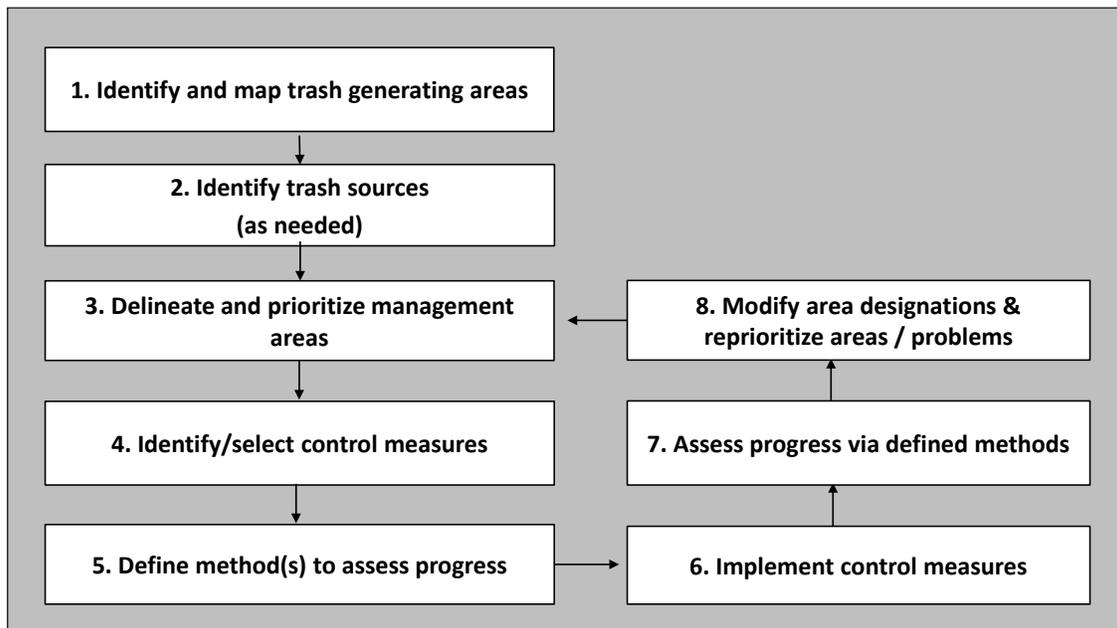


Figure 1. Eight-step framework for developing, implementing and refining Long-Term Trash Reduction Plans.

The workgroup agreed that as the first step in the framework, Permittees would identify very high, high, moderate, and low trash generating areas in their jurisdictional areas. Trash generation rates developed through the *BASMAA Baseline Trash Generation Rates Project* (as discussed below) were used as a starting point for differentiating and delineating land areas with varying levels of trash generation. Permittees would then use local knowledge and field and/or desktop assessments to confirm or refine the level of trash generation for specific areas within their jurisdiction. Each Permittee would then develop a map depicting trash generation categories within their jurisdiction.

As a next step, Permittees would then delineate and prioritize Trash Management Areas (TMAs) where specific control measures exist or are planned for implementation. TMAs delineated by Permittees are intended to serve as reporting units in the future. Reporting at the management area level provides the level of detail necessary to demonstrate implementation and progress towards trash reduction targets.

Once control measures are selected and implemented, Permittees will evaluate progress toward trash reduction targets using outcome-based assessment methods. As the results of the progress assessments are available, Permittees may choose to reprioritize trash management areas and associated control measures designed to improve trash reduction within their jurisdictions.

1.2.2 BASMAA Generation Rates Project

Through approval of a BASMAA regional project in 2010, Permittees agreed to work collaboratively to develop a regionally consistent method to establish trash generation rates within their jurisdictions. The project, also known as the *BASMAA Trash Generation Rates Project* (Generation Rates Project) assisted Permittees in establishing the rates of trash generation and identifying very high, high, moderate and low trash generating areas.

The term “trash generation” refers to the rate at which trash is produced or generated onto the surface of the watershed and is potentially available for transport via MS4s to receiving waters. Generation rates do not explicitly take into account existing control measures that intercept trash prior to transport. Generation rates are expressed as trash volume/acre/year and were established via the Generation Rates Project.

In contrast to trash generation, the term “trash loading” refers to the rate at which trash from MS4s enters receiving waters. Trash loading rates are also expressed as trash volume/acre/year and are equal to or less than trash generation rates because they account for the effects of control measures that intercept trash generated in an area before it is discharged to a receiving water. Trash loading rates are specific to particular areas because they are dependent upon the effectiveness of control measures implemented within an area. Figure 2 illustrates the difference between trash generation and loading.



Figure 2. Conceptual model of trash generation, interception and load.

Trash generation rates were estimated based on factors that significantly affect trash generation (i.e., land use and income). The method used to establish trash generation rates 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 on a conceptual model developed as an outgrowth of these studies (BASMAA 2011b).

Trash generation 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. Trash generation rates estimated from this study are listed for each land use type in

Table 1. Methods used to develop trash generation rates are more fully described in BASMAA (2011b, 2011c, and 2012).

Table 1. San Francisco Bay Area trash generation rates by land use (gallons/acre/year).

Land Use	Low ^b	Best ^b	High ^b
Commercial & Services	0.7	6.2	17.3
Industrial	2.8	8.4	17.8
Residential ^a	0.3 - 30.2	0.5 - 87.1	1.0 - 257.0
Retail ^a	0.7 - 109.7	1.8 - 150.0	4.6 - 389.1
K-12 Schools	3	6.2	11.5
Urban Parks	0.5	5.0	11.4

^a For residential and retail land uses, trash generation rates are provided as a range that takes into account the correlation between rates and household median income.

^b For residential and retail land uses: Low = 5% confidence interval; Best = best fit regression line between generation rates and household median income; and, High = 95% confidence interval. For all other land use categories: High = 90th percentile; Best = mean generation rate; and, Low = 10th percentile.

1.3 Organization of Long-Term Plan

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

- 1.0 Introduction;
- 2.0 Scope of the Trash Problem;
- 3.0 Trash Management Areas and Control Measures;
- 4.0 Progress Assessment Strategies; and
- 5.0 References

Section 2.0 is intended to provide a description of the extent and magnitude of the trash problem in the City of Albany. Control measures that will be implemented by City of Albany as a result of this Long-Term Plan are described in section 3.0. Section 4.0 describes the methods that will be used to assess progress toward trash reduction targets.

2.0 SCOPE OF THE TRASH PROBLEM

2.1 Permittee Characteristics

Incorporated in 1908, the City of Albany is located in Alameda County, and has a jurisdictional area of 1,270 acres. According to the 2010 Census, it has a population of 18,539, with a population density of 10,368.6 people per square mile, and average household size of 2.49. Of the 18,539 who call the City of Albany home, 25.0% are under the age of 18, 5.4% are between 18 and 24, 33.2% are between 25 and 44, 26.4% are between 45 and 65, and 10.0% are 65 or older.

The City of Albany is home to the popular retail and restaurant business area along Solano Avenue. At the end of Buchanan Street, just west of Interstate 80, lies the Albany waterfront. Views of San Francisco, the Golden Gate and San Francisco Bay bridges, Alcatraz, and Angel Island can all be seen from a shoreline that has changed little since its days as a landfill site for construction debris. The southern portion includes Golden Gate Fields Racetrack and its vast parking area – often empty as a result of changes in attendance over recent decades and the increased popularity of off-track betting. The land to the north is called the “Plateau.” This large, flat, open area looks somewhat like the “overflow” parking lot it once was, but a portion is now fenced off to protect a recently-created habitat for burrowing owls. To the west is land, known as the “Bulb,” which belongs to the City of Albany, but is planned to be incorporated into the Eastshore State Park – a park that includes, and protects, most of the undeveloped land on the Bay shoreline between the foot of the San Francisco Bay Bridge in Oakland and Richmond’s Marina Bay neighborhood. The Bulb currently has a number of homeless encampments. The City is in the process of developing and implementing a comprehensive program to address the encampments and debris resulting from them.

Land uses within the City of Albany depicted in ABAG (2005) are provided in Table 2. The City has each of the six land use categories; however, the City is predominantly residential with some commercial and retail.

Table 2. Percentages of the City of Albany's jurisdictional area¹ within land use classes identified by ABAG (2005)

Land Use Category	Jurisdictional Area (acres)	% of Jurisdictional Area
Commercial and Services	143.2	14.4%
Industrial	17.7	1.8%
Residential	572.4	57.7%
Retail	54.2	5.5%
K-12 Schools	39.4	4.0%
Urban Parks	97.6	9.8%
Other	66.8	6.7%

2.2 Trash Generating Areas

2.2.1 Generation Categories and Designation of Areas

The process and methods used to identify the level of trash generation within the City of Albany are described in this section and illustrated in Figure 3.

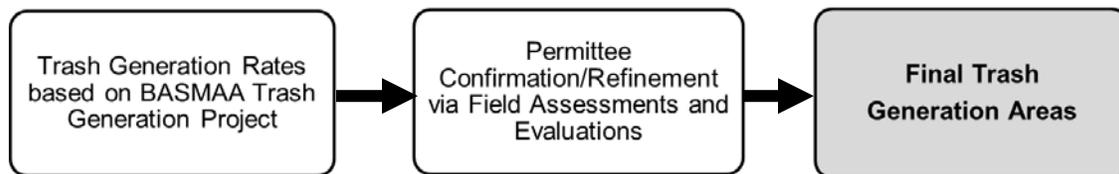


Figure 3. Trash sources categories and transport pathways to urban creeks.

As a first step, trash generation rates developed through the *BASMAA Trash Generation Rates Project* were applied to parcels within the City of Albany based on current land uses and 2010 household median incomes. A Draft Trash Generation Map was created as a result of this application. The draft map served as a starting point for the City of Albany to identify trash generating levels. Levels of trash generation are depicted on the map using four trash generation rate (gallons/acre/year) categories that are symbolized by four different colors illustrated in Table 3.

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).

Table 3. Trash generation categories and associated generation rates (gallons/acre/year).

