

Long-Term Trash Load Reduction Plan and Assessment Strategy

Submitted by:



500 Castro St. Mountain View, CA 94041-2010

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

January 31, 2014

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**CITY OF MOUNTAIN VIEW
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:



Jaymae Wentker
Fire Marshal

January 31, 2014

TABLE OF CONTENTS

CERTIFICATION STATEMENT	III
TABLE OF CONTENTS	IV
LIST OF TABLES	V
LIST FIGURES	V
ABBREVIATIONS	VI
PREFACE	2
1.0 INTRODUCTION	2
1.1 PURPOSE OF LONG-TERM TRASH REDUCTION PLAN.....	2
1.2 BACKGROUND.....	3
1.2.1 <i>Long-Term Trash Load Reduction Plan Framework</i>	3
1.2.2 <i>BASMAA Generation Rates Project</i>	4
1.2.3 <i>Short-Term Trash Load Reduction Plan</i>	5
1.3 ORGANIZATION OF LONG-TERM PLAN.....	7
2.0 SCOPE OF THE TRASH PROBLEM	8
2.1 PERMITTEE CHARACTERISTICS.....	8
2.2 TRASH SOURCES AND PATHWAYS.....	8
2.3 TRASH GENERATING AREAS.....	10
2.3.1 <i>Generation Categories and Designation of Areas</i>	10
2.3.2 <i>Summary of Trash Generating Areas and Sources</i>	12
3.0 TRASH MANAGEMENT AREAS AND CONTROL MEASURES	15
3.1 MANAGEMENT AREA DELINEATION AND PRIORITIZATION.....	15
3.2 CURRENT AND PLANNED TRASH CONTROL MEASURES.....	19
3.2.1 <i>Trash Management Area #1</i>	19
3.2.2 <i>Trash Management Area #2</i>	24
3.2.3 <i>Trash Management Area #3</i>	26
3.2.4 <i>Trash Management Area #4</i>	28
3.2.5 <i>Trash Management Area #5</i>	31
3.2.6 <i>Trash Management Area #6</i>	33
3.2.7 <i>Trash Management Area #7</i>	35
3.2.8 <i>Trash Management Area #8</i>	37
3.2.9 <i>Trash Management Area #9</i>	40
3.2.10 <i>Trash Management Area #10</i>	42
3.2.11 <i>Trash Management Area #11</i>	44
3.2.12 <i>Trash Management Area #12</i>	45
3.2.13 <i>Trash Management Area Schools</i>	47
3.2.14 <i>Jurisdiction-wide Control Measures</i>	50
3.2.15 <i>Creek and Shoreline Hot Spot Cleanups</i>	57
3.2.16 <i>Summary of Trash Control Measures</i>	57
3.3 CONTROL MEASURE IMPLEMENTATION SCHEDULE.....	62
4.0 PROGRESS ASSESSMENT STRATEGY	70
4.1 SCVURPPP PILOT ASSESSMENT STRATEGY.....	70
4.1.1 <i>Management Questions</i>	70
4.1.2 <i>Indicators of Progress and Success</i>	70
4.1.3 <i>Pilot Assessment Methods</i>	71

4.2 BASMAA “TRACKING CALIFORNIA’S TRASH” PROJECT 74
 4.2.1 *Testing of Trash Monitoring Methods* 75
 4.2.2 *Full Capture Equivalent Studies*..... 75
 4.4 LONG-TERM ASSESSMENT STRATEGY 75
 4.5 IMPLEMENTATION SCHEDULE..... 75
5.0 REFERENCES..... 77

LIST OF TABLES

TABLE 1. SAN FRANCISCO BAY AREA TRASH GENERATION RATES BY LAND USE (GALLONS/ACRE/YEAR).
 TABLE 2. PERCENTAGES OF THE CITY OF MOUNTAIN VIEW’S JURISDICTIONAL AREA WITHIN LAND USE CLASSES IDENTIFIED BY ABAG (2005)
 TABLE 3. TRASH GENERATION CATEGORIES AND ASSOCIATED GENERATION RATES (GALLONS/ACRE/YEAR).
 TABLE 4. DEFINITIONS OF ON-LAND TRASH ASSESSMENT CONDITION CATEGORIES.
 TABLE 5. PERCENTAGE OF JURISDICTIONAL AREA WITHIN THE CITY/COUNTY OF [INSERT MUNICIPALITY NAME] ASSIGNED TO EACH TRASH GENERATION CATEGORY.
 TABLE 6. JURISDICTIONAL AREA AND PERCENTAGE OF EACH TRASH MANAGEMENT AREA (TMA) COMPRISED OF TRASH GENERATION CATEGORIES
 TABLE 7. CITY OF MOUNTAIN VIEW TRASH CONTROL MEASURE IMPLEMENTATION SCHEDULE.
 TABLE 8. TRASH CONDITION CATEGORIES USED IN THE DRAFT ON-LAND VISUAL ASSESSMENT PROTOCOL.
 TABLE 9. CITY OF MOUNTAIN VIEW TRASH PROGRESS ASSESSMENT IMPLEMENTATION SCHEDULE.

LIST FIGURES

FIGURE 1. EIGHT-STEP FRAMEWORK FOR DEVELOPING, IMPLEMENTING AND REFINING LONG-TERM TRASH REDUCTION PLANS.
 FIGURE 2. CONCEPTUAL MODEL OF TRASH GENERATION, INTERCEPTION AND LOAD.
 FIGURE 3. TRASH SOURCES CATEGORIES AND TRANSPORT PATHWAYS TO URBAN CREEKS.
 FIGURE 4. TRASH SOURCES CATEGORIES AND TRANSPORT PATHWAYS TO URBAN CREEKS.
 FIGURE 5. FINAL TRASH GENERATION MAP FOR THE CITY OF MOUNTAIN VIEW
 FIGURE 6. TRASH MANAGEMENT AREA MAP FOR THE CITY OF MOUNTAIN VIEW
 FIGURE 7. TRASH FULL CAPTURE DEVICE MAP FOR THE CITY OF MOUNTAIN VIEW

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
LID	Low-Impact Development
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
TMA	Trash Management Area
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 Mountain View'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 Mountain View 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 Mountain View 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 the City of Mountain View’s municipal separate storm sewer system (MS4) that are regulated by NPDES Permit requirements. The Long-Term Plan includes:

1. Descriptions 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 Mountain View’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, Bay Area countywide stormwater program staff 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).

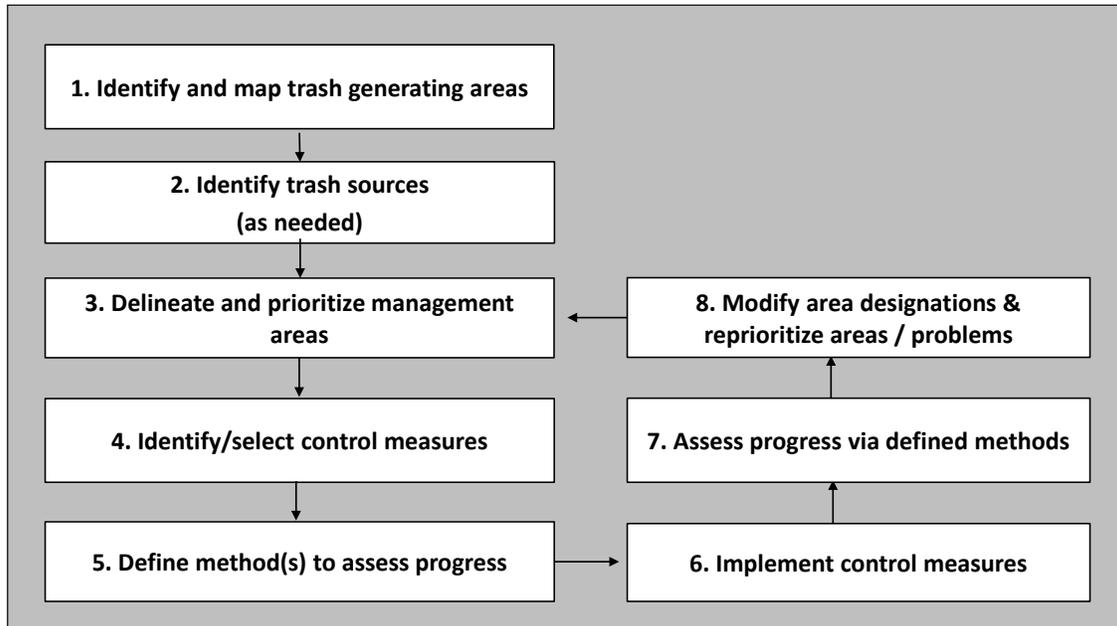


Figure 1. Eight-step framework for developing, implementing and refining Long-Term Trash Reduction Plans.

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.

1.2.3 Short-Term Trash Load Reduction Plan

In February 2012, the City of Mountain View developed a Short-Term Plan that described the current level of control measures implementation and identified the type and extent to which new or enhanced control measures would be implemented to attain a 40% trash load reduction from its MS4 by July 1, 2014. Since that time, the City has begun to implement its short-term plan. Control measures implemented to date via the short-term trash reduction plan are:

- **Single-Use Plastic Bag Ban:** Starting on Earth Day, April 22, 2013, the Reusable Bag Ordinance was approved by City Council after considering an Environmental Impact Report in which Mountain View joined 24 other cities to study the effects of single-use plastic bags on the environment. The intent of the ordinance is to prevent harm to marine life, damage to stormwater utility systems, reduce litter and waste, and conserve natural resources. The Ordinance also helps the City meet requirements to reduce plastic bags found in waterways under the Municipal Stormwater Permit issued by the Regional Water Quality Control Board.
- **Proposed Polystyrene Foam Food Service Ware:** On or after July 1, 2014, the proposed ordinance prohibits the use of foam food ware at any establishment located or operating in the City of Mountain View which provides ready-to-consume food and beverage for dine-in, take-out, or complimentary service, whether or not a charge is imposed. It also applies to establishments providing food and beverage: (1) to the public for consumption on or off its premises; (2) as a catered event; and/or (3) at cafeterias of private schools and places of employment, regardless if such establishments are open to the general public. This includes, but is not limited to, restaurants, retail food establishments, caterers, cafeterias, stores, shops, sales outlets, grocery stores, delicatessens, fraternal clubs serving the public, mobile food vendors, vehicles or carts, or roadside stands. <http://www.mountainview.gov/civica/filebank/blobdload.asp?BlobID=11482>
- In December 2010, the City Council approved an agreement with Association of Bay Area Government (ABAG) for the City's participation in the grant-funded Bay Area-Wide Trash Capture Demonstration Project. The City utilized the grant funding by purchasing a large trash capture device which consists of an underground vault that screens, separates and traps debris and sediment from stormwater. The device was installed on the north side of Leland Avenue, between College Avenue and Fair Oaks Street, and

captures trash from an area of approximately 125 acres of residential, and commercial neighborhoods and Rengstorff Park.

- Street Sweeping: High priority areas (including areas of TMA#1, #2, and #5) of the City are swept weekly, and other areas are swept every other week (twice monthly). The City is considering opportunities to better direct sweeping resources to high priority areas.
- On-Land Clean Up: On-land cleanups conducted by City employees and volunteers have been successful in removing trash from identified trash hot spots and engaging local citizenry in improving their communities. The City has 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. City Staff and volunteers patrol Stevens Creek Trail daily and pick up trash and litter on their patrols, and report illegal dumping sites to City Staff for clean-up of such sites. City Staff also conduct routine litter and trash collection at City facilities, parks and right-of-ways. These patrols occur year round.
- Outreach: The City participates in Region-Wide outreach activities and campaigns related to trash reduction including; Who Dirtied the Bay – 3rd Grade Education Program. The focus of this program is on stormwater and how the pollutants impact the Baylands and Water Environment. Pollution Prevention solutions are discussed. Students also learn the difference between wastewater and stormwater (where it comes from, where it goes); the water cycle; the definition and function of a watershed; and the principles of, “reduce/reuse/recycle/rot/respect.” Mountain View schools are reached through the Palo Alto Regional Water Quality Control Plant’s school outreach program, which the city of Mountain View is a partner. Food Service establishments are provided with ‘courtesy visits’ with staff from the City’s Solid Waste Division to distribute information and resources regarding waste, trash, and recycling management. Litter/Trash education materials and information are provided at City Events (i.e. Thursday Night Live events, Arbor Day, Art & Wine, etc.)
- Creek Clean-up Events – The City of Mountain View hosts two clean-up events every year associated with National River Clean-up Day and Coastal Clean-up Day. They City has also partnered with Acterra to participate in World Monitoring Day.
- Successful Establishment of Business Improvement Districts with Trash Reduction Control Measures – The City of Mountain View’s Downtown area (Castro St.) is comprised of exclusively retail and food service facilities. This area is referred to as a Business Improvement District. City Staff maintain this area on a daily basis including sidewalk sweeping, litter pick-up and maintenance of trash containers at least once per week.

Control measures described in this Long-Term Plan build upon actions taken to-date via City’s Short-Term Plan. A full description of control measures implemented via short and long-term plans is included in section 3.2. Outcomes associated with short-term plan implementation will be reported in the City’s Fiscal Year 2013-14 Annual Report, scheduled for submittal to the Water Board by September 15, 2014.

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. Control measures that will be implemented by City 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 1902, the City of Mountain View is located in Santa Clara County, and has a jurisdictional area of 7,755 acres. According to the 2010 Census, it has a population of 74,066, with a population density of 6,034.7 people per square mile, and average household size of 2.31. Of the 74,066 who call the City of Mountain View home, 19.7% are under the age of 18, 7.3% are between 18 and 24, 38.6% are between 25 and 44, 23.8% are between 45 and 64, and 10.6% are 65 or older. Companies such as Google, Symantec, El Camino Hospital, Microsoft, Intuit, Synopsys, Palo Alto Medical Foundation, KPMG, LinkedIn, and Omnicell are located in the City of Mountain View. The median household income was \$69,362 in 2000. Three major freeways run through the City of Mountain View, Highway 101, Interstate 280 and CA-85. El Camino Real (SR-82). CalTrain and Santa Clara County VTA are also located in the City. According to the Santa Clara County Homeless Census & Survey of 2013, there are 139 homeless people living in Mountain View, up from 37 homeless people identified in 2011.

Land uses within the City of Mountain View depicted in ABAG (2005) are provided in Table 2. The City is primarily comprised of three land uses. These include residential, commercial and services, and industrial.

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

Land Use Category	Jurisdictional Area	
(acres)	% of Jurisdictional Area	
Commercial and Services	1,155.4	16.6%
Industrial	754.7	10.8%
Residential	3,430.1	49.2%
Retail	394.9	5.7%
K-12 Schools	229.9	3.3%

2.2 Trash Sources and Pathways

Trash in San Francisco Bay Area creeks and shorelines originates from a variety of sources and is transported to receiving waters by a number of pathways (Figure 3). Of the four source categories, pedestrian litter includes trash sources from high traffic areas near businesses and schools, transitional areas (e.g. bus stops), and from public or private special events with high volumes of people. Trash from vehicles occurs due to littering from automobiles and uncovered loads. Inadequate waste container management includes sources such as overflowing or

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).

uncovered containers and dumpsters as well as the dispersion of household and business-related trash and recycling materials before, during, and after collection. On-land illegal dumping of trash is the final source category.

Trash is transported to receiving waters through three main pathways: 1) Stormwater Conveyances; 2) Wind; and, 3) Direct Dumping. Stormwater or urban runoff conveyance systems (e.g., MS4s) consist of curbs/gutters, and pipes and channels that discharge to urban creeks and the San Francisco Bay shorelines. Wind can also blow trash directly into creeks or the Bay. Lastly, trash in receiving waters can also originate from direct dumping into urban creeks and shorelines.

This Long-term Plan and associated trash control measures described in Section 3.0 are focused on reducing trash from one of the transport pathways illustrated in Figure 3—**stormwater conveyances**. Specifically, the Long-term Plan is focused on reducing the impacts of discharges from MS4s to San Francisco Area receiving waters and the protection of associated beneficial uses.

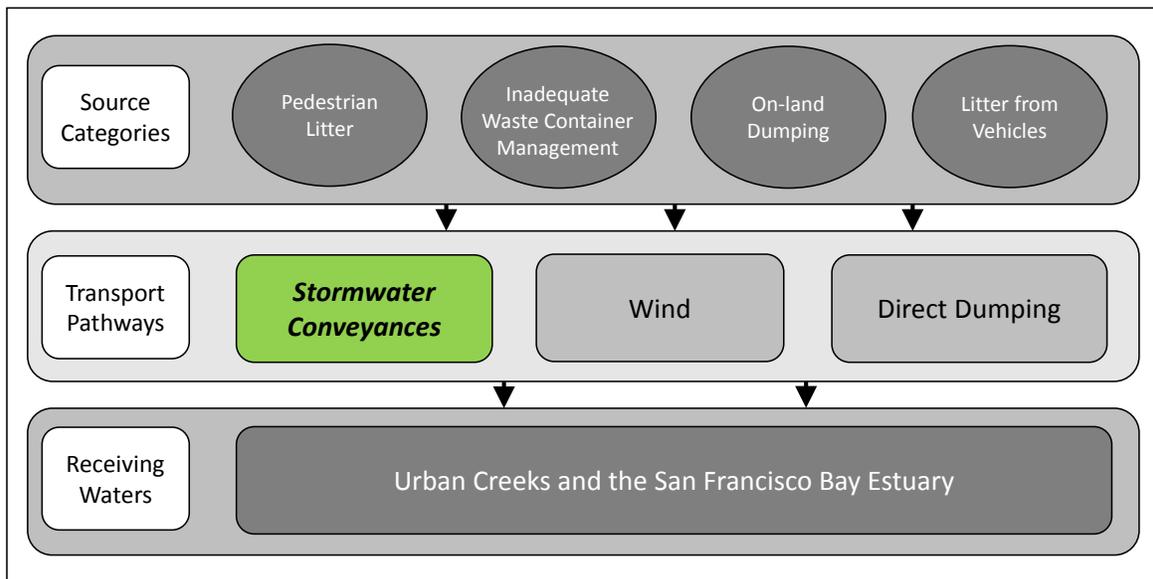


Figure 3. Trash sources categories and transport pathways to urban creeks.

The City has taken the following actions to address the Wind and Direct Dumping transport pathways, which are planned to be continued:

- Weekly street-sweeping of the streets along the Baylands
- Volunteer Collaborative Activities - National River Cleanup Day (third Saturday in May) Coastal Cleanup Day (third Saturday in September), Removal of Homeless Encampments, Routine or Regularly Scheduled Creek Maintenance Illegal Dump Site Correction, Clean-Up by the Shoreline Watershed Council along Stevens Creek Trail and Shoreline Park.
- Commercial/Industrial Inspections and complaint response
- In addition to responding to interagency and citizen reports of illegal dumping via phone calls during business hours, The City of Mountain View utilizes a recently introduced feature on the City’s website called “Ask Mountain View”. This website is a portal where

citizens can directly report non-emergency illegal dumping activities via e-mail, 24 hours a day, 7 days a week, and the complaint will be forwarded to the appropriate City Staff person for follow-up and ultimately clean-up of the illegal dumping site. The enforcement options utilized by City staff are detailed in the City's Enforcement Response Plan (ERP).

2.3 Trash Generating Areas

2.3.1 Generation Categories and Designation of Areas

The process and methods used to identify the level of trash generation within the City are described in this section and illustrated in Figure 4.

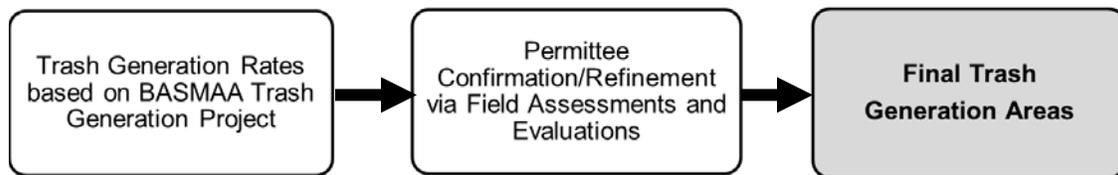


Figure 4. Trash generation area development process.

As a first step, trash generation rates developed through *the BASMAA Trash Generation Rates Project* were applied to parcels within the City 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 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.

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 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 six 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

The City’s Street Crews, Solid Waste, Hazardous Materials, Wastewater and Fire Divisions were consulted about which areas they observe as the highest trash generating areas. The areas of the City that were assessed for trash generation were observed as close to their “worst” state (i.e. as long as possible between sweeping events) as possible.

c. Reviewing Municipal Operations Data

Inspection Data with regard to stormwater and illegal dumping were reviewed and considered in determining assessment categories for areas within the City.

d. Viewing Areas via Goggle Maps – Street View

Google Maps was used to determine what areas to assess, but was not used as an assessment tool itself.

- 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. 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 Mountain View’s Final Trash Generation Map is included as Figure 5.

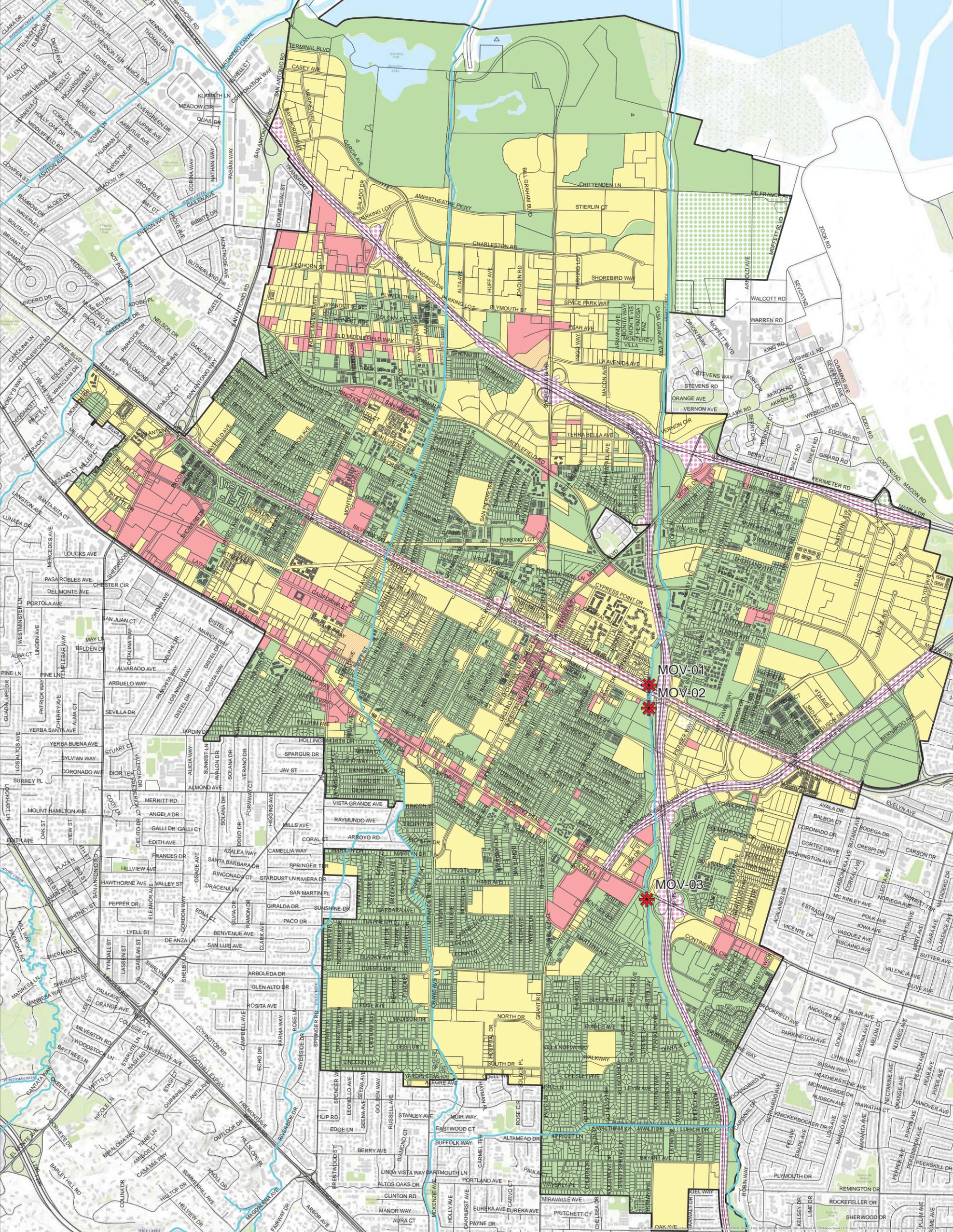
2.3.2 Summary of Trash Generating Areas and Sources

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 Mountain View assigned to each trash generation category.

Trash Generation Category	Jurisdictional Area (Acres)	Commercial and Services	Industrial	Residential	Retail	K-12 Schools
Very High	0.0	0.0%	0.0%	0.0%	0.0%	0.0%
High	436.8	0.0%	0.5%	11.1%	88.3%	0.0%
Medium / High	23.0	0.0%	37.6%	19.3%	0.0%	43.1%
Medium	2,625.8	43.9%	25.2%	16.2%	0.3%	8.4%
Low	3881.9	56.1%	36.7%	53.4	11.67%	48.5%

City of Mountain View Trash Generation Map



Legend

 Low	 Creek/Shoreline Hotspot	 Streets
 Low/Medium	 Non-Jurisdictional (Dot color = Generation Category)	 Agency Boundary
 Medium		 Creeks
 Medium/High		 Parcel Boundary
 High		
 High/Very High		
 Very High		



Data Sources:
 Roads: Santa Clara County
 City Boundaries: Santa Clara County
 Background: ESRI World Topographic Map

Map Created By:
 EOA, Inc.

Date:
 December 18th, 2013

Figure 5. Trash Generation Map for the City of Mountain View

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3.0 TRASH MANAGEMENT AREAS AND CONTROL MEASURES

This section describes the control measures that the City of Mountain View 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'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 Mountain View's annual reporting process.

3.1 Management Area Delineation and Prioritization

Consistent with the long-term plan framework, the City of Mountain View 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'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:

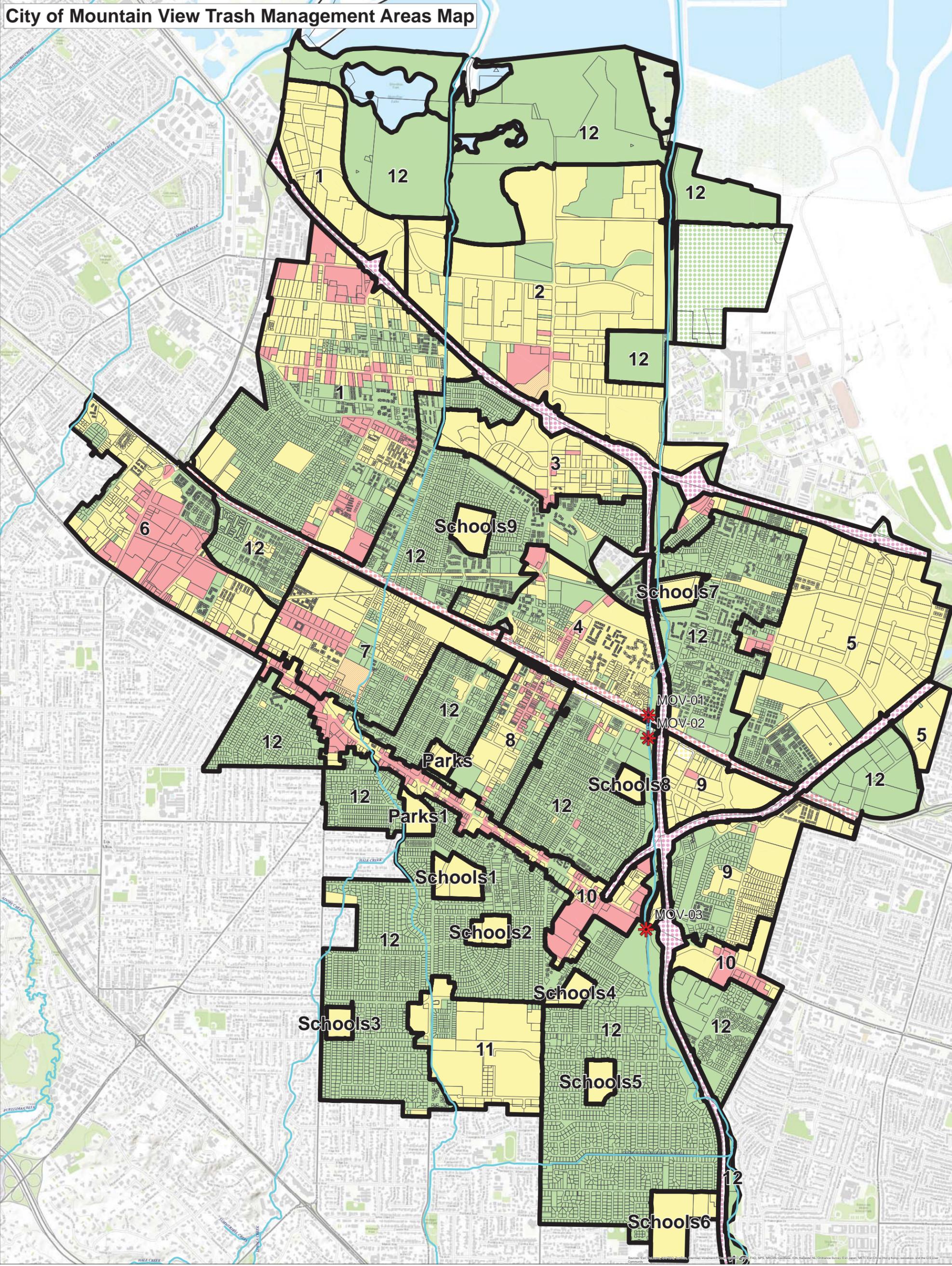
The City of Mountain View used a hybrid approach utilizing drainage areas as well as land uses to determine the trash management areas. Generally the highest trash generating areas will be given highest priority. Drainage areas also helped form the basis for determining trash management areas. While the City would like to concentrate the bulk of its resources and efforts on the areas that tend to be the highest trash generating areas, the potential for treating the largest area of the City as possible with full-capture treatment may take priority as the process to install a large device can be a timely endeavor.

A map depicting the City's TMAs is included as Figure 6. 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/High	Medium	Low
1	772.0	0.0%	12.7%	0.0%	48.1%	39.2%
2	652.3	0.0%	3.4%	1.3%	84.5%	10.8%
3	140.0	0.0%	4.3%	0.0%	90.5%	5.2%
4	205.0	0.0%	7.8%	0.0%	64.4%	27.8%
5	524.4	0.0%	2.5%	0.0%	75.8%	21.7%
6	282.3	0.0%	37.1%	0.0%	47.5%	15.4%
7	269.3	0.0%	11.7%	5.3%	63.0%	20.0%
8	117.2	0.0%	14.5%	0.0%	44.3%	41.1%
9	261.5	0.0%	0.8%	0.0%	66.2%	33.1%
10	240.6	0.0%	51.2%	0.0%	43.7%	5.2%
11	172.6	0.0%	0.0%	0.0%	90.8%	9.2%
12	3133.2	0.0%	0.1%	0.0%	1.9%	98.0%
Parks	10.9	0.0%	0.0%	0.0%	100.0%	0.0%
Parks1	14.5	0.0%	0.0%	0.0%	100.0%	0.0%
Schools1	25.7	0.0%	0.0%	0.0%	100.0%	0.0%
Schools2	14.7	0.0%	0.0%	0.0%	100.0%	0.0%
Schools3	10.8	0.0%	0.0%	0.0%	100.0%	0.0%
Schools4	13.3	0.0%	0.0%	0.0%	100.0%	0.0%
Schools5	15.2	0.0%	0.0%	0.0%	100.0%	0.0%
Schools6	43.7	0.0%	0.0%	0.0%	100.0%	0.0%
Schools7	17.3	0.0%	0.0%	0.0%	100.0%	0.0%
Schools8	10.7	0.0%	0.0%	0.0%	100.0%	0.0%
Schools9	20.2	0.0%	0.0%	0.0%	100.0%	0.0%

City of Mountain View Trash Management Areas Map



Legend

Trash Generation Category

- Low
- Low/Medium
- Medium
- Medium/High
- High
- High/Very High
- Very High

- Creek/Shoreline Hotspot
- Trash Management Area
- Non-Jurisdictional (Dot color = Generation Category)
- Streets
- Agency Boundary
- Creeks
- Parcel Boundary



Data Sources:
 Roads: Santa Clara County
 City Boundaries: Santa Clara County
 Background: ESRI World Topographic Map

Map Created By:
 EOA, Inc.

Date:
 December 18th, 2013

Figure 6. Trash Management Area Map for the City of Mountain View

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3.2 Current and Planned Trash Control Measures

The City of Mountain View has implemented the following trash control measures:

- Installed a full trash capture device that treats 125 acres of mostly high-trash generating areas of the City,
- Adopted a Reusable Bag Ordinance that became effective April 22, 2013.
- Provided Litter/Trash education and outreach during commercial/industrial facility inspections.
- Provided Litter/Trash education and outreach at City Events (i.e. Thursday Night Live events, Arbor Day, Art & Wine, etc.)
- Visited Food Service establishments with staff from the City's Solid Waste Division to distribute information and resources regarding waste, trash, and recycling management.
- Hosted Creek Clean-up Events
- Street sweeping high priority areas weekly
- On-land Clean-ups
- Outreach provided both jurisdiction-wide and at City-sponsored events
- Business Improvement District – maintained (trash pick-up by hand) on a daily basis

In addition to the continued efforts listed above, the City of Mountain View is proposing an expanded polystyrene ban which if adopted by the City Council will ban expanded polystyrene. On or after July 1, 2014, a food provider, located in or operating within the City of Mountain View, shall not dispense prepared food to a customer using polystyrene foam food service ware.