Category	Very High	High	Moderate	Low
Generation Rate (gallons/acre/year)	> 50	10-50	5-10	< 5

The City of Albany then reviewed and refined the draft trash generation map to ensure that trash generation categories were correctly assigned to parcels or groups of parcels. City staff refined maps using the following process:

1. Based upon our knowledge of trash generation and problem areas within the City staff identified areas on the draft map that potentially had incorrect trash generation category designations.
2. Trash generation category designations initially assigned to areas identified in step #1 were then assessed and confirmed/refined by the City using the methods listed below.

a. On-Land Visual Assessments

To assist Permittees with developing their trash generation maps, BASMAA developed a *Draft On-land Visual Trash Assessment Protocol (Draft Protocol)*. The Draft Protocol entails walking a street segment and visually observing the level of trash present on the roadway, curb and gutter, sidewalk, and other areas adjacent to the street that could potentially contribute trash to the MS4. Based on the level of trash observed, each segment (i.e., assessment area) was placed into one of four on-land assessment condition categories that are summarized in Table 4. Using the Draft Protocol the city assessed a total of 16 areas to assist in conducting/refining trash generating area designations.

Table 4. Definitions of on-land trash assessment condition categories.

On-land Assessment Condition Category	Summary Definition
A (Low)	Effectively no trash is observed in the assessment area.
B (Moderate)	Predominantly free of trash except for a few pieces that are easily observed.
C (High)	Trash is widely/evenly distributed and/or small accumulations are visible on the street, sidewalks, or inlets.
D (Very High)	Trash is continuously seen throughout the assessment area, with large piles and a strong impression of lack of concern for litter in the area.

b. Querying Municipal Staff or Members of the Public

City of Albany maintenance staff is the most knowledgeable of areas subject to litter, overflowing garbage cans, and other trash circumstances in the City. Maintenance staff was asked to review the draft trash generation map and identify any areas that didn't seem right based on the working knowledge of the City. These areas were then subject to the On-Land Visual Trash Assessment Protocol.

c. Viewing Areas via Goggle Maps – Street View

Google Maps was used to assess the Albany Bulb due to safety issues in sending staff out to perform the visual assessment. The City is aware of and implementing a program to address the homeless encampments at the Bulb.

3. Based on assessments conducted to confirm/refine trash generation category designations, the City created a final trash generation map that depicts the most current understanding of trash generation within the City of Albany. The City documented this process by tracking the information collected through the assessments and subsequent refinements to the Draft Trash Generation Map. The City of Albany's Final Trash Generation Map is included as Figure 3.

2.2.2 Summary of Trash Generating Areas and Sources

Summary statistics for land use and trash generation categories generated through the mapping and assessment process are presented in Table 5.

Table 5. Percentage of jurisdictional area within the City of Albany assigned to each trash generation category.

Trash Generation Category	Jurisdictional Area (Acres)	Commercial and Services	Industrial	Residential	Retail	K-12 Schools	Urban Parks	Other
Very High	12.3	0.0%	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%
High	119.0	5.2%	0.0%	0.0%	33.5%	0.0%	59.3%	1.7%
Medium	305.4	28.6%	5.8%	43.8%	0.1%	12.7%	8.7%	0.4%
Low	554.6	9.0%	0.0%	79.1%	0.3%	0.1%	0.1%	9.9%

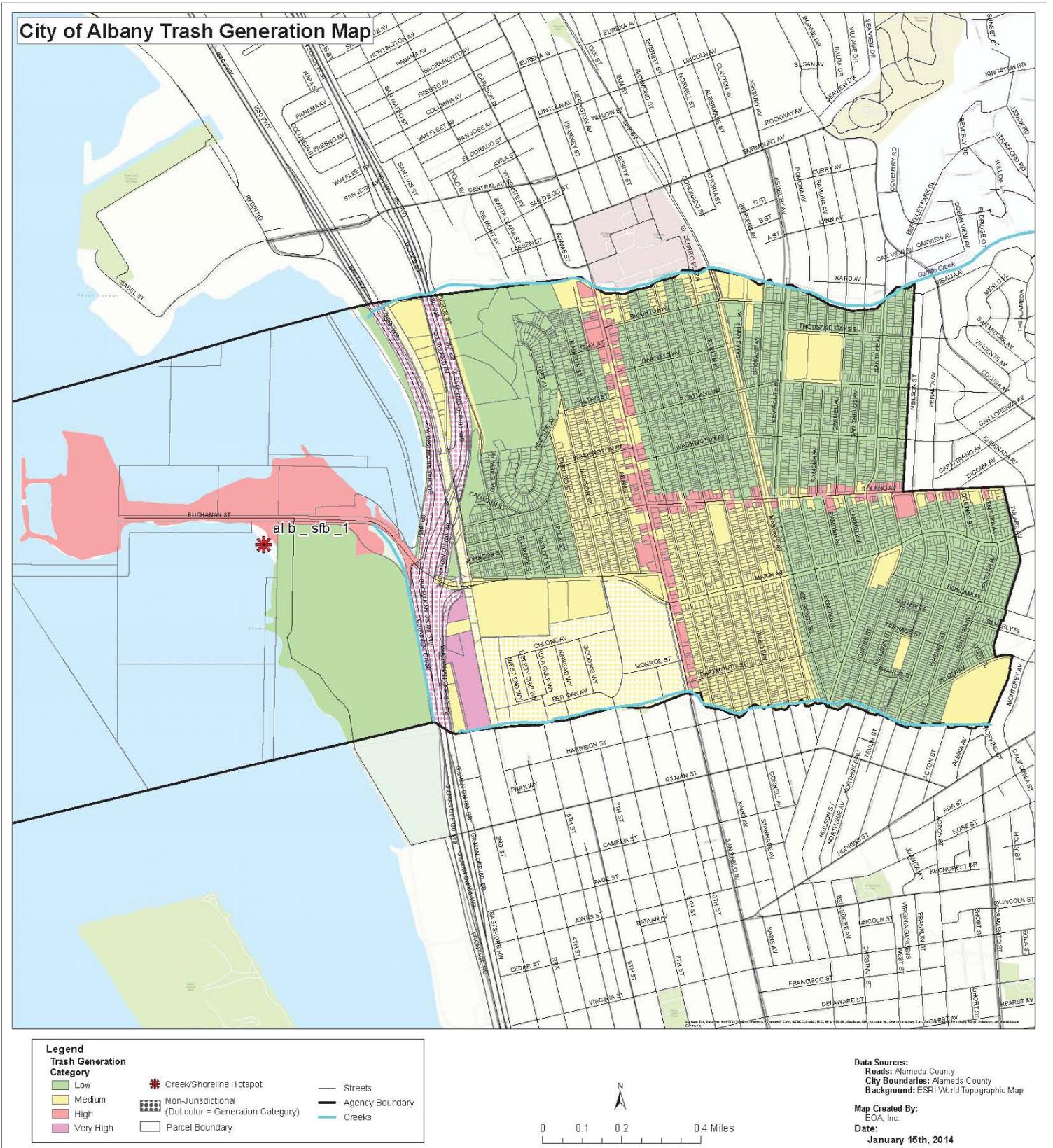


Figure 3. Final Trash Generation Map for the City of Albany

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3.0 TRASH MANAGEMENT AREAS AND CONTROL MEASURES

This section describes the control measures that the City of Albany has or plans to implement to solve trash problems and achieve a target of 100% (i.e. full) trash reduction from their MS4 by July 1, 2022. The selection of control measures described in this section is based on the City of Albany's current understanding of trash problems within its jurisdiction and the effectiveness of control measures designed to reduce trash impacts associated with MS4 discharges. Information on the effectiveness of some trash control measures is currently lacking and therefore in the absence of this information, the City based its selection of control measures on existing effectiveness information, their experience in implementing trash controls and knowledge of trash problems, and costs of implementation. As knowledge is gained through the implementation of these control measures, the City may choose to refine their trash control strategy described in this section. If significant revisions or amendments are made, a revised Long-Term Plan will be submitted to the Water Board through the City of Albany's annual reporting process.

3.1 Management Area Delineation and Prioritization

Consistent with the long-term plan framework, the City of Albany delineated and prioritized trash management areas (TMAs) based on the geographical distribution of trash generating areas, types of trash sources, and current or planned control measure locations. TMAs are intended to form the management units by which trash control measure implementation can be tracked and assessed for progress towards trash reduction targets. Once delineated, TMAs were also prioritized for control measure implementation. The City of Albany's primary management areas were selected based on the spatial distribution of trash generating areas and the location of specific existing or planned management actions within City's jurisdiction. City staff used the following procedure to designate TMAs:

All areas depicted as very high (purple), high (red) and medium (yellow) on the City's trash generation map was included in a trash management area. Those areas depicted as green (low) on the trash generation map were considered one primary trash management area where jurisdictional-wide trash control measures (e.g., single-use carryout bag policies, polystyrene foam food service ware polices, and/or public education and outreach programs) will be applied. The primary trash management areas were delineated based on a combination of geography and/or similar land use type (i.e. City parks, schools). The primary trash management areas were further delineated into secondary management areas. Secondary management areas are geographical areas within a primary management area that delineate the extent of a specific management action within that area (ex. Memorial Park is a secondary TMA within the primary TMA of City parks).

A map depicting the City's TMAs is included as Figure 4. All jurisdictional areas within the City are included within a TMA. The amount of jurisdictional land area and associated trash condition categories for each TMA are included in Table 6.