3.2.1 Trash Management Area #1

Trash Management Area #1 (TMA#1) is 772 acres and primarily consists of residential, commercial and light industrial land uses, with 39.2% of TMA #1 consisting of low trash generating area, 48.1% medium trash generating area, and 12.7% high trash generating area. The low trash generating areas in this TMA are single family residential areas. The Medium trash generating areas are light industrial and medium density residential areas. The high trash generating areas in this TMA consists of retail and higher density residential areas. The storm drain system in TMA #1 flows to the City's Coast-Casey detention basin which is a potential location for the installation of a full-capture treatment device.

The commercial/industrial portions of TMA #1 consist mostly of technology company campuses, light industrial business, automotive repair, large retail shopping center consisting of multiple "big-box" stores, and traditional retail stores, as well as multiple food service facilities.

The City's Public Works and Fire & Environmental Protection Division are requesting a new CIP budget item in Fiscal Year 2014-2015 for a Trash Capture Feasibility Study. If approved, the study will investigate potential projects to install trash capture devices within the existing public storm sewer infrastructure. The study will examine installation of trash capture devices at the Coast-Casey detention basin, Shoreline detention basin, and the Amphitheatre pump station. The results of this study will be used to plan future trash reduction projects, including those in TMA#1.

Potentially installing a trash capture device at the Coast-Casey detention basin, increased urban run-off pollution inspections as well as jurisdictional -wide trash control measures will be undertaken in TMA #1 The potential installation of a full capture trash device at the Coast-Casey

detention basin will require extensive coordination with multiple City Departments and may take a few years to generate the funding for the project.

While impossible to decisively assert what all of the trash sources in TMA#1 are, based on inspector knowledge, land use assumptions, and consultation with City employees including the City's Street Sweeping crews, it is likely that much of the trash that is generated in TMA #1 is generated from improper bin trash management, litter associated with vehicles, and pedestrian litter.

Full-Capture Treatment Devices – Within TMA #1 there are 4 properties that have full-capture devices that were installed prior to the MRP. Approximately 20.5 acres drain to full-capture devices prior to draining to the Coast-Casey detention basin (see *Figure 7 – Trash Full Capture Treatment Device Map*). The City inspects and tracks maintenance of the full-capture devices.

- 1) Actions initiated prior to and continued after the MRP effective date (December 2009):
 - Approximately 20.5 acres within TMA #1 are treated through full-capture devices before draining to the Coast-Casey detention basin. The City inspects and tracks maintenance of these full capture devices. No issues with regard to performance or maintenance or the full trash capture device have been identified.
- 2) Actions initiated after the MRP effective date and implemented prior to July 1, 2014:
 - No additional full-capture devices were installed after the MRP effective date.
- 3) Actions planned for future implementation between July 2014 and July 2022:
 - The City is investigating full-capture devices that may be installed in the existing inlet or outlet structures of the Coast-Casey detention pond. The trash capture benefit based on land area and trash generation makes this project a long-term priority. The City is proposing a study about the feasibility to install a trash capture device at the Coast-Casey detention basin. The study will investigate types of trash capture systems and the optimal location to install a device at the basin. The study will examine design and engineering feasibility, project cost, and long term maintenance. The results of this study will be used to determine if a trash capture device at the Coast Casey detention basin will be feasible. The study may also be used to initiate a future project to install a trash capture device.

Street Sweeping – Street sweeping operations and scheduled frequencies that were implemented before the MRP are still implemented at the same frequency and enhanced sweeping operations in TMA #1 are not anticipated.

- 1) Actions initiated prior to and continued after the MRP effective date (December 2009):
 - The commercial and industrial areas in TMA #1, which comprise of approximately half of the area, are swept weekly and the remaining residential area is swept twice a month.
- 2) Actions initiated after the MRP effective date and implemented prior to July 1, 2014:
 - No changes to the sweeping program were initiated after the MRP effective date.
- 3) Actions planned for future implementation between July 2014 and July 2022:
 - Enhanced sweeping operations are not planned for TMA #1.

On-land Trash Cleanups – Routine on-land cleanup operations are conducted at City-owned parks and trails by the City's Community Services Department. The level of service related to on-land trash cleanup that was performed before the MRP has not changed since the MRP effective date and future enhanced on-land trash clean-up activities are not anticipated.

- 1) Actions initiated prior to and continued after the MRP effective date (December 2009):
 - City crews maintain 1 park located in TMA #1. On-land trash cleanup activities include picking up litter at the park and ensuring that garbage cans are emptied to prevent litter or trash spills.
- 2) Actions initiated after the MRP effective date and implemented prior to July 1, 2014:
 - No changes to on-land cleanup activities were initiated after the MRP effective date.
- 3) Actions planned for future implementation between July 2014 and July 2022:
 - Enhanced on-land cleanup activities are not planned for TMA #1.

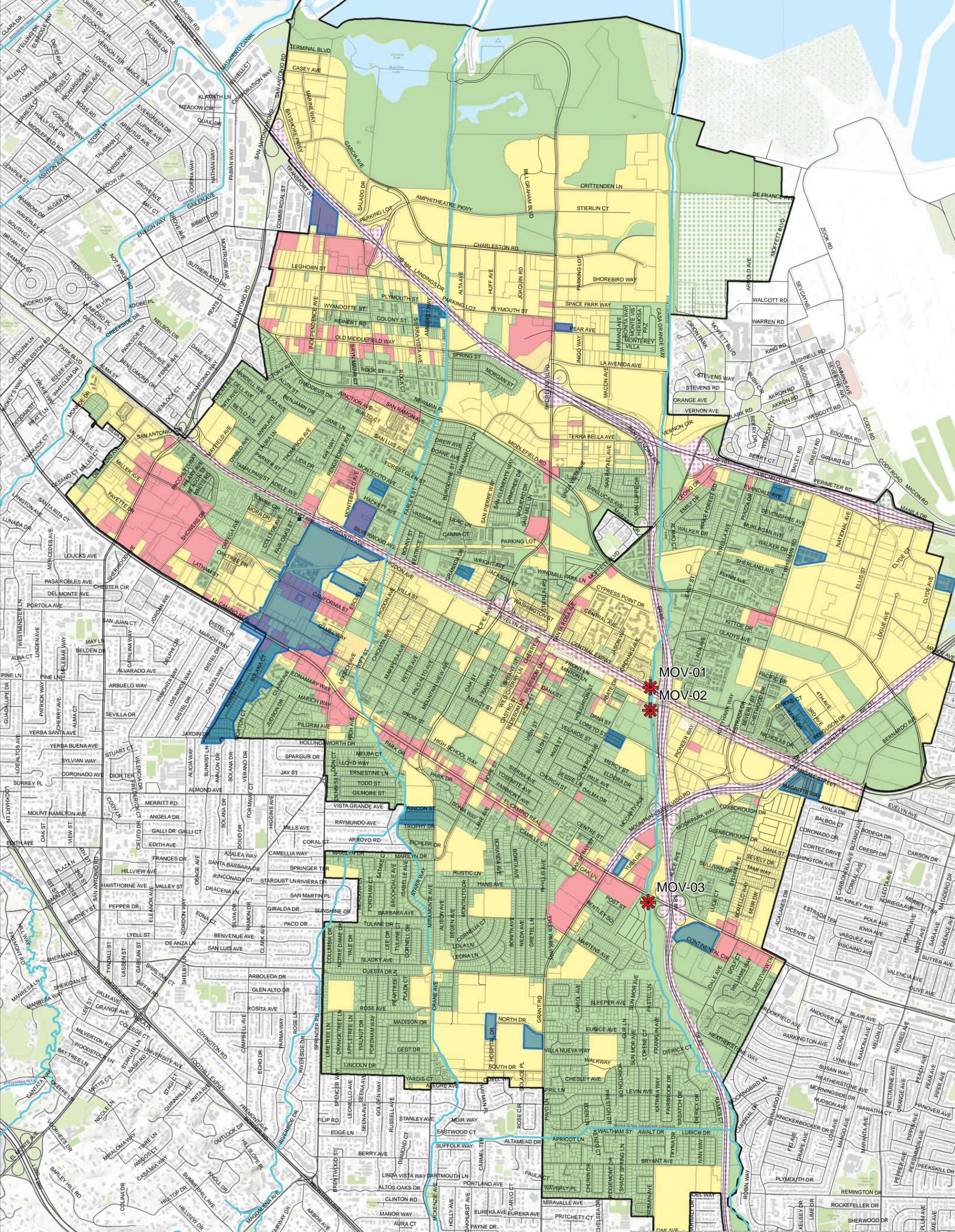
Partial-Capture Treatment Devices – Stormwater treatment controls that are not considered “full-capture” have been installed at 7 locations to comply with the new and re-development requirements. While these facilities are not considered “full-capture,” trash is intercepted and should be considered “partial capture” at a minimum.

- 1) Actions initiated prior to and continued after the MRP effective date (December 2009):
 - Partial-capture treatment devices were not installed prior to the MRP effective date.
- 2) Actions initiated after the MRP effective date and implemented prior to July 1, 2014:
 - In addition to the projects pre-MRP projects that had full-capture devices installed, 7 properties have been re-developed and include treatment controls that are not considered “full-capture.” The types of controls installed at these properties include biotreatment basins and one “tree-well” filter. These properties account for approximately 19.3 acres. The City inspects and tracks maintenance of these partial capture devices. No issues with regard to performance or maintenance of the trash capture devices have been identified.
- 3) Actions planned for future implementation between July 2014 and July 2022:
 - The City will continue to enforce the new and redevelopment requirements and “partial-capture” treatment controls are likely to be installed at additional locations.

Please refer to 3.2.14 ‘Jurisdiction-wide Activities to Reduce Trash in the City of Mountain View’ for actions associated with:

- Enhanced Stormdrain Inlet Maintenance
- Activities to Reduce Trash from Uncovered Loads
- Anti-littering and Illegal Dumping Enforcement Activities
- Improved Trash Bins/Container Management.
- Single-Use Carryout Bag Policies
- Polystyrene Foam Food Service Ware Policies
- Public Education and Outreach Program

City of Mountain View Full Trash Capture Map



Legend

Low	Creek/Shoreline Hotspot	Streets
Low/Medium	Full-Capture Location	Agency Boundary
Medium	Full Trash Capture	Creeks
Medium/High	Non-Jurisdictional (Dot color = Generation Category)	Parcel Boundary
High		
High/Very High		
Very High		

Data Sources:
 Roads: Santa Clara County
 City Boundaries: Santa Clara County
 Background: ESRI World Topographic Map

Map Created By:
 EOA, Inc.

Date:
 December 18th, 2013



Figure 7. Trash Full Capture Device Map for the City of Mountain View

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3.2.2 Trash Management Area #2

Trash Management Area #2 (TMA#2) consists of 652 acres of primarily commercial and light industrial land uses, with 10.8% of TMA #2 consisting of low trash generating areas, 84.5% medium trash generating areas, 1.3% medium/high trash generating areas, and 3.4% high trash generating areas. The low trash generating areas TMA #2 are single family residential areas, and two large, undeveloped and vacant parcels of land. Both of the vacant and undeveloped parcels of land are adjacent Google Campuses. The Medium trash generating areas consist of office campuses and commercial land uses including the Shoreline Amphitheatre concert venue. The medium/high and high trash generating areas in TMA #2 consists primarily of retail land uses including a movie theatre, and a strip-mall with food service establishments.

Much of the storm system in Trash Management Area 2 flows to a detention basin which is a potential location for the installation of a full-capture treatment device. Trash management activities for the areas in Trash Management Area #2 that do not flow to the detention basin may include increased urban run-off pollution inspections- particularly at the Shoreline Amphitheatre Concert Venue during the concert season. TMA #2 also includes portions of Stevens Creek Trail Access where the City currently performs routine litter collection and may undertake enhanced Creek Clean-Up activities. The potential installation of a full capture trash device at the detention will require extensive coordination with multiple City Departments and may take a few years to generate the funding for the project.

The City's Public Works and Fire & Environmental Protection Division are requesting a new CIP budget item in Fiscal Year 2014-2015 for a Trash Capture Feasibility Study. If approved, the study will investigate potential projects to install trash capture devices within the existing public storm sewer infrastructure. The study will examine installation of trash capture devices at the Coast-Casey detention basin, Shoreline detention basin, and the Amphitheatre pump station. The study will also examine installation of trash capture devices in storm drain inlets and in-line with storm drain pipes at high trash generating areas, such as the downtown area of the city. The study will examine design and engineering feasibility, project cost, and long term maintenance. The study will also verify if potential projects are targeted to high trash generation areas. The results of this study will be used to plan future trash reduction projects, including those in TMA#2.

While impossible to decisively assert what all of the trash sources in TMA #2 are, based on inspector knowledge, land use assumptions, and consultation with City employees including the City's Street Sweeping crews, it is likely that much of the trash that is generated in TMA #2 is generated from improper bin trash management at large office campuses and litter and pedestrian litter.

Full-Capture Treatment Devices – Much of the storm system in Trash Management Area 2 flows to a detention basin which is a potential location for the installation of a full-capture treatment device. Trash Management Area #2 has had the benefit of large corporations/companies developing office buildings and campuses which has displaced some of the industrial activities that used to occur in the area. The shift in land use to uses that typically generate less trash has been occurring over the past 8 years and continues as the City makes decisions on how the area will develop. Because of the potential to locate a full-trash capture device at the detention basin and the amount of acres that could be treated by a full capture device, TMA #2 is a high priority management area. Large, full-trash capture devices can be

costly and time consuming to plan and ultimately install so while TMA #2 is a high priority, it may take a few years before a large, full-capture device can be installed.

- 1) Actions initiated prior to and continued after the MRP effective date (December 2009):
 - A full trash capture device was installed in tandem with the development of a strip-mall in 2004. The device treats approximately 1.5 acres of flow from one of the three high-trash generating area. The device is maintained annually by the property owner and documentation of the maintenance is tracked by the City. No issues associated with this trash capture device have been presented.
- 2) Actions initiated after the MRP effective date and implemented prior to July 1, 2014:
 - One full-capture device was installed prior to the LID implementation date. The full-capture device treats approximately 0.6 acres. The City's full trash capture map will be updated to reflect this installation with the Annual Stormwater Report submission. The full-capture device is maintained by the property owner and the City inspects and tracks the maintenance of the device. No issues associated with the performance or maintenance of the device have been identified.
- 3) Actions planned for future implementation between July 2014 and July 2022:
 - The City is investigating full-capture devices that may be installed in the existing inlet or outlet structures of a stormwater detention pond. The full-capture device could potentially treat up to 90% of the trash management area. The trash capture benefit based on land area and trash generation makes this project a long-term priority.

Street Sweeping – Street sweeping operations and scheduled frequencies that were implemented before the MRP are still implemented at the same frequency and enhanced sweeping operations in TMA#2 are not anticipated.

- 1) Actions initiated prior to and continued after the MRP effective date (December 2009):
 - The commercial and industrial areas in TMA #2 are swept weekly. The remaining areas of TMA#2 are swept twice a month.
- 2) Actions initiated after the MRP effective date and implemented prior to July 1, 2014; and
 - No changes to the sweeping program were initiated after the MRP effective date.
- 3) Actions planned for future implementation between July 2014 and July 2022.
 - Enhanced sweeping operations are not planned for TMA #2.

On-land Trash Cleanups – Routine on-land cleanup operations are conducted at City-owned parks and trails by the City's Community Services Department. The level of service related to on-land trash cleanup that was performed before the MRP has not changed significantly since the MRP effective date. Future enhanced on-land trash clean-up activities, with participation by both private companies in the area and the City are being explored.

- 1) Actions initiated prior to and continued after the MRP effective date (December 2009):
 - City crews maintain one City-owned lot adjacent to Shoreline Park. On-land trash cleanup activities include picking up litter at the park and ensuring that garbage cans are emptied to prevent litter or trash spills. City Crews also maintain two parks within TMA#2.
- 2) Actions initiated after the MRP effective date and implemented prior to July 1, 2014:
 - While not coordinated with the City, many of the large companies that work in Trash Management Area #2 pick up trash on their campuses and will organize volunteers to clean stretches of trails that run through the management area.
- 3) Actions planned for future implementation between July 2014 and July 2022:

- The City may explore partnering with businesses in TMA#2 to enhance on-land cleanup activities in TMA #2

Partial-Capture Treatment Devices – Stormwater treatment controls that are not considered “full-capture” have been installed at locations to comply with the new and re-development requirements. While these facilities are not considered “full-capture,” trash is intercepted and should be considered “partial capture” at a minimum.

- 1) Actions initiated prior to and continued after the MRP effective date (December 2009):
 - As previously mentioned, most of TMA#2 drains to a large detention pond. As is, the detention pond captures trash in the vegetation and that trash is cleaned out periodically by City employees.
- 2) Actions initiated after the MRP effective date and implemented prior to July 1, 2014:
 - Four properties in TMA#2 have been re-developed and include treatment controls that are not considered “full-capture.” The types of controls installed at these properties include biotreatment basins. These properties account for approximately 7.5 acres, and the treatment controls are inspected by the City. Another property currently under construction will treat approximately 10.2 acres using LID controls. The City inspects and tracks maintenance of these partial capture devices. No issues with regard to performance or maintenance of the trash capture device have been identified.
- 3) Actions planned for future implementation between July 2014 and July 2022:
 - The City will continue to enforce the new and redevelopment requirements and “partial-capture” treatment controls are likely to be installed at additional locations.

Please refer to 3.2.14 ‘Jurisdiction-wide Activities to Reduce Trash in the City of Mountain View’ for actions associated with:

- Enhanced Stormdrain Inlet Maintenance
- Activities to Reduce Trash from Uncovered Loads
- Anti-littering and Illegal Dumping Enforcement Activities
- Improved Trash Bins/Container Management.
- Single-Use Carryout Bag Policies
- Polystyrene Foam Food Service Ware Policies
- Public Education and Outreach Program

3.2.3 Trash Management Area #3

Trash Management Area #3 (TMA#3) consists of 140 acres of primarily business/commercial and light industrial land uses, with 5.2% of TMA #3 consisting of low trash generating areas, 90.5% medium trash generating areas, and 4.3% high trash generating areas. This Trash Management Area also includes a school and associated playing fields. Schools will be discussed as a separate Trash Management Area section (see section 3.2.13).

The low trash generating areas of TMA#3 include areas that are adjacent to single family residential areas, a large, undeveloped and vacant parcel of land, and a business strip-mall with very little vehicle or pedestrian traffic. The Medium trash generating areas consist of office campuses and commercial land uses. The high trash generating areas in TMA#3 consists primarily of retail land uses including automotive and food service facilities.

The City is exploring the potential of increased urban run-off pollution inspections as well as jurisdictional-wide trash control measures (discussed in Jurisdiction-wide section 3.2.14) as strategies to reduce the impacts of trash in TMA#3. The City will also explore the possibility of installing partial trash capture devices in this area such as storm drain inlet screens for enhanced sweeping.

The City's Public Works and Fire & Environmental Protection Division are requesting a new CIP budget item in Fiscal Year 2014-2015 for a Trash Capture Feasibility Study. If approved, the study will investigate potential projects to install trash capture devices within the existing public storm sewer infrastructure. The study will examine installation of trash capture devices at the Coast-Casey detention basin, Shoreline detention basin, and the Amphitheatre pump station. The study will also examine installation of trash capture devices in storm drain inlets and in-line with storm drain pipes at high trash generating areas, such as the downtown area of the city. The study will examine design and engineering feasibility, project cost, and long term maintenance. The study will also verify if potential projects are targeted to high trash generation areas. The results of this study will be used to plan future trash reduction projects, including those in TMA#3.

While impossible to decisively assert what all of the trash sources in TMA#3 are, based on inspector knowledge, land use assumptions, and consultation with City employees including the City's Street Sweeping crews, it is likely that much of the trash that is generated in TMA #3 is generated from vehicle and pedestrian litter.

Full-Capture Treatment

- 1) Actions initiated prior to and continued after the MRP effective date (December 2009):
 - There were no full-capture trash devices installed in Trash management Area #3 prior to 2009.
- 2) Actions initiated after the MRP effective date and implemented prior to July 1, 2014:
 - No full trash capture devices were installed in Trash Management Area #3 after 2009 and prior to 2014.
- 3) Actions planned for future implementation between July 2014 and July 2022:
 - The City may explore the potential to install curb-inlet screens with the requisite inlet insert to storm drain inlets in Trash Management Area #3. The results of the study described above will determine the feasibility and timing of the installation of curb-inlet screens in TMA#3.

Street Sweeping – Street sweeping operations and scheduled frequencies that were implemented before the MRP are still implemented at the same frequency and enhanced sweeping operations in TMA #3 are not anticipated.

- 1) Actions initiated prior to and continued after the MRP effective date (December 2009):
 - The sweeping routes in TMA #3 are swept twice a month.
- 2) Actions initiated after the MRP effective date and implemented prior to July 1, 2014:
 - No changes to the sweeping program were initiated after the MRP effective date.
- 3) Actions planned for future implementation between July 2014 and July 2022:
 - As part of proposed trash and litter removal enhancements, the medium and high trash generation areas in TMA#3 will be evaluated for installation of curb screens at storm drain inlets to enhance street sweeping in TMA#3.

On-land Trash Cleanups – Routine on-land cleanup operations are conducted at City-owned parks and trails by the City’s Community Services Department .The level of service related to on-land trash cleanup that was performed before the MRP has not changed since the MRP effective date and future enhanced on-land trash clean-up activities are not anticipated.

- 1) Actions initiated prior to and continued after the MRP effective date (December 2009):
 - Trash cleanups are performed in TMA #3 on a complaint basis. City Crews maintain athletic fields located in TMA#3, including litter and trash collection.
- 2) Actions initiated after the MRP effective date and implemented prior to July 1, 2014:
 - No changes to on-land cleanup activities were initiated after the MRP effective date.
- 3) Actions planned for future implementation between July 2014 and July 2022:
 - Enhanced on-land cleanup activities are not planned for TMA #3.

Partial-Capture Treatment Devices

- 1) Actions initiated prior to and continued after the MRP effective date (December 2009):
 - Partial-capture treatment devices were not installed prior to the MRP effective date.
- 2) Actions initiated after the MRP effective date and implemented prior to July 1, 2014:
 - One property in TMA#3 was redeveloped and included a stormwater treatment control not considered “full-capture”. A biotreatment facility that treats runoff from 0.3 acres of land was installed. The City inspects and tracks maintenance of the partial capture device. No issues with regard to performance or maintenance of the trash capture device have been identified.
- 3) Actions planned for future implementation between July 2014 and July 2022:
 - The City will explore potential locations to install curb-inlet screens (both with insert baskets and without) in locations throughout TMA#3. The City will continue to enforce the new and redevelopment requirements and ‘partial-capture’ devices are likely to be installed at additional locations.

Please refer to 3.2.14 ‘Jurisdiction-wide Activities to Reduce Trash in the City of Mountain View’ for actions associated with:

- Enhanced Stormdrain Inlet Maintenance
- Activities to Reduce Trash from Uncovered Loads
- Anti-littering and Illegal Dumping Enforcement Activities
- Improved Trash Bins/Container Management.
- Single-Use Carryout Bag Policies
- Polystyrene Foam Food Service Ware Policies
- Public Education and Outreach Program

3.2.4 Trash Management Area #4

Trash Management Area #4 (TMA#4) consists of 205 acres of primarily commercial, single family, and high density residential housing with 27.8% of TMA #4 consisting of low trash generating areas, 64.4% medium trash generating areas, and 7.8% high trash generating areas. TMA#4 also includes a City-maintained park. The potential trash management strategies that the City is considering undertaking in TMA #4 are: enhanced or improved street sweeping, partial capture treatment devices, and jurisdiction-wide trash reduction strategies such as improved container/bin management, activities to reduce trash from uncovered loads.

The low trash generating areas of Trash Management Area #4 include areas that are primarily single family residential areas, and a large, undeveloped and vacant parcel of land (Hetch-Hetchy right-of-way). The Medium trash generating areas consist of commercial and multi-family housing land uses. The high trash generating areas in Trash Management Area #4 consists primarily of retail land uses including automotive and food service facilities.

The City is exploring the potential of increased urban run-off pollution inspections as well as jurisdictional-wide trash control measures (discussed in Jurisdiction-wide section 3.2.14) as strategies to reduce the impacts of trash in TMA#4. The City will also explore the possibility of installing partial trash capture devices such as storm drain inlet screens in this area. The City has designated three trash “hot spots” along Stevens Creek including one ‘hot spot’ that is located in TMA#4 (MOV-01).

The City’s Public Works and Fire & Environmental Protection Division are requesting a new CIP budget item in Fiscal Year 2014-2015 for a Trash Capture Feasibility Study. If approved, the study will investigate potential projects to install trash capture devices within the existing public storm sewer infrastructure. The study will examine installation of trash capture devices in storm drain inlets and in-line with storm drain pipes at high trash generating areas. The study will examine design and engineering feasibility, project cost, and long term maintenance. The study will also verify if potential projects are targeted to high trash generation areas. The results of this study will be used to plan future trash reduction projects, including those in TMA#4.

While impossible to decisively assert what all of the trash sources in Trash Management Area #4 are, based on inspector knowledge, land use assumptions, and consultation with City employees including the City’s Street Sweeping crews, it is likely that much of the trash that is generated in TMA #4 is generated from vehicle and pedestrian litter, direct/illegal dumping in the Creek associated with homelessness, and improper bin/container management.

Full-Capture Treatment Devices – Within TMA #4 there is one property that has a full-capture device that was installed prior to the MRP and LID requirements. The City inspects and tracks maintenance of the full-capture devices.

- 1) Actions initiated prior to and continued after the MRP effective date (December 2009):
 - One full trash capture device was installed prior to the MRP effective date. The device is associated with a housing development. This trash capture device treats approximately 1.8 acres of land. The City inspects and tracks maintenance of the full trash capture device. No issues with regard to performance or maintenance of the full trash capture device have been identified.
- 2) Actions initiated after the MRP effective date and implemented prior to July 1, 2014:
 - No additional full-capture devices were installed after the MRP effective date.
- 3) Actions planned for future implementation between July 2014 and July 2022:
 - No additional full-trash capture devices are not planned for TMA #4.

Street Sweeping – Street sweeping operations and scheduled frequencies that were implemented before the MRP are still implemented at the same frequency. Enhanced sweeping operations in TMA #4 may be considered in curb inlet screens are installed in the TMA.

- 1) Actions initiated prior to and continued after the MRP effective date (December 2009):

- The sweeping routes in TMA #4 are swept twice a month. The streets in TMA#4 are not posted with 'street sweeping' or 'no parking' signs on street sweeping days.
- 2) Actions initiated after the MRP effective date and implemented prior to July 1, 2014:
 - No changes to the sweeping program were initiated after the MRP effective date.
 - 3) Actions planned for future implementation between July 2014 and July 2022:
 - As part of proposed trash and litter removal enhancements, the medium and high trash generation areas in TMA#4 will be evaluated for installation of curb screens at storm drain inlets to enhance street sweeping in TMA#4. Installation of 'no parking' and/or 'street sweeping' signage may be considered in the medium and high trash generating areas of TMA#4

On-land Trash Cleanups – Routine on-land cleanup operations are conducted at City-owned parks and trails by the City's Community Services Department. The level of service related to on-land trash cleanup that was performed before the MRP has not changed since the MRP effective date and future enhanced on-land trash clean-up activities are not anticipated.

- 1) Actions initiated prior to and continued after the MRP effective date (December 2009):
 - Trash cleanups are performed in TMA #4 on a complaint basis. City Crews maintain one park located in TMA#4, including litter and trash collection.
- 2) Actions initiated after the MRP effective date and implemented prior to July 1, 2014:
 - No changes to on-land cleanup activities were initiated after the MRP effective date.
- 3) Actions planned for future implementation between July 2014 and July 2022:
 - Enhanced on-land cleanup activities are not planned for TMA #4.

Partial-Capture Treatment Devices

- 1) Actions initiated prior to and continued after the MRP effective date (December 2009):
 - Partial-capture treatment devices were not installed prior to the MRP effective date.
- 2) Actions initiated after the MRP effective date and implemented prior to July 1, 2014:
 - No partial-capture treatment devices were installed after the MRP effective date.
- 3) Actions planned for future implementation between July 2014 and July 2022:
 - The City will explore potential locations to install curb-inlet screens (both with insert baskets and without) in locations throughout TMA#4. The City will continue to enforce the new and redevelopment requirements and 'partial-capture' devices are likely to be installed at additional locations.

Please refer to 3.2.14 'Jurisdiction-wide Activities to Reduce Trash in the City of Mountain View' for actions associated with:

- Enhanced Stormdrain Inlet Maintenance
- Activities to Reduce Trash from Uncovered Loads
- Anti-littering and Illegal Dumping Enforcement Activities
- Improved Trash Bins/Container Management.
- Single-Use Carryout Bag Policies
- Polystyrene Foam Food Service Ware Policies
- Public Education and Outreach Program

3.2.5 Trash Management Area #5

Trash Management Area #5 (TMA#5) consists of 524.4 acres of primarily commercial, single family, and high density residential housing with 21.7% of TMA #5 consisting of low trash generating areas, 75.8% medium trash generating areas, and 2.5% high trash generating areas. The potential trash management strategies that the City is considering undertaking in TMA#5 include: enhanced or improved street sweeping, partial capture treatment devices, improved trash bin container maintenance at the commercial facilities within the TMA, as well as jurisdictional-wide trash control measures (discussed in Jurisdiction-wide section 3.2.14). There are quite a few areas within this TMA that are currently undergoing redevelopment from commercial/industrial to high-end, single family residential use. Once the redevelopment of these areas has been completed, the trash management strategies for the area may also shift.

The low trash generating areas of Trash Management Area #5 include areas that are primarily single family residential areas, and a large, undeveloped and vacant parcel of land that is slated for redevelopment to single-family homes. The Medium trash generating areas consist of commercial and multi-family housing land uses. The high trash generating areas in TMA #5 consists primarily of retail land uses including automotive and food service facilities.

The City's Public Works and Fire & Environmental Protection Division are requesting a new CIP budget item in Fiscal Year 2014-2015 for a Trash Capture Feasibility Study. If approved, the study will investigate potential projects to install trash capture devices within the existing public storm sewer infrastructure. The study will examine installation of trash capture devices in storm drain inlets and in-line with storm drain pipes at high trash generating areas. The study will examine design and engineering feasibility, project cost, and long term maintenance. The study will also verify if potential projects are targeted to high trash generation areas. The results of this study will be used to plan future trash reduction projects, including those in TMA#5.

While impossible to decisively assert what all of the trash sources in TMA#5 are, based on inspector knowledge, land use assumptions, and consultation with City employees including the City's Street Sweeping crews, it is likely that much of the trash that is generated in TMA #5 is generated from vehicle and pedestrian litter, direct/illegal dumping, and improper bin/container management.

Full-Capture Treatment Devices – Four, full-trash capture devices were installed within TMA #5 prior to the MRP and LID requirements. The City inspects and tracks maintenance of the full-capture devices. The full-capture devices that were installed on private property are maintained by the property owners or homeowner's association. No issues associated with the maintenance of these devices have been identified.

- 1) Actions initiated prior to and continued after the MRP effective date (December 2009):
 - Four full trash capture devices were installed prior to the MRP associated with redevelopment projects. These four full capture devices treat 21.8 acres of land in TMA #5. The City inspects and tracks maintenance of these full trash capture devices. No issues with regard to performance or maintenance of the full trash capture devices have been identified.
- 2) Actions initiated after the MRP effective date and implemented prior to July 1, 2014:
 - No additional full-capture devices were installed after the MRP effective date.
- 3) Actions planned for future implementation between July 2014 and July 2022:
 - No additional full-trash capture devices are planned for TMA #5.

Street Sweeping – Street sweeping operations and scheduled frequencies that were implemented before the MRP are still implemented at the same frequency and enhanced sweeping operations in TMA #4 are not anticipated.

- 1) Actions initiated prior to and continued after the MRP effective date (December 2009):
 - Most of the streets in TMA #5 are swept weekly.
- 2) Actions initiated after the MRP effective date and implemented prior to July 1, 2014:
 - No changes to the sweeping program were initiated after the MRP effective date.
- 3) Actions planned for future implementation between July 2014 and July 2022:
 - Enhanced sweeping operations are not planned for TMA #5. If the City determines that it would be feasible and useful to install curb-inlet screens in Trash Management Area #5, the City may modify street sweeping frequencies. Trash Management Area #5 will also be a priority for performing an on-land trash assessment. Depending on the results of the assessment, street sweeping resources may be directed to other, more heavily impacted areas of the City.

On-land Trash Cleanups – Routine on-land cleanup operations are conducted at City-owned parks and trails by the City’s Community Services Department. The level of service related to on-land trash cleanup that was performed before the MRP has not changed since the MRP effective date and future enhanced on-land trash clean-up activities are not anticipated.