Table 6. Jurisdictional area and percentage of each Trash Management Area (TMA) comprised of trash generation categories

TMA	Jurisdictional Area (Acres)	Trash Generation Rate			
		Very High	High	Medium	Low
1	77.9	0.0%	100.0%	0.0%	0.0%
2	3.0	0.0%	0.0%	84.3%	15.7%
3	9.1	0.0%	0.1%	88.7%	11.2%
4	38.8	0.0%	65.1%	34.8%	0.1%
5	28.0	0.0%	52.0%	36.5%	11.5%
6A	13.4	0.0%	0.0%	100.0%	0.0%
6B	3.7	0.0%	0.0%	100.0%	0.0%
6C	3.2	0.0%	0.0%	100.0%	0.0%
6D	6.0	0.0%	0.0%	100.0%	0.0%
6E	4.4	0.0%	0.0%	100.0%	0.0%
6F	4.5	0.0%	0.0%	100.0%	0.0%
6G	3.2	0.0%	0.0%	100.0%	0.0%
6H	1.1	0.0%	0.0%	100.0%	0.0%
7A	7.3	0.0%	0.0%	100.0%	0.0%
7B	1.4	0.0%	0.0%	100.0%	0.0%
7C	3.5	0.0%	0.0%	100.0%	0.0%
8A	30.2	0.0%	0.0%	100.0%	0.0%
8B	16.3	75.6%	0.0%	24.4%	0.0%
8C	3.6	0.0%	0.0%	100.0%	0.0%
9A	13.1	0.0%	0.1%	99.9%	0.0%
10	83.5	0.0%	0.0%	98.9%	1.1%
11	42.7	0.0%	0.0%	100.0%	0.0%
12	593.5	0.0%	0.2%	7.3%	92.5%

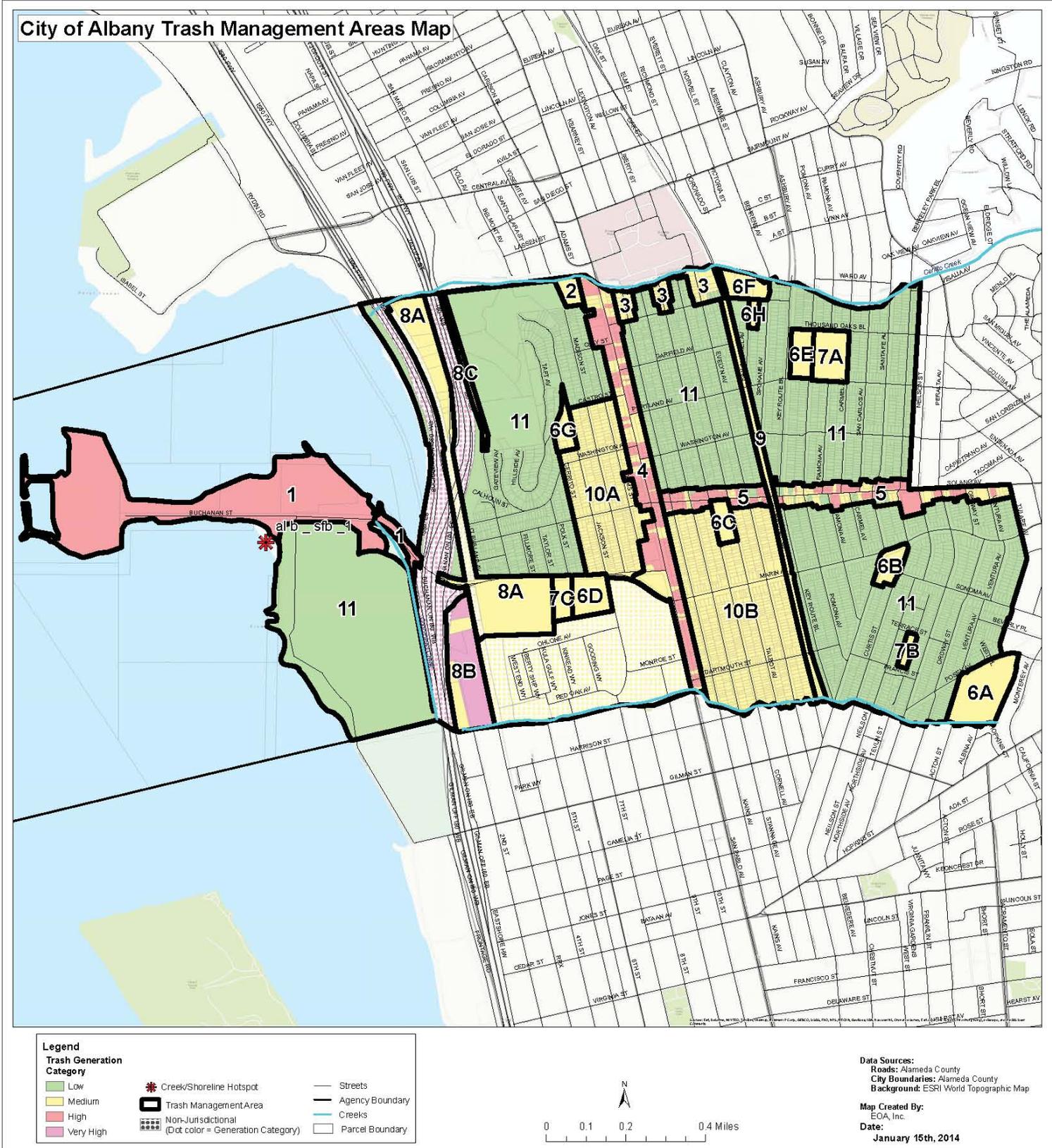


Figure 4. Trash Management Area Map for the City of Albany

3.2 Current and Planned Trash Control Measures

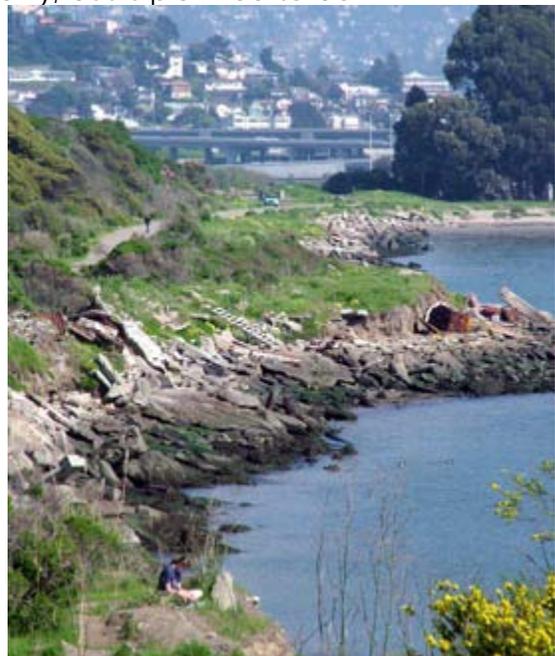
The City of Albany manages trash within its jurisdiction through a variety of mechanisms including education, source control and trash interception before it entry into the storm conveyance system. The City supports and implements public education and outreach intended to raise awareness and change behavioral patterns pertaining to litter. Past efforts have targeted school aged students and the general public. To address source control, the City adopted an ordinance in 2008 to ban polystyrene foam food service ware from all food vendors, City Facilities, City franchises, and contractors doing business within City limits. Despite efforts to minimize trash generation, trash does end up in the public right of way and has the potential of entering the storm conveyance system. Trash interception programs have included: street sweeping, regular on-land trash pickup at City parks, and active monitoring of adequate trash receptacle size.

In an effort to further reduce the amount of trash entering the storm conveyance system, the City support implementation and enforcement of the new county wide single-use carryout plastic bag ordinance, install full trash capture treatment devices in select inlets, improve on-land trash cleanups and street sweeping and enhance trash bin/container management efforts. The City will evaluate program effectiveness through the proper documentation of control measures implementation and the systematic monitoring of trash in the City. The City is committed to an adaptive management process, refining programs to ultimately achieve the goal of no visual impairment.

3.2.1 Trash Management Area #1

The Albany Waterfront Park is a peninsula of land that juts out into the San Francisco Bay. The land currently belongs to the City of Albany, but is planned to be incorporated into the Eastshore State Park – a park that includes, and protects, most of the undeveloped land on the Bay shoreline between the foot of the San Francisco Bay Bridge in Oakland and Richmond’s Marina Bay neighborhood. Presently, the Bulb has a number of homeless encampments that generate debris and other hazardous waste. Informally, there are receptacles and service to remove debris and human waste for those individuals that volunteer to bring the waste to those receptacles. In 2013, the City began work to more aggressively address and ultimately remove the homeless encampments and the resultant trash from the Bulb.

City Council directed the Police Department to enforce the City’s no-camping ordinance



starting in October 2013 and approved a transition plan to assist the homeless in Albany and to address unsafe, unsanitary conditions at the waterfront park. Implementation of the transition plan is ongoing, with several significant milestones accomplished in 2013: the opening of a temporary transition shelter, approval of a subsidized rental housing program, and the cleanup of abandoned, unoccupied encampments.

Although removal of the homeless encampments appears straight forward from a trash reduction perspective, it is a very complicated legal matter that is highly politicized. With that said the City is diligently working to remove the homeless encampments and ultimately transition the area to McLaughlin Eastshore State Park for the benefit of the San Francisco Bay and the entire region.

The following are actions initiated after the MRP effective date with implementation begun prior to July 1, 2014:

On-land Trash Cleanups

The City has procured a contractor to remove the debris and trash from the abandoned homeless encampments. This is an ongoing program proportional to the level of enforcement. To date, the has hauled at least 4 40-year dumpsters of debris that otherwise could have entered surface waters.

Anti-littering and Illegal Dumping Enforcement Activities

The Albany Police Department regularly patrols the Waterfront Park and enforcement is ongoing.

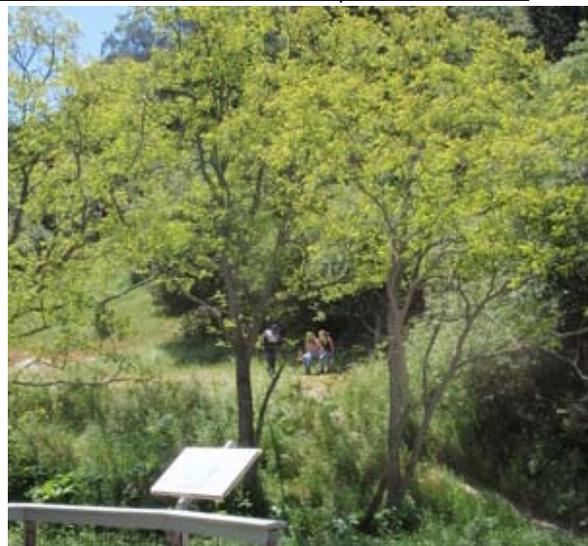
3.2.2 Trash Management Area #2

Trash Management Area 2 is comprised of the natural area and pathway along Cerrito Creek, west of San Pablo Avenue to Pierce Street. This is an area well used by middle and high school aged students as a means of travel and a place to spend leisure time. Sources of trash are predominantly food wrappers, beverage containers and cigarette butts. The City considers this a high priority trash management area given its vicinity to Cerrito Creek.