- 1) Actions initiated prior to and continued after the MRP effective date (December 2009):
 - *Trash cleanups are performed in TMA #5 on a complaint basis.*
- 2) Actions initiated after the MRP effective date and implemented prior to July 1, 2014:
 - *No changes to on-land cleanup activities were initiated after the MRP effective date.*
- 3) Actions planned for future implementation between July 2014 and July 2022:
 - *Enhanced on-land cleanup activities are not planned for TMA #5.*

Partial-Capture Treatment Devices

- 1) Actions initiated prior to and continued after the MRP effective date (December 2009):
 - Nine properties in TMA#5 were redeveloped and included a stormwater treatment control not considered “full-capture”. Biotreatment facilities that treat runoff from 39.3 acres of land were installed. The treatment controls are inspected by City Staff. No issues associated with the maintenance of these devices have been identified.
- 2) Actions initiated after the MRP effective date and implemented prior to July 1, 2014:
 - No partial-capture treatment devices were installed after the MRP effective date.
- 3) Actions planned for future implementation between July 2014 and July 2022:
 - The City will explore potential locations to install curb-inlet screens (both with insert baskets and without) in locations throughout TMA#5. The City will continue to enforce the new and redevelopment requirements and ‘partial-capture’ devices are likely to be installed at additional locations.

Please refer to 3.2.14 ‘Jurisdiction-wide Activities to Reduce Trash in the City of Mountain View’ for actions associated with:

- Enhanced Stormdrain Inlet Maintenance
- Activities to Reduce Trash from Uncovered Loads

- Anti-littering and Illegal Dumping Enforcement Activities
- Improved Trash Bins/Container Management.
- Single-Use Carryout Bag Policies
- Polystyrene Foam Food Service Ware Policies
- Public Education and Outreach Program

3.2.6 Trash Management Area #6

Trash Management Area #6 (TMA#6) is 282.3 acres and includes mostly commercial and high-density residential housing. TMA#6 consists of 15.4% of low trash generating areas, 47.5% medium trash generating areas, and 37.1% high trash generating areas. The potential trash management strategies that the City is considering undertaking in this TMA are: enhanced or improved street sweeping, partial capture treatment devices, improved trash bin container maintenance at the commercial facilities, as well as jurisdiction-wide trash control measures (discussed in Jurisdiction-wide section 3.2.14). Because of the high density of commercial properties in this area, increased inspections as well as exploring the potential of installing a full-trash capture device(s) will also be considered as trash management activities for this area.

There are quite a few areas within Trash Management Area #6 that are currently undergoing redevelopment from commercial to high-end, multi-family residential use. Once the redevelopment of these areas has been completed, the trash management strategies for the area may also shift.

The low trash generating areas of Trash Management Area #6 includes areas that are primarily single family residential areas, and some multi-family home neighborhoods. The Medium trash generating areas consist of commercial and multi-family housing land uses. The high trash generating areas in Trash Management Area #6 consists primarily of retail land uses including automotive and food service facilities.

The City’s Public Works and Fire & Environmental Protection Division are requesting a new CIP budget item in Fiscal Year 2014-2015 for a Trash Capture Feasibility Study. If approved, the study will investigate potential projects to install trash capture devices within the existing public storm sewer infrastructure. The study will also examine installation of trash capture devices in storm drain inlets and in-line with storm drain pipes at high trash generating areas. The study will examine design and engineering feasibility, project cost, and long term maintenance. The study will also verify if potential projects are targeted to high trash generation areas. The results of this study will be used to plan future trash reduction projects, including those in TMA#6.

While impossible to decisively assert what all of the trash sources in Trash Management Area #6 are, based on inspector knowledge, land use assumptions, and consultation with City employees including the City’s Street Sweeping crews, it is likely that much of the trash that is generated in TMA #6 is generated from vehicle and pedestrian litter and improper bin/container management.

Full-Capture Treatment Devices

- 1) Actions initiated prior to and continued after the MRP effective date (December 2009):
 - No additional full-capture devices were installed prior to the MRP effective date.
- 2) Actions initiated after the MRP effective date and implemented prior to July 1, 2014:
 - One property which was approved prior to the LID requirement installed media filtration systems which provide full-capture treatment for approximately 9 acres. The full-capture device that was installed on private property is maintained by the

property owners or homeowner's association. The City inspects also periodically inspects the full trash capture device and tracks the maintenance performed on the device. No issues with regard to performance or maintenance or the full trash capture device have been identified.

- 3) Actions planned for future implementation between July 2014 and July 2022:
 - The City will explore the potential to install some smaller-scale full-capture trash devices both associated with newly developed areas of TMA #6 as well as retrofitting areas with full-trash capture if feasible.

Street Sweeping – Street sweeping operations and scheduled frequencies that were implemented before the MRP are still implemented at the same frequency and enhanced sweeping operations in TMA #6 are not anticipated, though the possibility will be explored as properties are redeveloped and land uses shift.

- 1) Actions initiated prior to and continued after the MRP effective date (December 2009):
 - High trash generating areas in TMA #6 are swept twice a month. The street sweeping route in TMA#6 include: Latham Street from Showers Drive to Chiquita Avenue, Ortega Avenue from El Camino Real to Mora Court. This route also has signs posted for 'no parking' on street sweeping days.
- 2) Actions initiated after the MRP effective date and implemented prior to July 1, 2014:
 - No changes to the sweeping program were initiated after the MRP effective date.
- 3) Actions planned for future implementation between July 2014 and July 2022:
 - If the City determines that it would be feasible and useful to install curb-inlet screens in Trash Management Area #6, the City may modify street sweeping frequencies and/or explore enhancing street sweeping requiring postings of "No Parking".

On-land Trash Cleanups – The level of service related to on-land trash cleanup that was performed before the MRP has not changed since the MRP effective date and future enhanced on-land trash clean-up activities are not anticipated.

- 1) Actions initiated prior to and continued after the MRP effective date (December 2009):
 - Trash cleanups are performed in TMA#6 on a complaint basis.
- 2) Actions initiated after the MRP effective date and implemented prior to July 1, 2014:
 - No changes to on-land cleanup activities were initiated after the MRP effective date.
- 3) Actions planned for future implementation between July 2014 and July 2022:
 - Enhanced on-land cleanup activities are not planned for TMA #6.

Partial-Capture Treatment Devices

- 1) Actions initiated prior to and continued after the MRP effective date (December 2009):
 - Partial-capture treatment devices were not installed prior to the MRP effective date.
- 2) Actions initiated after the MRP effective date and implemented prior to July 1, 2014:
 - Two properties in TMA#6 were redeveloped and included a stormwater treatment control not considered "full-capture". Biotreatment facilities that treat runoff from approximately 5 acres of land were installed. The treatment controls are inspected by City Staff. No issues associated with the maintenance of these facilities have been identified.
- 3) Actions planned for future implementation between July 2014 and July 2022:

- The City will explore potential locations to install curb-inlet screens (both with insert baskets and without) in locations throughout TMA#6. The City will continue to enforce the new and redevelopment requirements and ‘partial-capture’ devices are likely to be installed at additional locations.

Please refer to Section 3.2.14 ‘Jurisdiction-wide Activities to Reduce Trash in the City of Mountain View’ for actions associated with:

- Enhanced Stormdrain Inlet Maintenance
- Activities to Reduce Trash from Uncovered Loads
- Anti-littering and Illegal Dumping Enforcement Activities
- Improved Trash Bins/Container Management.
- Single-Use Carryout Bag Policies
- Polystyrene Foam Food Service Ware Policies
- Public Education and Outreach Program

3.2.7 Trash Management Area #7

Trash Management Area #7 (TMA#7) is a diverse area of the City that consists of 269.3 acres. TMA#7 includes an elementary school, commercial businesses, single-family residential and multi-family residential. Trash Management Area #7 consists of 20% of low trash generating areas, 63% medium trash generating areas, 5.3% medium/high trash generating areas, and 11.7% high trash generating areas. The potential trash management strategies that the City is considering undertaking in this TMA are: enhanced street sweeping, increased outreach/inspections to commercial businesses, improved container/bin management, partial capture trash devices, as well as jurisdictional-wide trash control measures (discussed in Jurisdiction-wide section 3.2.14).

According to discussions with the City’s Streets Crews, the section of California Street that runs through Trash Management Area #7 is heavily impacted by trash. This may be due to the concentrated number of bus/transit stops as well as the large proportion of high density housing along this section of the street. The City will explore the potential of installing a full-trash capture device(s) in this area and the potential to install effective trash receptacles at strategic locations on the street.

The low trash generating areas of Trash Management Area #7 includes areas that are primarily single family residential areas, and some multi-family home neighborhoods. The Medium trash generating areas consist of commercial and multi-family housing land uses. The medium-high and high trash generating areas in Trash Management Area #7 consists primarily of retail land-uses including automotive and food service facilities. The elementary school (Castro Elementary) that is located in TMA#7 is located between a very low trash generating area to the east, and a higher trash generating area to the west. Because the school is surrounded by higher trash generating areas- the City intends to target site-specific outreach and control measures to the higher trash generating areas including the school, in addition to applying the control measures detailed in the Schools Trash Management Area.

The City’s Public Works and Fire & Environmental Protection Division are requesting a new CIP budget item in Fiscal Year 2014-2015 for a Trash Capture Feasibility Study. If approved, the study will investigate potential projects to install trash capture devices within the existing public storm sewer infrastructure. The study will also examine installation of trash capture devices in storm drain inlets and in-line with storm drain pipes at high trash generating areas. The study

will examine design and engineering feasibility, project cost, and long term maintenance. The study will also verify if potential projects are targeted to high trash generation areas. The results of this study will be used to plan future trash reduction projects, including those in TMA#7.

While impossible to decisively assert what all of the trash sources in Trash Management Area #7 are, based on inspector knowledge, land use assumptions, and consultation with City employees including the City's Street Sweeping crews, it is likely that much of the trash that is generated in TMA #7 is generated from vehicle and pedestrian litter and improper bin/container management.

Full-Capture Treatment Devices – Within TMA #7 there is one property that has a full-capture device that was installed prior to the MRP. In addition, approximately one-third (90 acres) of TMA#7 drains to the City's large, full-capture device. Approximately 94.8 acres drain to full-capture device prior to discharging to Adobe Creek. The City inspects and tracks maintenance of the full-capture device. The City-installed full-trash capture device is maintained twice a year. The first maintenance event presented some challenges for the City's Wastewater crews. The majority of material captured in the device was organic material- though there were observable floatables and plastics on the surface of the water collected in the vault. After the floatables were removed, the organic material had to be manually broken up in order for the Vac-Con truck to fit the material through the manhole opening to remove it from the vault.

- 1) Actions initiated prior to and continued after the MRP effective date (December 2009):
 - Approximately 4.8 acres within TMA #7 are treated through a full-capture device before draining to Adobe Creek. The full-capture device that was installed on private property is maintained by the property owners or homeowner's association. No issues associated with the maintenance of these devices have been identified. The City inspects and tracks maintenance of these devices.
- 2) Actions initiated after the MRP effective date and implemented prior to July 1, 2014:
 - A large portion (approximately 90 acres) of the area drains to the City large full trash capture device which is located within TMA #7. The City's large trash capture device is maintained at least twice a year by City Utilities personnel.
- 3) Actions planned for future implementation between July 2014 and July 2022:
 - Since TMA #7 primarily consists of medium, medium-high and high trash generating areas, trash-capture treatment devices will be considered for drains in this area. Installation of a large trash capture device to treat runoff from TMA #7 may not be practical since the storm drain piping system is extremely deep. Storm drain inlet screen inserts may be investigated for possible full-capture protection. Alternatively, the City may install partial trash-capture treatment instead of full-capture systems.

Street Sweeping – Street sweeping operations and scheduled frequencies that were implemented before the MRP are still implemented at the same frequency and enhanced sweeping operations in TMA #7 are not anticipated, though the possibility will be explored as properties are redeveloped and land uses shift.

- 1) Actions initiated prior to and continued after the MRP effective date (December 2009):
 - High trash generating areas in TMA #7 are swept twice a month. The street sweeping route in TMA#7 includes California Street from Escuela Ave. to Rengstorff Ave. This route also has signs posted for 'no parking' on street sweeping days.

- 2) Actions initiated after the MRP effective date and implemented prior to July 1, 2014:
 - No changes to the sweeping program were initiated after the MRP effective date.
- 3) Actions planned for future implementation between July 2014 and July 2022:
 - If the City determines that it would be feasible and useful to install curb-inlet screens in Trash Management Area #7, the City may modify street sweeping frequencies and/or explore enhancing street sweeping. If trash assessments performed in the City determine that street sweeping resources can be more effectively deployed, TMA#7 may be a candidate for increased or enhanced street sweeping.

On-land Trash Cleanups

- 1) Actions initiated prior to and continued after the MRP effective date (December 2009):
 - Trash cleanups are performed in TMA#7 on a complaint basis.
- 2) Actions initiated after the MRP effective date and implemented prior to July 1, 2014:
 - No changes to on-land cleanup activities were initiated after the MRP effective date.
- 3) Actions planned for future implementation between July 2014 and July 2022:
 - Enhanced on-land cleanup activities may be coordinated with the Castro Elementary School.

Partial-Capture Treatment Devices

- 1) Actions initiated prior to and continued after the MRP effective date (December 2009):
 - Partial-capture treatment devices were not installed prior to the MRP effective date.
- 2) Actions initiated after the MRP effective date and implemented prior to July 1, 2014:
 - No partial-capture treatment devices were installed after the MRP effective date.
- 3) Actions planned for future implementation between July 2014 and July 2022:
 - The City will explore potential locations to install curb-inlet screens (both with insert baskets and without) in locations throughout TMA#7.

Please refer to Section 3.2.14 ‘Jurisdiction-wide Activities to Reduce Trash in the City of Mountain View’ for actions associated with:

- Enhanced Stormdrain Inlet Maintenance
- Activities to Reduce Trash from Uncovered Loads
- Anti-littering and Illegal Dumping Enforcement Activities
- Single-Use Carryout Bag Policies
- Polystyrene Foam Food Service Ware Policies
- Public Education and Outreach Program

3.2.8 Trash Management Area #8

Trash Management Area #8 consists of 117.2 acres and includes the "heart" of Downtown Mountain View including the 10-block portion of Castro Street which is heavily populated by restaurants. A major CalTrain Station is also located in TMA#8. This Trash Management area includes a 'special business district' along Castro St. as well as the alley-ways behind Castro St. including Blossom St. and Wild Cherry Lane. The trash management activities that will potentially be undertaken in TMA-8 consist of: enhanced inspection frequency, improved trash bin/container management, partial-trash capture device(s), and potentially full-trash capture devices.

The City's Planning Department issues "Sidewalk Café" permits to restaurants to operate outdoor seating areas along Castro St. Since 2010, the Sidewalk Café permits have specific maintenance and operations requirements including that the café operators maintain their outdoor seating areas in clean and safe condition including properly disposing of all trash generated by the operation. Food Service Establishments in TMA#8 are inspected annually for compliance with stormwater regulations including trash related issues. The City's Fire and Environmental Division work closely with the City's Solid Waste Division to ensure that trash containers are maintained properly in this heavily utilized area of the City. The City's Street Landscaping crews work in TMA#8 on a daily basis picking up trash by hand as well as utilizing full size and sidewalk size street sweepers for walkways.

The City's Public Works and Fire & Environmental Protection Division are requesting a new CIP budget item in Fiscal Year 2014-2015 for a Trash Capture Feasibility Study. If approved, the study will investigate potential projects to install trash capture devices within the existing public storm sewer infrastructure. The study will also examine installation of trash capture devices in storm drain inlets and in-line with storm drain pipes at high trash generating areas, such as the downtown area of the City, much of which is in TMA#8. The study will examine design and engineering feasibility, project cost, and long term maintenance. The study will also verify if potential projects are targeted to high trash generation areas. The results of this study will be used to plan future trash reduction projects, including those in TMA#8.

While impossible to decisively assert what all of the trash sources in Trash Management Area #8 are, based on inspector knowledge, land use assumptions, and consultation with City employees including the City's Street Sweeping crews, it is likely that much of the trash that is generated in TMA #8 is generated from pedestrian litter and improper bin/container management.

Full-Capture Treatment Devices

- 1) Actions initiated prior to and continued after the MRP effective date (December 2009):
 - There were no full-trash capture devices installed prior to the MRP effective date.
- 2) Actions initiated after the MRP effective date and implemented prior to July 1, 2014:
 - There were no full-trash capture devices installed after the MRP effective date and implemented prior to July 1, 2014.
- 3) Actions planned for future implementation between July 2014 and July 2022:
 - Since TMA #8 primarily consists of medium, medium-high and high trash generating areas, trash-capture treatment devices will be considered for drains in this area. Installation of a full-trash capture device on existing storm drain inlets will be investigated as well as an in-line device. Storm drain inlet screen inserts may be investigated for possible full-capture or partial-capture protection. The City hopes to have reached a decision regarding a full-trash capture treatment device in TMA#8 by 2015.

Street Sweeping – Street sweeping operations and scheduled frequencies that were implemented before the MRP are still implemented at the same frequency and enhanced sweeping operations in TMA #8 are not anticipated, though the possibility will be explored as properties are redeveloped and land uses shift.