The following are actions initiated after the MRP effective date with implementation begun prior to July 1, 2014:

Anti-littering and Illegal Dumping Enforcement Activities

In 2013, as part of the Albany Waterfront transition, the Albany Police and Fire Department began more aggressively patrolling this area to prevent the establishment of homeless encampments. This increased patrol is expected to affect the behavior of the middle and high school aged kids that use the area as a place to spend leisure time.



On-land Trash Cleanup

During the fall of 2013, the City Albany had an intern from the Albany Unified School District Community-Based Learning Experience Program pick up trash in Trash Management Area 2. The work had two objectives: provide exposure and experience for the high school intern and to quantify and characterize the trash removed from the area.

The intern spent 4 hours every other Friday in Trash Management Area #2 over a two month period. The volume of trash removed each Friday varied from 25 gallons to 75 gallons per 4 hour session. The types of trash predominantly collected were plastic bags, food wrappers, cigarette butts and other.

The following are actions planned for future implementation between July 2014 and July 2022:

On-land Trash Cleanup

Based on the determined need for the regular removal of trash from Trash Management Area #2 (see intern description in paragraph above), the City will continue with On Land Trash Cleanups with a volunteer group named, "Albany Green Team". The group's mission is as follows:

The Green Team is a new division of the Volunteer Corps whose mission is to assist City staff and other organizations in increasing wildlife habitat and Albany residents' opportunities to find nature within city limits. Additional outcomes of its work are strengthened community relationships, fun activities for its members, and a more beautiful city!

The Green Team is self-led, meaning that its members themselves decide on activities for the group, thus allowing for different levels of leadership and participation. The City of Albany's Environmental Resources Division and Recreation and Community Service Department support the Green Team with guidance, contacts, and tools and materials for certain projects.

Examples of the Green Team's activities include:

Assisting Albany's Urban Forester in beautifying the city by planting trees and other flora, including Bay-Friendly and fruit-bearing species

Participating in conservation activities of local organizations: removing invasive plants in Albany Hill Park or along one of Albany's five creeks, conducting clean-ups of the Ohlone Greenway or Albany Beach, etc.

Adopting storm drains around the city: stenciling "No Dumping, Drains to Bay" and clearing the drains

Establish community re-use/sharing events (tool lending, swaps, etc.)

Identify additional "greening" projects throughout the City

City staff will work with the Albany Green Team to establish the location and frequency of On Land Trash Cleanup. The trash removed will be characterized and documented for future analysis and assessment.

Creek, Channel, Shoreline Cleanups

Cerrito Creek is the jurisdictional boundary between the City of Albany and El Cerrito. El Cerrito hosts a regular volunteer creek clean-up on the weekends. The City of Albany will begin coordinating with El Cerrito and publicizing the event with Albany citizens in the hopes of a larger, more consistent turn out.

3.2.3 Trash Management Area #3

Trash Management Area 3 is comprised of the natural area and pathway along Cerrito Creek, east of San Pablo Avenue to the east City border. This area is adjacent to the El Cerrito Shopping Plaza with a number of City streets that cross the creek from the Albany side to the El Cerrito Shopping Plaza. Because of its vicinity to a commercial area and the fact that middle and high school students walk the feeder streets from school to the food establishments in the plaza and then back, this area is atypical for an Albany residential area. The City considers this a high priority trash management area given its vicinity to Cerrito Creek.

The following is an action initiated prior to the MRP effective date (December 2009) and will be continued after:

Street Sweeping

The City performs street sweeping on a monthly basis in Trash Management Area 3.

The following is an action planned for future implementation between July 2014 and July 2022:

Full-Capture Treatment Devices

The City is evaluating the feasibility of installing full trash capture devices in the storm inlets that discharge to Cerrito Creek. Devices will be installed in those inlets determined to be most conducive and effective for capturing trash (8 potential sites are being evaluated). Installation is planned for August 2014.

3.2.4 Trash Management Area #4

Trash Management Area 4 is the commercial district of San Pablo Avenue, under Caltrans jurisdiction. San Pablo Avenue is major vehicle travel way through the City. Given its nature, San Pablo Avenue in Albany tends not to be a place where pedestrians stroll the shops and restaurants but a location that fosters destination parking. The reduced pedestrian traffic tends to minimize trash generation rates; however, the bus stops along San Pablo Avenue can have increased trash in the vicinity. Trash type is predominantly cigarette butts and food wrappers.

The following is an action initiated prior to the MRP effective date (December 2009) and will be continued after:

Street Sweeping

The City performs street sweeping on a weekly basis in Trash Management Area 4.

Improved Bins/Container Management

In 2013, the City purchased and installed 2 Big Belly Solar Trash Compactors on San Pablo Avenue.

The following is an action planned for future implementation between July 2014 and July 2022:

Trash Container Anti Litter Campaign

City staff participates in Alameda County's Clean Water Program Trash Workgroup. This group will be committing funds and staff time to develop an anti-litter poster to educate the viewer about the connection between litter, storm conveyance, water quality and ecosystem health. The City will install the anti-litter poster on the side of trash containers. The intent is not only to educate but to beautify the trash containers in the hopes of fostering better use. The City will report on the number and location of posters installed along San Pablo Avenue.

3.2.5 Trash Management Area #5

Trash Management Area 5 is Solano Avenue, east of San Pablo Avenue to the east city border. This is Albany's main retail area, comprised of a number of locally owned shops and restaurants. Solano Avenue is also home to hundreds of professional services and health-related retail and service organizations.

The City and the Solano Avenue Association implement trash control measures to keep this area clean and aesthetically pleasing. The Solano Avenue Association is a non-profit organization founded in 1974 that is dedicated to promoting and improving the Solano Avenue business district and to building community spirit and identity through events, marketing, and aesthetic enhancement.

The following are actions initiated prior to the MRP effective date (December 2009) and will be continued after:

Street Sweeping

The City performs street sweeping on a monthly basis in Trash Management Area 5. Street sweeping is performed at night when parked cars are at a minimum.

The following are actions initiated after the MRP effective date with implementation prior to July 1, 2014:

Full Trash Capture Devices

In August 2013, the City installed 10 full trash capture devices along Solano Avenue. See Figure 7 for locations and catchment areas.

Improved Bins/Container Management

In 2013, the City purchased and installed 11 Big Belly Solar Trash Compactors along Solano Avenue. These units minimize the potential for an overflowing trash receptacle through two mechanisms – trash compaction and a volume meter that triggers the transmission of an email to maintenance staff when the receptacle is nearing capacity. Another key benefit of these improved bins is that their enclosed design keeps trash in and animals out. Seagulls and rodents (raccoons, rats, skunk, etc...) are barred access to the containers and therefore the scattering of trash by these animals is no longer a problem.

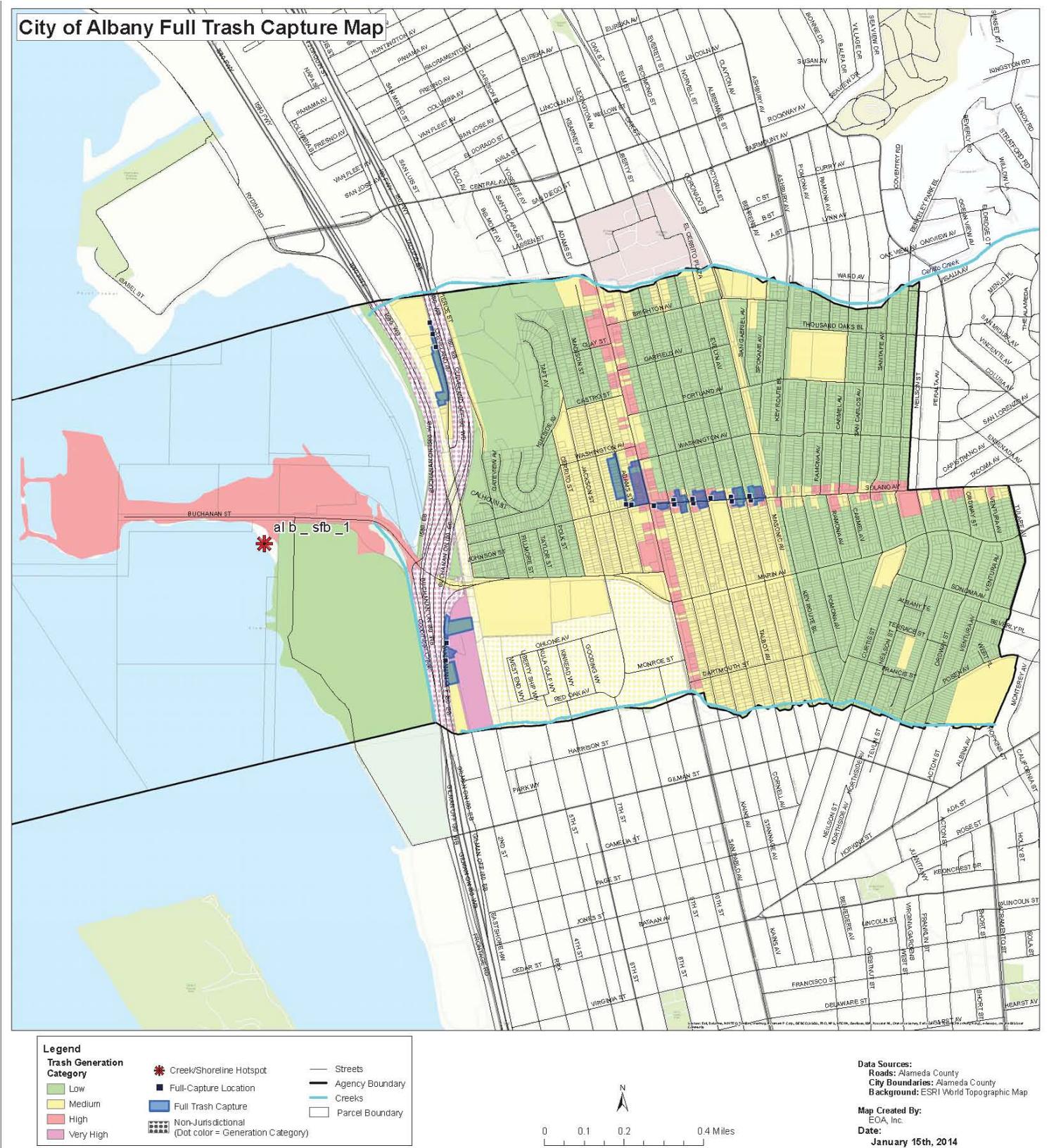


Figure 5. Trash Full Capture Device Map for the City of Albany.