- 1) Actions initiated prior to and continued after the MRP effective date (December 2009):

- The sweeping routes in TMA #8 are swept twice a month.
- 2) Actions initiated after the MRP effective date and implemented prior to July 1, 2014:
 - No changes to the sweeping program were initiated after the MRP effective date.
- 3) Actions planned for future implementation between July 2014 and July 2022:
 - If the City determines that it would be feasible and useful to install curb-inlet screens in Trash Management Area #8, the City may modify street sweeping frequencies and/or explore enhancing street sweeping requiring postings of “No Parking”. Additionally, if trash assessments performed in the City determine that street sweeping resources can be more effectively deployed, TMA#8 may be a candidate for increased or enhanced street sweeping.

On-land Trash Cleanups

- 1) Actions initiated prior to and continued after the MRP effective date (December 2009):
 - Trash cleanups are performed in TMA#8 on a complaint basis and on a daily basis in City owned parking lots and alleyways in the Downtown Business District.
- 2) Actions initiated after the MRP effective date and implemented prior to July 1, 2014:
 - No changes to on-land cleanup activities were initiated after the MRP effective date.
- 3) Actions planned for future implementation between July 2014 and July 2022:
 - Enhanced on-land cleanup activities may be coordinated with the City’s Street Landscaping Department as necessary. City employees that work in TMA#8 will be consulted with when determining potential locations for enhanced on-land clean-ups.

Partial-Capture Treatment Devices

- 1) Actions initiated prior to and continued after the MRP effective date (December 2009):
 - Partial-capture treatment devices were not installed prior to the MRP effective date.
- 2) Actions initiated after the MRP effective date and implemented prior to July 1, 2014:
 - No partial-capture treatment devices were installed after the MRP effective date.
- 3) Actions planned for future implementation between July 2014 and July 2022:
 - The City will explore potential locations to install curb-inlet screens (both with insert baskets and without) in locations throughout TMA#8. Street Landscaping employees who work in TMA#8 will be consulted with when determining potential locations for locating partial-capture devices.

Please refer to Section 3.2.14 ‘Jurisdiction-wide Activities to Reduce Trash in the City of Mountain View’ for actions associated with:

- Enhanced Stormdrain Inlet Maintenance
- Activities to Reduce Trash from Uncovered Loads
- Anti-littering and Illegal Dumping Enforcement Activities
- Improved Trash Bins/Container Management.
- Single-Use Carryout Bag Policies
- Polystyrene Foam Food Service Ware Policies
- Public Education and Outreach Program

3.2.9 Trash Management Area #9

TMA #9 is 179.3 acres located between highway 85 and the eastern City boundary with Sunnyvale, and between Central Expressway and El Camino Real. This area consists of a commercial (auto repair, services, office buildings) and light industrial land use, with some medium density residential, and single family residential land use areas. TMA #9 consists of 33.1% low trash generating area, 66.2% medium trash generating area, and 0.8% high trash generating area. The low trash generating areas in this TMA is the single family residential. The Medium trash generating areas are commercial, office properties, and medium density residential. The high trash generating areas are two small commercial properties. The storm drain system in TMA #9 flows to Stevens Creek.

The City's Public Works and Fire & Environmental Protection Division are requesting a new CIP budget item in Fiscal Year 2014-2015 for a Trash Capture Feasibility Study. If approved, the study will investigate potential projects to install trash capture devices within the existing public storm sewer infrastructure. The study will examine design and engineering feasibility, project cost, and long term maintenance. The study will also verify if potential projects are targeted to high trash generation areas. The results of this study will be used to plan future trash reduction projects, including those in TMA#9.

Full-Capture Treatment Devices – Within TMA #9 there is 1 property that has a full-capture device that was installed prior to the MRP. Approximately 8.7 acres drain to full-capture devices prior to discharging to Stevens Creek. The City inspects and tracks maintenance of the full-capture devices.

- 1) Actions initiated prior to and continued after the MRP effective date (December 2009):
 - Approximately 8.7 acres within TMA #9 are treated through a full-capture device before draining to the Stevens Creek. The property owner of the site where the device was installed is responsible for the annual maintenance of the full-capture device. The City inspects and tracks maintenance of these devices. No issues with regard to maintenance of the device have been identified.
- 2) Actions initiated after the MRP effective date and implemented prior to July 1, 2014:
 - No full-capture devices have been installed or planned for installation in TMA #9.
- 3) Actions planned for future implementation between July 2014 and July 2022:
 - There are no plans for future full capture devices in TMA #9.

Street Sweeping – Street sweeping operations and scheduled frequencies that were implemented before the MRP are still implemented at the same frequency and enhanced sweeping operations in TMA #9 are not anticipated.

- 1) Actions initiated prior to and continued after the MRP effective date (December 2009):
 - The entire area in TMA #9 is swept twice a month.
- 2) Actions initiated after the MRP effective date and implemented prior to July 1, 2014:
 - No changes to the sweeping program were initiated after the MRP effective date.
- 3) Actions planned for future implementation between July 2014 and July 2022:
 - As part of proposed trash and litter removal enhancements, the medium trash generating areas in TMA #9 will be evaluated for installation of trash screens at

drain inlets to enhance street sweeping. The City hopes to determine the most appropriate locations for partial trash capture (curb-inlet screens/inserts) within TMA#8 by 2015.

On-land Trash Cleanups – Routine on-land cleanup operations are conducted at City-owned parks and trails by the City’s Community Services Department. The level of service related to on-land trash cleanup that was performed before the MRP has not changed since the MRP effective date and future enhanced on-land trash clean-up activities are not anticipated.

- 1) Actions initiated prior to and continued after the MRP effective date (December 2009):
 - City crews maintain 1 park located in TMA #9. On-land trash cleanup activities include picking up litter at the park and ensuring that garbage cans are emptied to prevent litter or trash spills.
- 2) Actions initiated after the MRP effective date and implemented prior to July 1, 2014:
 - No changes to on-land cleanup activities were initiated after the MRP effective date.
- 3) Actions planned for future implementation between July 2014 and July 2022:
 - Enhanced on-land cleanup activities are not planned for TMA #9.

Partial-Capture Treatment Devices – Stormwater treatment controls that are not considered “full-capture” have been installed at 2 locations to comply with the new and re-development requirements. While these facilities are not considered “full-capture,” trash is intercepted and should be considered “partial capture” at a minimum.

- 1) Actions initiated prior to and continued after the MRP effective date (December 2009):
 - Partial-capture treatment devices were not installed prior to the MRP effective date.
- 2) Actions initiated after the MRP effective date and implemented prior to July 1, 2014:
 - Partial-capture systems were not installed during this period and additional partial-capture actions are not planned.
- 3) Actions planned for future implementation between July 2014 and July 2022:
 - The City will continue to enforce the new and redevelopment requirements and “partial-capture” treatment controls are likely to be installed at additional locations.

Please refer to Section 3.2.14 ‘Jurisdiction-wide Activities to Reduce Trash in the City of Mountain View’ for actions associated with:

- Enhanced Stormdrain Inlet Maintenance
- Activities to Reduce Trash from Uncovered Loads
- Anti-littering and Illegal Dumping Enforcement Activities
- Improved Trash Bins/Container Management.
- Single-Use Carryout Bag Policies
- Polystyrene Foam Food Service Ware Policies
- Public Education and Outreach Program

3.2.10 Trash Management Area #10

TMA #10 is 240.6 acres and consists of the corridor extending along El Camino Real from the Rengstorff Avenue intersection to the eastern City boundary with Sunnyvale, and includes pockets of commercial/retail facilities near the Grant Road intersection and commercial/light industrial facilities near the Highway 237 intersection. This area primarily consists of a commercial (restaurants, auto repair, services, office buildings), retail, and light industrial land use, with some medium to high density residential land use. TMA #10 consists of 5.2% low trash generating area, 43.7% medium trash generating area, and 51.2% high trash generating area. The low trash generating areas in this TMA is the small city park, vacant land, and medium density residential. The Medium trash generating areas are commercial office properties. The high trash generating areas are retail business. The storm drain system in Trash Management Area #10 flows to both Permanente and Stevens Creeks.

The City's Public Works and Fire & Environmental Protection Division are requesting a new CIP budget item in Fiscal Year 2014-2015 for a Trash Capture Feasibility Study. If approved, the study will investigate potential projects to install trash capture devices within the existing public storm sewer infrastructure. The study will examine design and engineering feasibility, project cost, and long term maintenance. The study will also verify if potential projects are targeted to high trash generation areas. The results of this study will be used to plan future trash reduction projects, including those in TMA#10.

Full-Capture Treatment Devices – Within TMA #10 there are 2 properties that have 3 full-capture devices that were installed prior to the MRP. Approximately 2 acres drain to full-capture devices prior to discharging to Stevens Creek. The City inspects and tracks maintenance of the full-capture devices.

- 1) Actions initiated prior to and continued after the MRP effective date (December 2009):
 - Approximately 3.5 acres within TMA #10 are treated through full-capture devices before draining to the Stevens Creek. The City inspects and tracks maintenance of these devices. No issues with regard to performance or maintenance or the full trash capture device have been identified.
- 2) Actions initiated after the MRP effective date and implemented prior to July 1, 2014:
 - A small portion (approximately 5 acres) of the drainage area to the City large full trash capture device is located within TMA #10. The City's large trash capture device is maintained at least twice a year by City utilities personnel.
- 3) Actions planned for future implementation between July 2014 and July 2022:
 - Since TMA #10 primarily consists of medium and high trash generating areas, trash-capture treatment devices will be considered for drains in this area. Installation of a large trash capture device to treat runoff from TMA #10 is not practical since the storm drainage is divided among a number of separate catchments, so storm drain inlet screen inserts may be investigated for possible full-capture protection. Alternatively, the City may install partial trash-capture treatment instead of full-capture systems. Note: there are very few storm drains on El Camino Real. Runoff that drains to the gutter along El Camino Real drains into storm drains located on the side streets. The City also hopes to partner with CalTrans to ensure that TMA#10 achieves full-trash capture by 2022.

Street Sweeping – Street sweeping operations and scheduled frequencies that were implemented before the MRP are still implemented at the same frequency and enhanced sweeping operations in TMA #11 are not anticipated.

- 1) Actions initiated prior to and continued after the MRP effective date (December 2009):
 - The entire area in TMA #10 is swept twice a month.
- 2) Actions initiated after the MRP effective date and implemented prior to July 1, 2014:
 - No changes to the sweeping program were initiated after the MRP effective date.
- 3) Actions planned for future implementation between July 2014 and July 2022:
 - As part of proposed trash and litter removal enhancements, the medium trash generating areas in TMA #10 will be evaluated for installation of trash screens at drain inlets to enhance street sweeping.

On-land Trash Cleanups – Routine on-land cleanup operations are conducted at City-owned parks and trails by the City’s Community Services Department. The level of service related to on-land trash cleanup that was performed before the MRP has not changed since the MRP effective date and future enhanced on-land trash clean-up activities are not anticipated.

- 1) Actions initiated prior to and continued after the MRP effective date (December 2009):
 - City crews maintain 1 park located in TMA #10. On-land trash cleanup activities include picking up litter at the park and ensuring that garbage cans are emptied to prevent litter or trash spills.
- 2) Actions initiated after the MRP effective date and implemented prior to July 1, 2014:
 - No changes to on-land cleanup activities were initiated after the MRP effective date.
- 3) Actions planned for future implementation between July 2014 and July 2022:
 - Enhanced on-land cleanup activities are not planned for TMA #10.

Partial-Capture Treatment Devices – Stormwater treatment controls that are not considered “full-capture” have been installed at two locations to comply with the new and re-development requirements. While these facilities are not considered “full-capture,” trash is intercepted and should be considered “partial capture” at a minimum.

- 1) Actions initiated prior to and continued after the MRP effective date (December 2009):
 - Partial-capture treatment devices were not installed prior to the MRP effective date.
- 2) Actions initiated after the MRP effective date and implemented prior to July 1, 2014:
 - Two properties totaling approximately 1 acre of land have been developed with LID stormwater treatment controls incorporated into the project. The LID controls are biotreatment facilities that may remove trash but are not considered full-capture. The City inspects and tracks maintenance of these partial capture devices. No issues with regard to performance or maintenance of the partial trash capture device have been identified.
- 3) Actions planned for future implementation between July 2014 and July 2022:
 - The City will continue to enforce the new and redevelopment requirements and “partial-capture” treatment controls are likely to be installed at additional locations. Two projects currently under construction that will include biotreatment controls will be completed by 2015 and will treat approximately 3 acres.

Please refer to Section 3.2.14 ‘Jurisdiction-wide Activities to Reduce Trash in the City of Mountain View’ for actions associated with:

- Enhanced Stormdrain Inlet Maintenance
- Activities to Reduce Trash from Uncovered Loads
- Anti-littering and Illegal Dumping Enforcement Activities
- Improved Trash Bins/Container Management.
- Single-Use Carryout Bag Policies
- Polystyrene Foam Food Service Ware Policies
- Public Education and Outreach Program

3.2.11 Trash Management Area #11

TMA #11 is 172.6 acres and consists of a hospital, medical office buildings, a high school, a large City park, and a single family home neighborhood, with 9.2% of TMA #1 consisting of low trash generating area, and 90.8% medium trash generating area. The low trash generating areas in this TMA is the single family residential neighborhood. The Medium trash generating areas are the hospital, office, high school, and park areas. The storm drain system in Trash Management Area #11 flows to both Permanente and Stevens Creeks.

Full-Capture Treatment Devices – Within TMA #11 there are two properties that have 3 full-capture devices that were installed prior to the MRP. Approximately 4 acres drain to full-capture devices prior to Stevens Creek. The City inspects and tracks maintenance of the full-capture devices.

- 1) Actions initiated prior to and continued after the MRP effective date (December 2009):
 - Approximately 4 acres within TMA #11 are treated through full-capture devices before draining to the Stevens Creek. The City inspects and tracks maintenance of these devices.
- 2) Actions initiated after the MRP effective date and implemented prior to July 1, 2014:
 - No additional full-capture devices were installed after the MRP effective date.
- 3) Actions planned for future implementation between July 2014 and July 2022:
 - No additional full-capture devices are proposed for this area.

Street Sweeping – Street sweeping operations and scheduled frequencies that were implemented before the MRP are still implemented at the same frequency and enhanced sweeping operations in TMA #11 are not anticipated.

- 1) Actions initiated prior to and continued after the MRP effective date (December 2009):
 - The entire area in TMA #11 is swept twice a month.
- 2) Actions initiated after the MRP effective date and implemented prior to July 1, 2014:
 - No changes to the sweeping program were initiated after the MRP effective date.
- 3) Actions planned for future implementation between July 2014 and July 2022:
 - As part of proposed trash and litter removal enhancements, the medium trash generating areas in TMA #11 will be evaluated for installation of trash screens at drain inlets to enhance street sweeping.

On-land Trash Cleanups – Routine on-land cleanup operations are conducted at City-owned parks and trails by the City’s Community Services Department. The level of service related to on-land trash cleanup that was performed before the MRP has not changed since the MRP effective date and future enhanced on-land trash clean-up activities are not anticipated.

- 1) Actions initiated prior to and continued after the MRP effective date (December 2009):
 - City crews maintain 1 park located in TMA #11. On-land trash cleanup activities include picking up litter at the park and ensuring that garbage cans are emptied to prevent litter or trash spills.
- 2) Actions initiated after the MRP effective date and implemented prior to July 1, 2014:
 - No changes to on-land cleanup activities were initiated after the MRP effective date.
- 3) Actions planned for future implementation between July 2014 and July 2022:
 - Enhanced on-land cleanup activities are not planned for TMA #11.

Partial-Capture Treatment Devices – Stormwater treatment controls that are not considered “full-capture” have been installed at two locations to comply with the new and re-development requirements. While these facilities are not considered “full-capture,” trash is intercepted and should be considered “partial capture” at a minimum.

- 1) Actions initiated prior to and continued after the MRP effective date (December 2009):
 - In addition to the trash capture devices installed at 2 pre-MRP projects, a portion of the property drains to a grass swale that is not considered “full-capture.” Approximately 1 acre of area drains to the swales. The City inspects and tracks maintenance of the swale. No issues with regard to performance or maintenance of the swale have been identified.
- 2) Actions initiated after the MRP effective date and implemented prior to July 1, 2014:
 - Another property in TMA #11 was redeveloped to include a biotreatment basin, which not considered “full-capture.” Approximately 0.8 acres of land drains to the treatment facility, which is inspected by the City. No issues with regard to performance or maintenance of the biotreatment basin have been identified.
- 3) Actions planned for future implementation between July 2014 and July 2022:
 - The City will continue to enforce the new and redevelopment requirements and “partial-capture” treatment controls are likely to be installed at additional locations. The City will also consider installing trash screens at curb drain inlets to improve trash screening and enhance street sweeping operations in this medium trash generating area.