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3.2.6 Trash Management Area #6

Trash Management Area 6 is the primary management area designated for schools in the City. Seven secondary management areas are as follows: 6A: St. Mary's High School; 6B: Marin Elementary School; 6C: Cornell Elementary School; 6D: Oceanview Elementary School; 6E: Albany High School; 6F: Albany Middle School; and 6G: McGregor School.

The following is an action initiated prior to the MRP effective date (December 2009) and will be continued after:

Street Sweeping

The City performs street sweeping on a monthly basis in Trash Management Area 6. The City performs additional street sweeping on the third and fourth Fridays of the month around Albany High School (6E).

The following is an action planned for future implementation between July 2014 and July 2022:

Trash Container Anti Litter Campaign

City staff participates in Alameda County's Clean Water Program Trash Workgroup. This group will be committing funds and staff time to develop an anti-litter poster to educate the viewer about the connection between litter, storm conveyance, water quality and ecosystem health. The City will install the anti-litter poster on the side of trash containers. The intent is not only to educate but to beautify the trash containers in the hopes of fostering better use. The City will report on the number and location of posters installed within Trash Management Area 6.



Improved Trash Bins/Container Management

The City will install a Big Belly Trash Compactor near the Albany Middle School (6F) and consider other locations, as applicable.

3.2.7 Trash Management Area #7

Trash Management Area 7 is the primary management area designated for City parks. Three secondary management areas are as follows: 7A- Memorial Park; 7B- Terrace Park; and 7C- Oceanview Park.

In general, City parks are not visually impaired by trash. This is likely due to the considerate behavior of citizens and aggressive control measures implemented by the City.



The following are actions initiated prior to the MRP effective date (December 2009) and will be continued after:

Street Sweeping

The City performs street sweeping on a monthly basis in Trash Management Area 7.

On Land Trash Pick Up

City maintenance staff pick up trash at City parks on a weekly basis.

The following is an action initiated after the MRP effective date with implementation prior to July 1, 2014:

Improved Trash Bins/Container Management

In 2013, the City installed 2 Big Belly Trash Compactor at Memorial Park, the largest and most used of the City parks.

The following is an action planned for future implementation between July 2014 and July 2022:

On Land Trash Pick Up

City maintenance staff pick up trash at City parks three days per week.

Improved Trash Bins/Container Management

The City will install 2 Big Belly Trash Compactor at Oceanview Park, 1 at Terrace Park, 1 additional at memorial and possibly 1 on the corner of the Ohlone Greenway and Brighton. The Big Belly Trash Compactors not only reduce trash container surcharging but also are rat proof.

3.2.8 Trash Management Area #8

Trash Management 8 is the retail/commercial area on the west side of the City. Two secondary management areas are designated as follows: 8A: Cleveland Avenue; and 8B: Eastshore Highway.

Cleveland Avenue is a road parallel but in between Interstate 80, Interstate 580 and the Union Pacific Railroad tracks. This area receives a lot of windblown trash from the freeways and is a site of frequent illegal dumping given its remote location.

The Eastshore Highway is a stretch of road leading to a Target parking lot on the south side of town. Village Creek and Codornices Creek flank the north and south ends of the Target property, respectively. The City established a Creek Management Plan with the Target Corporation in 2005 to address creek restoration and maintenance. The agreement established an environmental baseline, includes prohibited uses, and specifies ongoing maintenance responsibilities. Subsequent to the initial creek restoration efforts, Target Corporation is required, among other requirements, to perform annual inspections of the conservation easement area and remove debris as necessary. Depending on the activities, Target Corporation may require authorization from the Regional Water Board and United States Army Corps of Engineers.

The last documentation that the City has of work performed by Target Corporation was in 2011. Balance Hydrologics, Inc. performed an "Assessment of Codornices and Village Creeks and Stormwater Infrastructure at the T1926 Target Store, City of Albany, California". The report found the creeks in good condition with few comments.

In January 2014, City maintenance staff identified a number of homeless encampments that have established in Village Creek. A tremendous amount of trash and debris surround the encampments.

The following is an action initiated prior to the MRP effective date (December 2009) and will be continued after:

Street Sweeping

The City performs street sweeping on a monthly basis in Trash Management Area 8.

The following is an action initiated after the MRP effective date with implementation prior to July 1, 2014:

Full Trash Capture

In August 2013, the City installed 4 full trash capture devices on Cleveland Avenue and the Eastshore Highway. See Figure 7 for locations and catchment areas.

The following is an action planned for future implementation between July 2014 and July 2022:

Other

Enforcement of Creek Management Plan with Target Corporation.

3.2.9 Trash Management Area #9

Trash Management Area 9 is the Ohlone Greenway, a travel pathway under the BART tracks. As part of the recent earthquake retrofitting work done by BART, the Ohlone Greenway was improved with a newly paved multi-use path, increased lighting and

The following are action planned for future implementation between July 2014 and July 2022:

On Land Trash Pick Up

BART is responsible for maintenance of the Ohlone Greenway for one year after construction completion. After that time, the City will take over maintenance responsibilities. The Ohlone Greenway will then become a location that the volunteer based Green Team (described in detail under Trash Management Area #2) location performs regular on land trash pickup. The frequency of these cleanups will be determined by the trash generated.



3.2.10 Trash Management Area #10

Trash Management Area 10 are the residential areas just east and west of San Pablo Avenue. Two secondary management areas are designated as follows: 10A: East of San Pablo; and 10 B: West of San Pablo. These areas are generally designated higher occupancy residential and can therefore have increased trash generation rates. The types of trash typically seen are small pieces of wrappers, plastics and cigarette butts.

The following is an action initiated prior to the MRP effective date (December 2009) and will be continued after:

Street Sweeping

The City performs street sweeping on a monthly basis in Trash Management Area 10.

The following is an action planned for future implementation between July 2014 and July 2022:

Street Sweeping Effectiveness Assessment

For streets that do not already have no parking enforcement for street sweeping, the City will visually assess the trash remaining in the street and along the curb immediately following street sweeping (3 events). If trash remains and it is determined that this is due to ineffective street sweeping caused by parked cars along the curb, City staff will request that no parking enforcement signs be expanded in this Trash Management Area. No parking sign expansion must go through a multi department approval process.

3.2.11 Jurisdiction-wide Control Measures

Polystyrene Foam Food Service Ware Policies

The City of Albany adopted an ordinance banning polystyrene foam food service ware at the point-of-sale by all food vendors, City Facilities, City franchises, and contractors and vendors doing business within City limits. The ordinance became effective in September 2008.

The ordinance also requires all food vendors using any disposable food service ware to use biodegradable or compostable disposable food service ware. All City facilities, City franchises, and contractors and vendors doing business within the City limits are also required to use biodegradable or compostable disposable food service ware.

If a food vendor violates the provisions of the ordinance, a written warning notice is provided to the food vendor. If a subsequent violation of the ordinance is found, a penalty of up to one hundred dollars (\$100) applies. Second and third violations constitute a two hundred dollar (\$200) and five hundred dollar (\$500) fine, respectively.

Appendix A contains a copy of the Polystyrene Foam Food Service Ware Ordinance.

Alameda County Waste Management Authority Single-Use Bag Ban Ordinance

Single-Use plastic bags were a significant component of the litter found in storm drains and water bodies throughout Alameda County. To address this issue, the Alameda County Waste Management Authority has adopted a single-use bag ban. As of January 1, 2013, all grocery stores, supermarkets, mini-marts, convenience stores, liquor stores, pharmacies, drug stores or other entities that sell milk, bread, soda and snack foods (all four items) and/or alcohol (Type 20 or 21 license) in Alameda County must comply with the Single-Use Bag Ban Ordinance.

Single-Use Bag Requirement: Affected stores may no longer provide customers with single-use bags at check-out.

Bag Sales Requirements:

- Affected stores that distribute recycled paper or reusable bags must charge 10 cents or more per bag. These bags must meet the specifications in the Ordinance.
- All proceeds from the sale of recycled paper bags and reusable bags are retained by the retailer without any restrictions on their use

A copy of the Ordinance is available on the Alameda County Waste Management Authority's website: <http://reusablebagsac.org/ordinancetext.html>

Litter Outreach to K-12 Schools

The City of Albany is a member of ACCWP. The jurisdiction-wide control measures described below will be conducted through participation in ACCWP.

K-12 schools are often high litter generation areas. ACCWP has developed a request for proposal for a four-year litter reduction education/outreach grant directed at K-12 schools throughout Alameda County. ACCWP intends to award a total of up to \$125,000 per year to up to 4 successful applicants. The goals of the project are to clearly reduce the amount of litter at the participating schools and incorporate institutional changes at the schools so that litter will continue to be reduced in the future. Implementation is scheduled to begin in the 2014/15 school year. The request for proposal will include a requirement to evaluate the level of litter reduction achieved. A description of the successful proposals will be included in the ACCWP Fiscal Year 2013/14 Annual Report.

“Be the Street” Youth Anti-Litter Advertising Campaign

Intentional litter by youth has been found to be a significant contributor to litter problems. To address this issue, ACCWP has participated in the development and implementation of the Be the Street campaign. Be the Street is a Bay Area wide outreach effort that takes a Community Based Social Marketing approach to encourage youth to keep their community clean (<http://www.bethestreet.org/>). The intent of the campaign is to make “no-littering” the norm among the target audience (youth between the ages of 14 and 24). The campaign is a three-year effort that began in fiscal year 2011-12 and will run through 2013-14. ACCWP has been participating in and providing financial support to the Be the Street campaign since its inception. The campaign will be evaluated in the spring of 2014. Depending upon the results of the evaluation, ACCWP may continue to participate in this or similar efforts in future years.

Multi-Family Dwelling Litter Outreach

Multi-family dwellings (i.e., apartment buildings and condominium complexes) are often areas of high trash generation. ACCWP is working with the City of Livermore to develop a litter reduction pilot targeting multi-family complexes known to be sites with significant litter issues. The pilot includes the following apartment building and condominium complexes: Livermore Garden Apartments (5720 East Avenue), La Castilleja (975 Murrieta Boulevard), and Castilleja Del Arroyo (1001 and 1009 Murrieta Boulevard).

- December 2013: Pre-campaign Measurement – ACCWP and the City will take baseline measurements of all three sites. Methods of measurement will include taking photos of on-site litter, as well as collecting, characterizing and counting the litter using the Ocean Conservancy’s Volunteer Trash Data Form. (Adopt A Creek Spot volunteers use this Data Form to characterize and count the trash collected from the Trash Hot Spot located behind the condominium complexes on Coastal Clean-up Day.) Areas to be measured include landscaped and other common areas, the sidewalk, gutter and streets located in front of the sites. All three property managers/volunteers will collect one week’s worth of on-site litter.
- November – December 2013: Research – All three property managers will be interviewed by City staff using twenty-five questions developed by the ACCWP. The interview results will help define the target audience(s) (i.e., age groups, income level, ethnic groups, etc.) and determine outreach tactics (i.e., face-to-

face, signage, printed materials, etc.) This information will also assist the City and ACCWP in developing appropriate messaging.

- November 2013 – January 2014: Plan – One of the three sites will be chosen as the “Control” site. In addition, outreach strategies and tactics will be selected for the “Active” sites.
- February 2014: Concept/Design/Content Production – Selected outreach tactics will be designed and produced for the Active sites.
- February 2014: Multi-cultural Advising, Translation – Consultant will advise on outreach tactics and messaging, and will provide translation as needed.
- March 2014 – May 16, 2014: Outreach – Outreach tactics will be rolled out at Active sites.
- May 17, 2014 – May 31, 2014: Post-campaign Measurement — City staff and ACCWP will duplicate the pre-campaign measurement methodologies at all three sites, including the Control. All three property managers/volunteers will collect one week’s worth of on-site litter. On-site and off-site litter will be characterized and counted by City staff using the Ocean Conservancy’s Volunteer Trash Data Form. All three property managers will be interviewed by City staff to help determine residents’ attitudes/change in behavior, etc.
- June 1, 2014 – June 30, 2014: Reporting – Final Pilot Report will be presented to ACCWP member agencies.

Depending on the success of the pilot, it may be replicated at other multi-family complexes throughout the County.

The Public Information and Participation Subcommittee of ACCWP also is in the process of identifying other litter-related areas and activities that affect jurisdictions throughout the County, and will implement pilot projects to address the high priority issues over the next several years. One issue being considered is cigarette butt litter.

Community Stewardship Grants

Through its Community Stewardship Grants program ACCWP provides up to \$20,000 per year to individuals and community groups to implement stormwater and watershed enhancement and education projects. The grants range from \$1,000 to \$5,000. Starting in fiscal year 2014/15 ACCWP will specifically encourage and support litter reduction grant applications. The projects of the Fiscal Year 2014/15 grant recipients will be described in the ACCWP Fiscal Year 2013/14 Annual Report.

Anti-Litter Outreach to Residents

Through its Public Information and Participation program ACCWP encourages residents to adopt less polluting behaviors. One targeted behavior is littering, both intentional and unintentional. ACCWP uses a variety of mechanisms to influence residents including public service announcements, online and movie theater advertising, and

participating in outreach events. The ACCWP Public Information and Participation Subcommittee is in the process of developing a three-year budget/strategic plan for fiscal years 2014/15 through 2016/17. One of the strategic objectives of the plan will be to reduce litter. This plan will be described in the ACCWP Fiscal Year 2013/14 Annual Report.

3.2.12 Creek and Shoreline Hot Spot Cleanups

Trash Hot Spot	Description	Estimated Amount of Trash Removed Per Event (lbs)	Dominant Type(s) of Trash	Trash Sources (where possible)	Pre- or Post-MRP Action
San Francisco Bay Shoreline – Albany Beach (alb_sfb_1)	City-sponsored Coastal Clean Up event, held every September. 200-300 participants, approximately 5 acres of waterfront/bay trail area.	1200-1500lbs	Cigarettes/filters, caps/lids, food wrappers/containers, plastic bags, Styrofoam, paper bags	Inflow from Bay, general trash (including litter and illegal dumping)	Pre-MRP
San Francisco Bay Shoreline – Albany Beach (alb_sfb_1)	City-sponsored annual Earth Day clean up event held in April. 50-100 participants, approximately 5 acres of waterfront/bay trail area.	500-700lbs	Cigarettes/filters, caps/lids, food wrappers/containers, plastic bags, Styrofoam, paper bags	Inflow from Bay, general trash (including litter and illegal dumping)	Post-MRP
San Francisco Bay Shoreline – Albany Beach (alb_sfb_1)	The City supports 3-5 volunteer-run clean-up events annually through advertising/outreach efforts. 20-50 participants.	250-400lbs (~1,000lbs annually)	Small plastics, cigarette butts, rope, wood, and large debris.	Inflow from Bay, general trash (including litter and illegal dumping)	Post-MRP

3.2.13 Summary of Trash Control Measures

Trash Management Area 1

- On Land Trash Clean Up
- Anti Littering and Illegal Dumping Activity

Trash Management Area 2

- On Land Trash Clean Up
- Anti Littering and Illegal Dumping Activity
- Creek Clean UP

Trash Management Area 3

- Street Sweeping
- Full Trash Capture Treatment Devices

Trash Management Area 4

- Street Sweeping
- Improved Trash Bins/Container Management
- Trash Container Anti Litter Campaign

Trash Management Area 5

- Street Sweeping
- Improved Trash Bins/Container Management
- Full Trash Capture Treatment Devices

Trash Management Area 6

- Street Sweeping
- Trash Container Anti Litter Campaign
- Improved Trash Bins/Container Management

Trash Management Area 7

- Street Sweeping
- On Land Trash Clean Up
- Improved Trash Bins/Container Management

Trash Management Area 8

- Street Sweeping
- Full Trash Capture Treatment Devices
- Enforcement of Creek Management Plan

Trash Management Area 9

- On Land Trash Clean Up

Trash Management Area 10

- Street Sweeping

- Street Sweeping Effectiveness Assessment

The control measures listed above are designed to achieve full trash reduction (100% trash reduction) by 2022.

3.3 Control Measure Implementation Schedule

The City of Albany's detailed time schedule to implement all control measures for trash reduction is in Table 3-4 below.

Table 7. City of Albany completed and planned trash control measure implementation schedule.

Trash Management Area and Control Measures	Pre-MRP	Short-Term					Long-Term							
		FY 2009-2010	FY 2010-2011	FY 2011-2012	FY 2012-2013	FY 2013-2014 ^a	FY 2014-2015	FY 2015-2016	FY 2016-2017 ^b	FY 2017-2018	FY 2018-2019	FY 2019-2020	FY 2020-2021	FY 2021-2022 ^c
TMA #1 (1)														
On Land Trash Clean Up						X	X	X	X	X	X	X	X	X
Anti Littering & Illegal Dumping Activity						X	X	X	X	X	X	X	X	X
TMA #2														
On-Land Trash Cleanups						X	X	X	X	X	X	X	X	X
Anti Littering & Illegal Dumping Activity						X	X	X	X	X	X	X	X	X
Creek Cleanups														
TMA #3														
Street Sweeping	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Full Capture Treatment Devices							X	X	X	X	X	X	X	X
TMA #4														
Street Sweeping	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Improved Trash Bins/Container Management						X	X	X	X	X	X	X	X	X
Trash Container Anti Litter Campaign								X	X	X	X	X	X	X
TMA #5														
Street Sweeping	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Improved Trash Bins/Container Management						X	X	X	X	X	X	X	X	X
Full Capture Treatment Devices						X	X	X	X	X	X	X	X	X
TMA #6														
Street Sweeping	X	X	X	X	X	X	X	X	X	X	X	X	X	X

Trash Management Area and Control Measures	Pre-MRP	Short-Term					Long-Term								
		FY 2009-2010	FY 2010-2011	FY 2011-2012	FY 2012-2013	FY 2013-2014 ^a	FY 2014-2015	FY 2015-2016	FY 2016-2017 ^b	FY 2017-2018	FY 2018-2019	FY 2019-2020	FY 2020-2021	FY 2021-2022 ^c	
Trash Container Anti Litter Campaign								X	X	X	X	X	X	X	
Improved Trash Bins/Container Management							X	X	X	X	X	X	X	X	
TMA #7															
Street Sweeping	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
On-Land Trash Cleanups	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
Improved Trash Bins/Container Management						X	X	X	X	X	X	X	X	X	
TMA #8															
Street Sweeping	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
Full Capture Treatment Devices						X	X	X	X	X	X	X	X	X	
Enforcement of Creek Management Plan							X	X	X	X	X	X	X	X	
TMA #9															
On-Land Trash Cleanups							X	X	X	X	X	X	X	X	
TMA #10															
Street Sweeping	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
Jurisdiction-wide Control Measures															
Polystyrene foam ban (food vendors, City franchises and City facilities)	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
Single-use Bag Ban					X	X	X	X	X	X	X	X	X	X	
K-12 School Outreach							X	X	X	X	Activities to be determined				
Be the Street campaign				X	X	X	Activities to be determined								
Multi-Family Dwelling Outreach						X	Activities to be determined								
Community Stewardship Grants (litter)							X	Activities to be determined							
Litter related outreach to residents	X	X	X	X	X	X	X	X							