Please refer to Section 3.2.14 ‘Jurisdiction-wide Activities to Reduce Trash in the City of Mountain View’ for actions associated with:

- Enhanced Stormdrain Inlet Maintenance
- Activities to Reduce Trash from Uncovered Loads
- Anti-littering and Illegal Dumping Enforcement Activities
- Improved Trash Bins/Container Management.
- Single-Use Carryout Bag Policies
- Polystyrene Foam Food Service Ware Policies
- Public Education and Outreach Program

3.2.12 Trash Management Area #12

TMA #12 represents the lowest trash generating areas of the City. TMA #12 is 3,235.6 acres and primarily consists of single family residential and open space (Shoreline) land uses, with 97.4% of TMA #12 consisting of low trash generating area, 2.5% medium trash generating area, and 0.1% high trash generating area. The medium trash generating area included in this TMA

is a small industrial area that is planned for conversion to residential area within 10 years, and small areas with medium density residential buildings. The high trash generating area in this TMA consists of a few small commercial properties located within low density neighborhoods, and one of the properties will be converted to single family residential within 2 years. Since TMA represents the lowest trash generating areas in the City and these areas are scattered through the City, this TMA is indicated as numerous separate locations on the TMA Map. These separate areas drain to different catchment areas and outfalls into the local creeks.

Due to the low trash generation area categories that exist in TMA #12, only jurisdictional activities initiated prior to and continued after the MRP will be conducted in these areas. Examples of these activities include routine street sweeping, and response to litter complaints.

Full-Capture Treatment Devices – Within TMA #12 there are 5 properties that have full-capture devices that were installed prior to the MRP and LID requirements. Also, a portion of the City that drains into the large City Full Trash Capture System is also located in TMA #12. Approximately 61.5 acres drain to full-capture devices prior to draining to the City's storm drain system and into local waterways through various outfalls. The City inspects and tracks maintenance of the full-capture devices.

- 1) Actions initiated prior to and continued after the MRP effective date (December 2009):
 - Approximately 61.5 acres within TMA #12 are treated through full-capture devices. The City inspects and tracks maintenance of these devices. Typically the devices are maintained (i.e. pumped out) annually unless an inspection determines a more appropriate frequency. There have been no issues or problems associated with the maintenance of these devices.
- 2) Actions initiated after the MRP effective date and implemented prior to July 1, 2014:
 - No additional full-capture devices were installed after the MRP effective date.
- 3) Actions planned for future implementation between July 2014 and July 2022:
 - Since TMA #12 is mostly low trash generating area, there are no future plans for installation of full trash capture system in this TMA.

Street Sweeping – Street sweeping operations and scheduled frequencies that were implemented before the MRP are still implemented at the same frequency and enhanced sweeping operations in TMA #1 are not anticipated.

- 1) Actions initiated prior to and continued after the MRP effective date (December 2009):
 - The sweeping routes in TMA #12 are swept twice a month.
- 2) Actions initiated after the MRP effective date and implemented prior to July 1, 2014:
 - No changes to the sweeping program were initiated after the MRP effective date.
- 3) Actions planned for future implementation between July 2014 and July 2022:
 - Enhanced sweeping operations are not planned for TMA #12.

On-land Trash Cleanups – Routine on-land cleanup operations are conducted at City-owned parks and trails by the City's Community Services Department. The level of service related to on-land trash cleanup that was performed before the MRP has not changed since the MRP effective date and future enhanced on-land trash clean-up activities are not anticipated.

- 1) Actions initiated prior to and continued after the MRP effective date (December 2009):

- Trash cleanups are performed in TMA #12 on a complaint basis. Parks and schools are located in some of the TMA #12 areas, and those activities are discussed separately.
- 2) Actions initiated after the MRP effective date and implemented prior to July 1, 2014:
 - No changes to on-land cleanup activities were initiated after the MRP effective date.
- 3) Actions planned for future implementation between July 2014 and July 2022:
 - Enhanced on-land cleanup activities are not planned for TMA #12.

Partial-Capture Treatment Devices – Stormwater treatment controls that are not considered “full-capture” have been installed at 7 locations to comply with the new and re-development requirements. While these facilities are not considered “full-capture,” trash is intercepted and should be considered “partial capture” at a minimum.

- 1) Actions initiated prior to and continued after the MRP effective date (December 2009):
 - Partial-capture treatment devices were not installed prior to the MRP effective date.
- 2) Actions initiated after the MRP effective date and implemented prior to July 1, 2014:
 - In addition to the projects pre-MRP projects that had full-capture devices installed, 9 properties have been re-developed and include treatment controls that are not considered “full-capture.” The types of controls installed at these properties include biotreatment basins and “tree-well” filter systems. These properties account for approximately 27.9 acres, and the treatment controls are inspected by the City. The City inspects and tracks maintenance of these partial capture devices. No issues with regard to performance or maintenance or the full trash capture device have been identified.
- 3) Actions planned for future implementation between July 2014 and July 2022:
 - The City will continue to enforce the new and redevelopment requirements and “partial-capture” treatment controls are likely to be installed at additional locations.

Please refer to Section 3.2.14 ‘Jurisdiction-wide Activities to Reduce Trash in the City of Mountain View’ for actions associated with:

- Enhanced Stormdrain Inlet Maintenance
- Activities to Reduce Trash from Uncovered Loads
- Anti-littering and Illegal Dumping Enforcement Activities
- Improved Trash Bins/Container Management.
- Single-Use Carryout Bag Policies
- Polystyrene Foam Food Service Ware Policies
- Public Education and Outreach Program

3.2.13 Trash Management Area - Schools

Trash Management Area - Schools consists of 151.4 acres at 8 public school properties located within TMA #12, which are the low trash generating areas in the City. These schools are located throughout the low trash generating areas (TMA #12) of the City and are labeled on the TMA map. There is one additional school not labeled on the TMA Map that is located in a low trash generating (TMA #12) area. The TMA Map will be revised to include a label for this school within the low trash generating area. The school that is not labeled on the TMA map is approximately 15 acres. TMA - Schools is entirely (100%) comprised of medium trash

generating area, and these locations drain to Permanente and Stevens Creeks through a number of different outfalls. Seven of the schools also include athletic fields and City park lands that are maintained by the City's Community Services Department, including litter collection and trash management. The athletic field and City parks associated with these schools consists of 49.7 acres.

Full-Capture Treatment Devices – Within TMA - Schools there are no full-capture devices in service.

- 1) Actions initiated prior to and continued after the MRP effective date (December 2009):
 - There are no full-capture devices located on the public schools or parks in this TMA.
- 2) Actions initiated after the MRP effective date and implemented prior to July 1, 2014:

There are no full-capture devices located on the public schools or parks in this TMA.
- 3) Actions planned for future implementation between July 2014 and July 2022:
 - There are no planned actions to install full-capture devices at public schools or parks in this TMA.

Street Sweeping – Street sweeping operations and scheduled frequencies that were implemented before the MRP are still implemented at the same frequency and enhanced sweeping operations in TMA - Schools are not anticipated unless curb inlet screens are installed in the TMA.

- 1) Actions initiated prior to and continued after the MRP effective date (December 2009):
 - The entire area in TMA - Schools is swept twice a month.
- 2) Actions initiated after the MRP effective date and implemented prior to July 1, 2014:
 - No changes to the sweeping program were initiated after the MRP effective date.
- 3) Actions planned for future implementation between July 2014 and July 2022:
 - As part of proposed trash and litter removal enhancements, the medium trash generating areas in TMA - Schools will be evaluated for installation of trash screens at drain inlets to enhance street sweeping.

On-land Trash Cleanups – Routine on-land cleanup operations are conducted at City-owned parks and trails by the City's Community Services Department. The level of service related to on-land trash cleanup that was performed before the MRP has not changed since the MRP effective date and future enhanced on-land trash clean-up activities are not anticipated.

- 1) Actions initiated prior to and continued after the MRP effective date (December 2009):
 - City crews maintain athletic fields and parks associated with the public schools in the TMA. On-land trash cleanup activities include picking up litter at the park and ensuring that garbage cans are emptied to prevent litter or trash spills.
- 2) Actions initiated after the MRP effective date and implemented prior to July 1, 2014:
 - No changes to on-land cleanup activities were initiated after the MRP effective date.
- 3) Actions planned for future implementation between July 2014 and July 2022:
 - Enhanced on-land cleanup activities are not planned for TMA - Schools.

Partial-Capture Treatment Devices – Stormwater treatment controls that are not considered "full-capture" have been installed at 2 locations to comply with the new and re-development requirements. While these facilities are not considered "full-capture," trash is intercepted and should be considered "partial capture" at a minimum.

- 1) Actions initiated prior to and continued after the MRP effective date (December 2009):

- There are no partial-capture devices located on the public schools or parks in this TMA.
- 2) Actions initiated after the MRP effective date and implemented prior to July 1, 2014:
- There are no partial-capture devices located on the public schools or parks in this TMA.
- 3) Actions planned for future implementation between July 2014 and July 2022:
- There are planned actions to install partial-capture devices at the public schools or parks in this TMA.

Please refer to Section 3.2.14 ‘Jurisdiction-wide Activities to Reduce Trash in the City of Mountain View’ for actions associated with:

- Enhanced Stormdrain Inlet Maintenance
- Activities to Reduce Trash from Uncovered Loads
- Anti-littering and Illegal Dumping Enforcement Activities
- Improved Trash Bins/Container Management.
- Single-Use Carryout Bag Policies
- Polystyrene Foam Food Service Ware Policies
- Public Education and Outreach Program

3.2.14 Jurisdiction-wide Control Measures

Activities to Reduce Trash from Uncovered Loads

- 1) Actions initiated prior to and continued after the MRP effective date (December 2009):
 - The City of Mountain View contracts with Recology for garbage pick-up throughout the City. The City's contract with Recology includes requirements regarding litter abatement, the covering of loads, and illegal dumping. The contract requires that Recology shall place tarps on all open debris boxes during transport to the Disposal Site. Loads not properly covered are subject to an assessment of a fee by the operator of the Disposal Site and Recology shall be responsible for all such fees which shall be excluded from Allowable Expenses. Alternatively the facility operator may require Recology to purchase a tarp for the boxes on the vehicle. The fee as established by resolution of the city council for the truck tarp is currently set at \$25.00.
 - Require Municipal Trash Haulers to Cover Loads – Development and inclusion of language in a Permittee's hauling service contract(s) that requires contracted trash and construction debris haulers to cover loads when transporting trash and debris to municipally or privately-owned landfills and transfer stations;
 - Adoption of an ordinance to the Mountain View City Code, Chapter 35, prohibiting the transportation of trash or debris without a cover; and
 - Citations and fines for vehicles spotted on roads in an individual Permittee's jurisdictional area with uncovered loads.
 - City Police Officers write citations under the California Vehicle Code Section 23114 and 23115 for uncovered loads when they are observed, but active enforcement does not occur due to the lower priority of this issue when compared to crime suppression, traffic safety, and general calls for service.
 - In addition, the City has prescriptive language in municipal contracts for debris/garbage haulers that work within the City. Haulers are required to have collection vehicles to have water-tight bodies and that the contractor places tarps over all open debris boxes during transport to the disposal site.
- 2) Actions initiated after the MRP effective date and implemented prior to July 1, 2014:
 - No changes to activities to reduce trash from uncovered loads were initiated after the MRP effective date.
- 3) Actions planned for future implementation between July 2014 and July 2022:
 - The City of Mountain View also plans on revising its ordinance to specifically prohibit vehicles with uncovered loads by July 1, 2014.

Anti-littering and Illegal Dumping Enforcement Activities

- 1) Actions initiated prior to and continued after the MRP effective date (December 2009):
 - City of Mountain View has adopted a basic anti-littering and illegal dumping enforcement program that entails receiving and responding to complaints from citizens as resources allow.
- 2) Actions initiated after the MRP effective date and implemented prior to July 1, 2014:
 - In addition to responding to interagency and citizen reports of illegal dumping via phone calls during business hours, The City of Mountain View will utilize a recently introduced feature on the City's website called "Ask Mountain View". This website is a portal where citizens can directly report non-emergency illegal dumping activities via e-mail, 24 hours a day, 7 days a week, and the complaint will be forwarded to the appropriate City Staff person for follow-up and ultimately

clean-up of the illegal dumping site. The enforcement options utilized by City staff are detailed in the City's Enforcement Response Plan (ERP).

- 3) Actions planned for future implementation between July 2014 and July 2022:
 - No changes to anti-littering and illegal dumping enforcement activities are proposed for implementation between July 2014 and July 2022.

Improved Trash Bins/Container Management

- 1) Actions initiated prior to and continued after the MRP effective date (December 2009):
 - The commercial businesses (automotive facilities, food service establishments) in Trash Management Areas are inspected annually for compliance with stormwater regulations including trash bin management. Corrective actions would be required of the business/facility if a trash or stormwater violation was noted- but re-inspections would not always occur within 10 business days, and some violations would be issued as 'verbal warnings' which would not necessarily merit a reinspection.
- 2) Actions initiated after the MRP effective date and implemented prior to July 1, 2014:
 - Commercial/Industrial facility inspections within Trash Management Areas are still inspected annually, but post-MRP, all facilities with stormwater violations are tracked and/or reinspected to ensure compliance within 10-business days or a reasonable time. Haz-Mat and other inspectors also refer trash-bin-management -related violations to stormwater inspectors for follow-up to ensure that the violations are being corrected within 10-days or a reasonable amount of time (as most haz-mat and fire code violations are required to be corrected in 30 days). The City also hired an inspector in 2012 so more facilities are able to be inspected annually.
- 3) Actions planned for future implementation between July 2014 and July 2022:
 - No changes to Trash Bins/Container Management activities are proposed for implementation between July 2014 and July 2022.

Enhanced Storm Drain Inlet Maintenance

The City's Wastewater Division has been installing "No Dumping Flows to Bay" placards on the City's stormdrain inlets throughout 2013. The City initially ordered 500 placards and have installed approximately 300 placards so far. The City plans on installing the placards on all stormdrain inlets in the City (approximately 1600 storm drain inlets are in the City of Mountain View). During the installation of the placards, the City's Wastewater Crews are noting how impacted the storm drain is by trash and the condition of the storm drain inlet. Wastewater Crews expect to have placards installed on all storm drains within 5 years (by 2018).

- 1) Actions initiated prior to and continued after the MRP effective date (December 2009):
 - Stormdrains are flushed and the debris collected downstream by the City's Wastewater Crews on an and as-needed basis.
- 2) Actions initiated after the MRP effective date and implemented prior to July 1, 2014:
 - No changes to storm drain inlet maintenance activities were initiated after the MRP effective date.
- 3) Actions planned for future implementation between July 2014 and July 2022:
 - No changes to storm drain inlet maintenance activities are proposed for implementation between July 2014 and July 2022.

Single-use Carryout Plastic Bag Ordinance

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).

- 1) Actions initiated prior to and continued after the MRP effective date (December 2009):
 - 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.
- 2) Actions initiated after the MRP effective date and implemented prior to July 1, 2014:
 - Starting on April 22, 2013, customers will need to bring their own shopping bag or purchase a paper or reusable bag from retail stores in Mountain View. The Reusable Bag Ordinance was approved by City Council after considering an Environmental Impact Report in which Mountain View joined 24 other cities to study the effects of single-use plastic bags on the environment. The intent of the ordinance is to prevent harm to marine life, damage to stormwater utility systems, reduce litter and waste, and conserve natural resources. The Ordinance also helps the City meet requirements to reduce plastic bags found in waterways under the Municipal Stormwater Permit issued by the Regional Water Quality Control Board.

The focus of the Ordinance is to get customers to shop with reusable bags to save natural resources and reduce waste. In order to promote a shift to reusable bags, the Ordinance requires that stores charge customers a minimum of ten cents on each recycled paper or reusable bag (including plastic bags more than 2.25 mil thick and durable). Stores keep the revenue from the bag charges to pay for bags and help with record-keeping costs.

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.

- 1) Actions initiated prior to and continued after the MRP effective date (December 2009):
 - In March 2009, Council adopted an Environmental Sustainability Action Plan (ESAP) to serve as a roadmap for achieving the City's short- and long-term sustainability goals. Two of the goals included in the ESAP were related to single-use bags and foam food ware. The goals were to reduce waste and eliminate the negative impacts of producing, using, and discarding products and packaging.

- 2) Actions initiated after the MRP effective date and implemented prior to July 1, 2014:
 - In January 2012, Council adopted a work plan directing staff to prepare ordinances addressing single-use bags and foam food ware, and a policy for City facilities and events. This action was based on recommendations from the Recycling and Waste Reduction Commission of Santa Clara County and new requirements in the Municipal Stormwater Permit to reduce the amount of trash in waterways.

 - In December 2012, Council adopted an ordinance regulating single-use bags, which was implemented on April 22, 2013. Staff has now prepared an ordinance and policy addressing foam food ware for the Committee's review and Council's consideration.

 - City Staff has recommended that the City Council adopt "An Ordinance of the City of Mountain View Adding Article V to Chapter 16 of the Mountain View City Code Related to Use of Polystyrene Foam Food Service Ware by Food Providers."

- 3) Actions planned for future implementation between July 2014 and July 2022:
 - On or after July 1, 2014, a food provider, located in or operating within the city of Mountain View, shall not dispense prepared food to a customer using polystyrene foam food service ware.