Trash Management Area and Control Measures	Pre-MRP	Short-Term					Long-Term							
		FY 2009-2010	FY 2010-2011	FY 2011-2012	FY 2012-2013	FY 2013-2014 ^a	FY 2014-2015	FY 2015-2016	FY 2016-2017 ^b	FY 2017-2018	FY 2018-2019	FY 2019-2020	FY 2020-2021	FY 2021-2022 ^c
Creek and Shoreline Hot Spot Cleanups														
Annual Cleanups	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Assessments	X	X	X	X	X	X	X	X	X	X	X	X	X	X

^aJuly 1, 2014 - 40% trash reduction target

^bJuly 1, 2017 - 70% trash reduction target

^cJuly 1, 2022 - 100% trash reduction target

1. The City is committed to these activities until the land is transferred to the East Bay Regional Park District

4.0 PROGRESS ASSESSMENT STRATEGY

Provision C.10.a.ii of the MRP requires Permittees to develop and implement a 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 targets. Early into the MRP, Permittees decided to work collaboratively to develop a trash load reduction tracking method through the Bay Area Stormwater Management Agencies Association (BASMAA). Permittees, Water Board staff and other stakeholders assisted in developing Version 1.0 of the tracking method. On behalf of all MRP Permittees, the Bay Area Stormwater Management Agencies Association (BASMAA) submitted Version 1.0 to the Water Board on February 1, 2012.

The Trash Assessment Strategy (Strategy) described in this section is intended to serve as Version 2.0 of the trash tracking method and replace version 1.0 previously submitted to the Water Board. The Strategy is specific to Permittees participating in the Alameda Countywide Clean Water Program (ACCWP), including the City of Albany. The City intends to implement the Strategy in phases and at multiple geographical scales (i.e., jurisdiction-wide and trash management area) in collaboration with ACCWP. Pilot implementation is scheduled for the near-term and as assessment methods are tested and refined, the Strategy will be adapted into a longer-term approach. The Strategy selected by the City is described in the following sections.

4.1 ACCWP Pilot Assessment Strategy

The following ACCWP Pilot Trash Assessment Strategy (ACCWP Pilot Strategy) was developed by ACCWP on behalf of the City and other Permittees in Alameda County. The ACCWP Pilot Strategy will be implemented at a pilot scale on a countywide basis and includes measurements and observations in the City of Albany.

4.1.1 Management Questions

The ACCWP Pilot Strategy is intended to answer the following management questions over time as trash control measures outlined in section 3.0 are implemented and refined:

- Are specific control measures effective?
- Is the amount of trash in and along local waterways declining?
- Are control measures being implemented appropriately?

The ACCWP Pilot Strategy, including indicators and methods, is summarized in this section. These indicators are intended to detect progress towards trash load reduction targets and solving trash problems.

4.1.2 Indicators of Progress and Success

To track progress, both outcome and output indicators will be assessed. Outcome-based indicators are those that measure the result of litter reduction efforts. This type of indicator could include measurements of litter in and around the storm drain system or

local water bodies. Output-based indicators are those that assess the implementation of control measures. This type of indicator could include assessing the maintenance of trash capture devices or compliance with product bans. Indicators that ACCWP Permittees will use to answer the management questions include:

Outcome-Based Indicators:

- 1-A Amount of single-use plastic bags entering storm drains
- 1-B Amount of polystyrene food ware entering storm drains
- 1-C Amount of litter removed from Trash Hot Spots and other creek/shoreline cleanup events
- 1-D Amount of litter at schools participating in the litter outreach program
- 1-E Amount of litter at multi-family dwellings participating in the targeted outreach program
- 1-F Self-reported litter related attitude and behavior of residents

Output-Based Indicators:

- 2-A Full capture device operation and maintenance
- 2-B Compliance with the Single-Use Bag Ban
- 2-C Implementation of an effective street sweeping program
- 2-D Commercial Trash Container Management
- 2-E Residential Trash Container Management

In selecting the indicators above, the City of Albany in collaboration with ACCWP and other ACCWP Permittees recognize that no one environmental indicator will provide the information necessary to effectively determine progress made in reducing trash discharged from MS4s and improvements in the level of trash in receiving waters. Multiple indicators were therefore selected.

As described in Section 2.2, trash is transported to receiving waters from pathways other than MS4s, which may confound our ability to observe MS4-associated reductions in creeks and shorelines. Evaluations of data on the amount of trash in receiving waters that are conducted over time through the Pilot Assessment Strategy will assist the City in further determinations of the important sources and pathways causing problems in local creeks, rivers and shorelines.

4.1.3 Pilot Assessment Methods

This section briefly summarizes the preliminary assessment methods that the City of Albany will implement through the ACCWP Pilot Strategy to generate indicator information described in the previous section. Additional information on each method can be found in the ACCWP Pilot Trash Assessment Strategy submitted to the Water Board by ACCWP on behalf of the City.

OUTCOME-BASED INDICATORS

1-A Amount of Single-Use Plastic Bags Entering Storm Drains

ACCWP participated in the development of the BASMAA baseline trash generation rate study. A total of 47 drop inlet full trash capture devices located throughout Alameda County were included in the study. The study included an assessment of the volume and number of single-use plastic bags found in these 47 inlets as well as over 100 other inlets from throughout the Bay Area. Since the conclusion of the study, the Alameda County Waste Management Authority has adopted a single-use bag ban. As of January 1, 2013, all grocery stores, supermarkets, mini-marts, convenience stores, liquor stores, pharmacies, drug stores or other entities that sell milk, bread, soda and snack foods (all four items) and/or alcohol (Type 20 or 21 license) in Alameda County must comply with the Single-Use Bag Ban Ordinance.

ACCWP will conduct a follow-up study to assess the number and volume of single-use plastic bags in storm drain inlets throughout the County following the implementation of the bag ban. The study will consist of re-sampling most or all devices sampled during the previous study and comparing the number of single-use bags found before versus after the implementation of the bag ban. ACCWP will also sample up to 50 additional full trash capture inlet devices from high and medium trash generating areas throughout the County and compare the number of single-use bags found in all of the sampled inlets in Alameda County after the adoption of the bag ban versus the number of bags found in inlets throughout the Bay Area during the baseline trash generation rate study. ACCWP is planning to assess the level of single-use and other trash in all of the approximately 100 inlets again after several years to assess the overall decline in trash over time. A detailed study design is included in the ACCWP Pilot Assessment Strategy to be submitted separately.

1-B Amount of Polystyrene Food Ware Entering the Storm Drain System

As noted above, ACCWP participated in the development of the BASMAA baseline trash generation rate study. A total of 47 drop inlet full trash capture devices located throughout Alameda County were included in the study. The study included an assessment of the volume and number of expanded polystyrene (EPS) food ware items found in these 47 inlets as well as over 100 other inlets from throughout the Bay Area. A majority of the fourteen cities within Alameda County have adopted expanded polystyrene food ware bans. San Leandro and Pleasanton adopted their expanded polystyrene bans after the completion of the BASMAA baseline trash generation rate study.

ACCWP will conduct a follow-up study to assess the effectiveness of the EPS food ware bans at reducing the amount of EPS entering the storm drain system. As San Leandro and Pleasanton have adopted their ban since the completion of the baseline study, the follow-up study will compare the volume and number of EPS food ware items in the full trash capture devices in those two cities before and after the implementation of the bans. ACCWP will also sample a total of up to 100 full trash capture inlet devices from throughout the County and compare the number and volume of EPS food ware items in areas with versus without EPS bans. A detailed study design is included in the ACCWP Pilot Assessment Strategy to be submitted separately.

1-C Amount of Litter Removed from Trash Hot Spots and Other Creek/Shoreline Cleanup Events

ACCWP member agencies collect trash annual from a total of 47 Hot Spots as well as numerous additional creek and shoreline cleanup events. Each member agency will gather data from these events that will allow for long term tracking of trends. The data to be collected include the volume and or weight of trash removed, the number of people and or the total number of person hours for each event, the length of creek or shoreline cleaned, and the dominant types of trash at each location. ACCWP will compile the data from these events and track the long term trends in trash along these water bodies throughout the County. Member agencies will also track trends at their specific cleanup locations.

1-D Amount of Litter at Schools Participating in the Litter Outreach Program

ACCWP has developed a request for proposal for a four-year litter reduction education/outreach grant directed at K-12 schools throughout Alameda County. ACCWP intends to award a total of up to \$125,000 per year to the successful applicant(s). The goals of the project are to clearly reduce the amount of litter at the participating schools and incorporate institutional changes at the schools so that litter will continue to be reduced in the future. Implementation is scheduled to begin in the 2014/15 school year. The request for proposal will include a requirement to evaluate the level of litter reduction achieved. A copy of the request for proposals is included in the ACCWP Pilot Assessment Strategy. A description of the assessment mechanism(s) of the successful proposal(s) will be included in the ACCWP Fiscal Year 2013/14 Annual Report.

1-E Amount of Litter at Multi-Family Dwellings Participating in the Targeted Outreach Program

Multi-family dwellings (i.e., apartment buildings and condominium complexes) are often areas of high trash generation. ACCWP is working with the City of Livermore to develop a litter reduction pilot targeting multi-family complexes known to be sites with significant litter issues. The pilot includes the following apartment building and condominium complexes: Livermore Garden Apartments (5720 East Avenue), La Castilleja (975 Murrieta Boulevard), and Castilleja Del Arroyo (1001 and 1009 Murrieta Boulevard). The planned assessment mechanisms include:

- December 2013: Pre-campaign Measurement – ACCWP and the City will take baseline measurements of all three sites. Methods of measurement will include taking photos of on-site litter, as well as collecting, characterizing and counting the litter using the Ocean Conservancy’s Volunteer Trash Data Form. (Adopt A Creek Spot volunteers use this Data Form to characterize and count the trash collected from the Trash Hot Spot located behind the condominium complexes on Coastal Clean-up Day.) Areas to be measured include landscaped and other common areas, the sidewalk, gutter and streets located in front of the sites.

All three property managers/volunteers will collect one week's worth of on-site litter.

- November – December 2013: Research – All three property managers will be interviewed by City staff using twenty-five questions developed by the ACCWP. The interview results will help define the target audience(s) (i.e., age groups, income level, ethnic groups, etc.) and determine outreach tactics (i.e., face-to-face, signage, printed materials, etc.) This information will also assist the City and ACCWP in developing appropriate messaging.
- November 2013 – January 2014: Plan – One of the three sites will be chosen as the "Control" site. In addition, outreach strategies and tactics will be selected for the "Active" sites.
- May 17, 2014 – May 31, 2014: Post-campaign Measurement — City staff and ACCWP will duplicate the pre-campaign measurement methodologies at all three sites, including the Control. All three property managers/volunteers will collect one week's worth of on-site litter. On-site and off-site litter will be characterized and counted by City staff using the Ocean Conservancy's Volunteer Trash Data Form. All three property managers will be interviewed by City staff to help determine residents' attitudes/change in behavior, etc.
- June 1, 2014 – June 30, 2014: Reporting – Final Pilot Report will be presented to ACCWP member agencies.

1-F Self-Reported Litter Related Attitude and Behavior of Residents

Through its Public Information and Participation program ACCWP encourages residents to adopt less polluting behaviors. One targeted behavior is littering. ACCWP uses a variety of mechanisms to influence residents including public service announcements, online and movie theater advertising, outreach to K-12 schools, and participating in outreach events. ACCWP conducts telephone surveys of residents every several years to gauge Alameda County residents' awareness and attitude regarding stormwater related issues. These surveys include questions regarding respondents' reported behavior and attitudes regarding litter and littering. Future surveys will continue to track the long term trends in residents' awareness and attitudes regarding litter and littering.

OUTPUT-BASED INDICATORS

2-A Full capture device operation and maintenance

Consistent with the MRP, adequate inspection and maintenance of trash full capture devices is required to maintain full capture designation by the Water Board. The City of Albany is currently developing an operation and maintenance verification program (Trash O&M Verification Program), via ACCWP, to ensure that devices are inspected and maintained at a level that maintains this designation. The ACCWP Trash O&M

Verification Program will be modeled on the current O&M verification program for stormwater treatment controls implemented consistent with the Permit new and redevelopment requirements.

2-B Compliance with the Single-Use Bag Ban

The Alameda County Waste Management Authority is taking the lead on inspection and enforcement of the Single-Use Bag Ban. ACCWP will coordinate with the Waste Management Authority and report on the results of their inspection and enforcement program.

2-C Implementation of an effective street sweeping program

Street sweeping can be very effective in reducing the amount of trash entering the storm drain system. However, its effectiveness is dependent upon the frequency of sweeping and the ability of the sweeper to sweep along the edge of the curb. Parked cars can significantly reduce the effectiveness of a street sweeping program. The City of Albany will *coordinate with ACCWP to develop and implement an assessment of its street sweeping program.*

2-D Commercial Trash Container Management

Improper trash container management at commercial facilities can be a significant source of trash to the storm drain system. The City of Albany *will coordinate with ACCWP to develop and implement an assessment of its commercial trash container management program.*

2-E Residential Trash Container Management

Fugitive trash from residential trash collection can be a significant source of trash to the storm drain system. The City of Albany *will coordinate with ACCWP to develop and implement an assessment of its residential trash collection program.*

4.2 BASMAA “Tracking California’s Trash” Project

The ACCWP Pilot Assessment Strategy described in the previous section recognizes that outcome-based trash assessment methods needed to assess progress toward trash reduction targets are not well established. In an effort to address these information gaps associated with trash assessment methods, the Bay Area Stormwater Management Agencies Association (BASMAA), in collaboration with ACCWP, the 5 Gyres Institute, San Francisco Estuary Partnership, the City of Los Angeles, and other stormwater programs in the Bay Area, developed the *Tracking California’s Trash* Project. The Project is funded through a Proposition 84 grant awarded to BASMAA by the State Water Resources Control Board (SWRCB) who recognized the need for standardized trash assessment methods that are robust and cost-effective.

The Project is intended to assist BASMAA member agencies in testing trash assessment and monitoring methods needed to evaluate trash levels in receiving waters, establish control measures that have an equivalent performance to trash full capture devices, and assess progress in trash reduction over time. The following sections provide brief descriptions of tasks that BASMAA will conduct via the three-year Project. Full descriptions of project scopes, deliverables, and outcomes will be developed as part of the task-specific Sampling and Analysis Plans required by the SWRCB during the beginning of the Project. The Project is currently underway and will continue through 2016.

4.2.1 Testing of Trash Monitoring Methods

BASMAA and the 5 Gyres Institute will evaluate the following two types of assessment methods as part of the Project:

- **Trash Flux Monitoring** – Trash flux monitoring is intended quantify the amount of trash flowing in receiving waters under varying hydrological conditions. Flux monitoring will be tested in up to four receiving water bodies in San Francisco Bay and/or the Los Angeles areas. Methods selected for evaluation and monitoring will be based on a literature review conducted during this task and through input from technical advisors and stakeholders. Monitoring is scheduled to begin in 2014 and will be completed in 2016.
- **On-land Visual Assessments** – As part of the Project, BASMAA will also conduct an evaluation of on-land visual assessment methods that are included in the ACCWP Pilot Assessment Strategy. The methods are designed to determine the level of trash on streets and public right-of-ways that may be transported to receiving waters via MS4s. BASMAA plans to conduct field work associated with the evaluation of on-land visual assessment at a number of sites throughout the region. To the extent practical, sites where the on-land methods evaluations take place will be coordinated with trash flux monitoring in receiving waters. On-land assessments will occur in areas that drain to trash full capture devices, and all sites will be assessed during wet and dry weather seasons in order to evaluate on-land methods during varying hydrologic conditions. Monitoring is scheduled to begin in 2014 and will be completed in 2016.

4.2.2 Full Capture Equivalent Studies

Through the implementation of BASMAA's *Tracking California's Trash* grant-funded project, a small set of "Full Capture Equivalent" projects will also be conducted in an attempt to demonstrate that specific combinations of control measures will reduce trash to a level equivalent to full capture devices. Initial BMP combinations include high-frequency street sweeping, and enhanced street sweeping with auto-retractable curb inlet screens. Other combinations will also be considered. Studies are scheduled to begin in 2014 and will be completed in 2016.

4.3 Additional Progress Assessments

The City of Albany will document the implementation of trash control measures and evaluate the effectiveness of those control measures through visual assessments. A representative area within each Trash Management Area (i.e. City block, school, defined plot in a natural area) will be selected and then assessed visually on a quarterly basis. The City will use the same street trash assessment protocol that was used to develop the City's trash generation map. Data and photographs will be organized in a manner that allows analysis and trending to be conducted. In addition, the City will document maintenance frequency of the full trash capture devices and characterize the debris removed.

4.4 Long-Term Assessment Strategy

The City of Albany is committed to implementing standardized assessment methods post-FY 2016/17 based on the lessons learned from pilot assessments. Assessment activities described in the previous sections will evaluate the utility of different assessment methods to demonstrate progress towards trash reduction targets and provide recommended approaches for long-term implementation. Lessons learned will be submitted to the Water Board with the FY 2015-2016 Annual Report and a revised Strategy will be developed and submitted, if necessary. The revised Strategy will include assessment methods that will be used to demonstrate progress during the remaining term of trash reduction requirements.

4.5 Implementation Schedule

The implementation schedule for the ACCWP Pilot Implementation Strategy, BASMAA's Tracking California's Trash project, and the Long-Term Assessment Strategy are included in Table 4-1. Load reduction reporting milestones are also denoted in the table. The schedule is consistent with the need for near-term pilot assessment results to demonstrate progress toward short-term targets, while acknowledging the need for testing and evaluation of assessment methods and protocols prior to long-term implementation.

Table 4-1. City of Albany planned trash progress assessment implementation schedule.

Trash Assessment Programs and Methods	Prior to FY 2013-14	Fiscal Year								
		2013-14 ^a	2014-15	2015-16	2016-17 ^b	2017-18	2018-19	2019-20	2020-21	2021-22 ^c
Pilot Trash Assessment Strategy (ACCWP)										
Single-Use Plastic Bag Assessment	X	X				X				
Expanded Polystyrene Assessment	X	X								
Trash Hot Spot Cleanup Assessment	X	X	X	X	X					
K-12 School Litter Reduction Outreach Program						X				
Multi-Family Dwelling Litter Outreach Program	X									
Residents' Self-Reported Litter-Related Behavior	X					X				
Full Capture Operation and Maintenance Verification			X	X	X					
Single-Use Bag Ban Compliance		X	X	X	X					
Street Sweeping Effectiveness Evaluation			X	X	X					
Commercial Trash Container Management Assessment			X	X	X					
Residential Trash Container Management Assessment			X	X	X					
Tracking California's Trash Project (BASMAA)										
Testing of Trash Monitoring Methods										
Trash Flux Monitoring Protocol Testing			X	X	X					
On-land Visual Assessment Evaluations			X	X	X					
Full Capture Equivalent Studies			X	X	X					
Additional Assessments (City of Albany)										
Visual Assessments - each TMA			X	X	X	X	X	X	X	X
Long-Term Trash Assessment Strategy (ACCWP)						X	X	X	X	X

^aJuly 1, 2014 - 40% trash reduction target
^bJuly 1, 2017 - 70% trash reduction target
^cJuly 1, 2022 - 100% trash reduction target

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