 - The proposed ordinance and Administrative Instruction would ban the use of polystyrene foam food service ware (foam food ware) for ready-to-consume food and beverages throughout the City and at all City facilities and events. This would apply to dine-in, take-out, or complimentary service, whether or not a charge is imposed.

 - The implementation adoption and implementation of the ordinance is contingent upon approval by the City Council. That said, staff is hopeful that the ordinance can be adopted and fully implemented prior on or shortly after July 1, 2014.

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.

- 1) Actions initiated prior to and continued after the MRP effective date (December 2009):
 - The City of Mountain View implemented various public education and outreach control measures prior to the effective date of the MRP. These outreach activities included ‘tabling’ the annual Arbor Day event, the Annual Art & Wine Festival, and the four, annual “Thursday Night Live” events. Typically the type of outreach material provided to residents/visitors revolved around pesticide use reduction (Arbor Day), proper disposal of pharmaceuticals and other potentially hazardous household items (Art & Wine and Thursday Night Live events), and the differences between wastewater and stormwater (all events). **A detailed description of the outreach, advertising and awareness campaigns are listed below.**

- 2) Actions initiated after the MRP effective date and implemented prior to July 1, 2014:
 - The City of Mountain View continues to staff various events throughout the year and provide information to the public as detailed above. Since the MRP effective date, the City has added a ‘Trash’ component to its outreach message- utilizing the always popular, “Wheel-of-Trash” game.

- 3) Actions initiated after the MRP effective date and implemented prior to July 1, 2014:
 - The City of Mountain View plans on continuing it’s outreach and public education programs and enhance them where there are opportunities to do so. The City will explore partnering with the two schools (Crittenden Middle School and Castro Elementary School) to enhance trash and litter prevention awareness. The City will also continue to partner with Acterra as much as possible to participate in World Monitoring Day and other outreach events.

A detailed description of the outreach, advertising and awareness campaigns that the City of Mountain View participates in are listed below:

Litter Reduction Advertising Campaign(s)

BASMAA Youth Outreach Campaign (Regional)

Through participation and funding of the regional **BASMAA Youth Outreach Campaign** the City of Mountain View implements 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.

Watershed Watch Campaign (Countywide)

In addition to the BASMAA Campaign, the City of Mountain View will continue to implement the countywide **Watershed Watch Campaign** through active participation and funding of the Santa Clara Valley Urban Runoff Pollution Prevention Program (SCVURPPP). This Campaign conducts media advertising that includes anti-litter messages. Anti-litter advertisements for television, print, transit and radio have been developed and are used each year and will continue in the future. A telephone survey is conducted every five years to measure the effectiveness of outreach and increase in awareness about litter and stormwater related messaging.

Outreach to School-age Children or Youth

ZunZun (Countywide)

Through participation and funding of the SCVURPPP countywide ZunZun Program the City of Mountain View, plans to continue to implement litter reduction outreach to elementary school-age children. Up to 50 ZunZun assemblies at elementary schools are conducted in the Santa Clara Valley each year. These bilingual musical assemblies educate elementary school students and their teachers on watersheds and urban runoff pollution prevention, including litter. ZunZun performances use physical comedy, audience participation and musical instruments to educate teachers and children. Handouts, including teacher and student activity sheets, are distributed following the assembly.

The SCVURPPP Schools and Youth Education and Outreach Work Group provides a list of schools for ZunZun to contact. In addition to schools with high Hispanic populations, the list includes schools with high Asian/Pacific Islander populations.

ZunZun assemblies are evaluated using postage-paid evaluation cards that are distributed to all teachers present at the performances. Teachers mail the completed evaluation cards to SCVURPPP, and results are compiled by SCVURPPP staff. Based on the teacher feedback, changes are made to future assemblies and/or handouts.

Who Dirtied the Bay – 3rd Grade Education Program (Mountain View Only)

The focus of this program is on stormwater and how the pollutants impact the Baylands and Water Environment. Pollution Prevention solutions are discussed. Students also learn the difference between wastewater and stormwater (where it comes from, where it goes); the water cycle; the definition and function of a watershed; and the principles of, “reduce/reuse/recycle/rot/respect.” Mountain View schools are reached through the Palo Alto Regional Water Quality Control Plant’s school outreach program, which the city of Mountain View is a partner. The City of Palo Alto administers the program and effectiveness evaluation reports are available with the City of Palo Alto.

Media Relations

BASMAA Regional Media Relations Project (Regional)

Through participation and funding of the **BASMAA Regional Media Relations Project**, the City of Mountain View 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 (Local)

The City of Mountain View Fire Department maintains a Facebook page which is updated multiple times a week and it used to disseminate information regarding upcoming community events, including Community Outreach activities pertaining to Trash Reduction.

Community Outreach Events (Local)

Thursday Night Live Street Fair/ Farmer’s Market: City Staff will provide information and resources to the public regarding Trash Reduction and stormwater awareness. These 4 events occur every other Thursday in the months of August and September.

Arbor Day: City Staff will staff a table and provide information and resources to the public regarding Trash Reduction and stormwater awareness. This event occurs annually in early March.

Art and Wine Festival: City Staff will provide information and resources to the public regarding Trash Reduction and stormwater awareness. The Art & Wine Festival occurs Saturday and Sunday during the 2nd week of September.

World Monitoring Day: City Staff partner with Acterra to host a World Monitoring Day event. World Water Monitoring Challenge™ is an international education and outreach program that builds public awareness and involvement in protecting water resources around the world by engaging citizens to conduct basic monitoring of their local water bodies. In 2012, approximately 250,000 visits were made by participants to monitoring sites in 66 countries, including a site on Stevens Creek in Mountain View. The City hopes to partner with Acterra in the future to host another World Monitoring Day event.

3.2.15 Creek and Shoreline Hot Spot Cleanups

The City of Mountain View has three designated trash hot spots (see Figure 7 for locations):

- 1) **MOV01** is located on Stevens Creek, just downstream of Central Expressway. Trash sources include windblown trash from nearby roads including Central Expressway, illegal dumping homeless encampments, construction debris, litter from storm drain outfalls, and pedestrian generated litter. The most commonly found trash items found during clean-ups at this hot spot include cigarette butts, plastic food wrappers, construction debris, large items associated with habitation in the creek. MOV01 is located in TMA#4.
- 2) **MOV02** is located along Stevens Creek approximately 150' upstream of Evelyn Ave. and downstream to Central Expressway. Trash sources include illegal dumping, homeless encampments, vehicle and pedestrian litter. Cigarette butts, clothing, plastic bottles, plastic bags, scrap metal and paper and cardboard products are the most common items collected during clean ups at this trash hot spot. MOV02 is located in TMA#12
- 3) **MOV03** is located along Stevens Creek at El Camino Real (both up and downstream of El Camino Real). Trash sources include windblown trash from the nearby roadway (CA-82), pedestrian litter, homeless encampments, direct dumping, and a large storm drain outfall. The most commonly found trash items in this hot spot are spray-paint cans, cigarette butts, plastic food wrappers, glass bottles, plastic bottles, and cardboard. MOV03 is located in TMA#10.

All three hot spots are cleaned twice a year by City Staff and volunteers in conjunction with National River Clean-up Day in May and Coastal Clean-up Day in September as access allows. These three hot spots are assessed and photographed annually. Hot spot MOV03 has extremely steep banks which can make it difficult to access, but it is also a popular graffiti location where many used spray paint cans are collected year after year. The volume of trash collected in the three hot spots is relatively variable from year to year. It's difficult to make any assumptions about trash trends at hot spots because of the erratic nature of the pathways that trash ends up in the Creeks. Some years volunteers and staff will collect relatively less small item trash, but a large homeless encampment may raise the volume of trash collected during a particular event.

Prior to the MRP effective date, City staff and volunteers participated in both National River Clean-up Day and Coastal Clean-up Day at two sites; one along Stevens Creek near La Avenida and one site on Permanente Creek near Crittenden Middle School. Both of those sites were chosen for clean-up events because they were impacted by trash and they were both very accessible. As the years progressed, both sites became less and less impacted by trash and ultimately new clean-up locations were selected through the trash hot spot assessment process associated with the MRP.

The City plans on continuing the clean-up events at the hot spots described above, and may explore refining the hot spots and potentially adding additional clean-up locations throughout the year as resources, partnering opportunities and staff-time allow.

3.2.16 Summary of Trash Control Measures

Trash Management Area 1

- Full-Capture Treatment Devices
- On-Land Trash Clean-ups

- Partial Capture Treatment Devices
- Jurisdiction-wide Activities to Reduce Trash in the City of Mountain View

The City is investigating full-capture devices that may be installed in the existing inlet or outlet structures of the Coast-Casey detention pond. The trash capture benefit based on land area and trash generation makes this project a long-term priority. The trash capture device would provide full-capture treatment to all of TMA#1.

Trash Management Area 2

- Full-Capture Treatment Devices
- On-Land Trash Clean-ups
- Partial Capture Treatment Devices
- Jurisdiction-wide Activities to Reduce Trash in the City of Mountain View

Much of the storm system in Trash Management Area 2 flows to a detention basin which is a potential location for the installation of a full-capture treatment device. Trash Management Area #2 has had the benefit of large corporations/companies developing office buildings and campuses which has displaced some of the industrial activities that used to occur in the area. The shift in land use to uses that typically generate less trash has been occurring over the past 8 years and continues as the City makes decisions on how the area will develop. Because of the potential to locate a full-trash capture device at the detention basin and the amount of acres that could be treated by a full capture device, Trash Management Area #2 is a high priority management area. Large, full-trash capture devices can be costly and time consuming to plan and ultimately install so while Trash Management Area #2 is a high priority, it may take a few years before a large, full-capture device can be installed. Assuming a full capture device can be installed at the detention basin, the device would provide full capture treatment to all of TMA#2.

Trash Management Area 3

- Full-Capture Treatment Devices
- On-Land Trash Clean-ups
- Partial Capture Treatment Devices
- Street Sweeping
- Jurisdiction-wide Activities to Reduce Trash in the City of Mountain View

The City is exploring the potential of increased urban run-off pollution inspections as well as jurisdictional-wide trash control measures (discussed in Jurisdiction-wide section on page ???) as strategies to reduce the impacts of trash in Trash Management Area #3. The City will also explore the possibility of installing partial trash capture devices in this area such as storm drain inlet screens where feasible to achieve full trash capture of the TMA.

Trash Management Area 4

- Full-Capture Treatment Devices
- On-Land Trash Clean-ups
- Partial Capture Treatment Devices
- Enhanced/Improved Street Sweeping
- Jurisdiction-wide Activities to Reduce Trash in the City of Mountain View

The City is exploring the potential of increased urban run-off pollution inspections as well as jurisdictional-wide trash control measures (discussed in Jurisdiction-wide section on page ???) as strategies to reduce the impacts of trash in the low-trash generating areas of Trash Management Area #4 (approximately 28% of TMA#4). The City will also explore the possibility

of installing partial trash capture devices in the medium and high areas of TMA#4 to achieve full trash capture of the management area. The City has designated three trash “hot spots” along Stevens Creek including one ‘hot spot’ that is located in Trash Management Area #4 (MOV-01).

Trash Management Area 5

- Full-Capture Treatment Devices
- On-Land Trash Clean-ups
- Partial Capture Treatment Devices
- Enhanced/Improved Street Sweeping
- Jurisdiction-wide Activities to Reduce Trash in the City of Mountain View

The potential trash management strategies that the City is considering undertaking in Trash Management Area #5 include: enhanced or improved street sweeping, partial capture treatment devices, improved trash bin container maintenance at the commercial facilities within the TMA, as well as jurisdictional-wide trash control measures. There are quite a few areas within this TMA that are currently undergoing redevelopment from commercial/industrial to high-end, single family residential use. Once the redevelopment of these areas has been completed, the trash management strategies for the area may also shift.

Trash Management Area 6

- Full-Capture Treatment Devices
- Enhanced/Improved Street Sweeping
- Improved Trash Bin Container maintenance
- Partial Capture Treatment Devices
- Enhanced/Improved Street Sweeping
- Jurisdiction-wide Activities to Reduce Trash in the City of Mountain View

The potential trash management strategies that the City is considering undertaking in TMA#6 are: enhanced or improved street sweeping, partial capture treatment devices, improved trash bin container maintenance at the commercial facilities, as well as jurisdictional-wide trash control measures. Because of the high density of commercial properties in this area, increased inspections as well as exploring the potential of installing a full-trash capture device(s) will also be considered as trash management activities for this area.

There are quite a few areas within Trash Management Area #6 that are currently undergoing redevelopment from commercial to high-end, multi-family residential use. Once the redevelopment of these areas has been completed, the trash management strategies for the area may also shift.

Trash Management Area 7

- Full-Capture Treatment Devices
- Enhanced/Improved Street Sweeping
- Improved Trash Bin Container maintenance
- Partial Capture Treatment Devices
- Jurisdiction-wide Activities to Reduce Trash in the City of Mountain View

The potential trash management strategies that the City is considering undertaking in this TMA are: enhanced street sweeping, increased outreach/inspections to commercial businesses, improved container/bin management, partial capture trash devices, as well as jurisdictional-wide trash control measures. Since TMA #7 primarily consists of medium, medium-high and high

trash generating areas, trash-capture treatment devices will be considered for drains in this area. Installation of a large trash capture device to treat runoff from TMA #7 may not be practical since the storm drain piping system is extremely deep. Storm drain inlet screen inserts may be investigated for possible full-capture protection. Alternatively, the City may install partial trash-capture treatment instead of full-capture systems.

Trash Management Area 8

- Full-Capture Treatment Devices
- Enhanced/Improved Street Sweeping
- Improved Trash Bin Container maintenance
- Partial Capture Treatment Devices
- Jurisdiction-wide Activities to Reduce Trash in the City of Mountain View

Trash Management Area 8 consists of the "heart" of Downtown Mountain View including the 10-block portion of Castro Street which is heavily populated by restaurants. A major CalTrain Station is also located in TMA#8. This Trash Management area includes a 'special business district' along Castro St. as well as the alley-ways behind Castro St. including Blossom St. and Wild Cherry Lane. The trash management activities that will potentially be undertaken in TMA-8 consist of: enhanced inspection frequency, improved trash bin/container management, partial-trash capture device(s), and potentially full-trash capture devices. TMA #8 primarily consists of medium, medium-high and high trash generating areas, Trash-capture treatment devices will be considered for drains in this area. Installation of a full-trash capture device on existing storm drain inlets will be investigated as well as an in-line device. Storm drain inlet screen inserts may be investigated for possible full-capture or partial-capture protection as well.

Trash Management Area 9

- Full-Capture Treatment Devices
- Enhanced/Improved Street Sweeping
- Partial Capture Treatment Devices
- On-Land Trash Clean-ups
- Jurisdiction-wide Activities to Reduce Trash in the City of Mountain View

Within TMA #9 there is 1 property that has a full-capture device that was installed prior to the MRP. Approximately 8.7 acres drain to full-capture devices prior to discharging to Stevens Creek. As part of proposed trash and litter removal enhancements, the medium trash generating areas in TMA #9 will be evaluated for installation of trash screens at drain inlets to enhance street sweeping. City crews maintain 1 park located in TMA #9. On-land trash cleanup activities include picking up litter at the park and ensuring that garbage cans are emptied to prevent litter or trash spills. The City will continue to enforce the new and redevelopment requirements and "partial-capture" treatment controls are likely to be installed at additional locations.

Trash Management Area 10

- Full-Capture Treatment Devices
- Enhanced/Improved Street Sweeping
- Partial Capture Treatment Devices
- On-Land Trash Clean-ups
- Jurisdiction-wide Activities to Reduce Trash in the City of Mountain View

Within TMA #10 there are 2 properties that have 3 full-capture devices that were installed prior to the MRP. A small portion (approximately 5 acres) of the drainage area to the City large full

trash capture device is located within TMA #10. Since TMA #10 primarily consists of medium and high trash generating areas, trash-capture treatment devices will be considered for drains in this area. Installation of a large trash capture device to treat runoff from TMA #10 is not practical since the storm drainage is divided among a number of separate catchments, so storm drain inlet screen inserts may be investigated for possible full-capture protection. Alternatively, the City may install partial trash-capture treatment instead of full-capture systems.

Trash Management Area 11

- Full-Capture Treatment Devices
- Enhanced/Improved Street Sweeping
- Partial Capture Treatment Devices
- On-Land Trash Clean-ups
- Jurisdiction-wide Activities to Reduce Trash in the City of Mountain View

Within TMA #11 there are 2 properties that have 3 full-capture devices that were installed prior to the MRP. Approximately 4 acres drain to full-capture devices prior to Stevens Creek. In addition to the trash capture devices installed at 2 pre-MRP project, a portion of the property drains to a grass swale that is not considered “full-capture.” Approximately 1 acre of area drains to the swales. The swales are inspected by the City. As part of proposed trash and litter removal enhancements, the medium trash generating areas in TMA #11 will be evaluated for installation of trash screens at drain inlets to enhance street sweeping. The City will continue to enforce the new and redevelopment requirements and “partial-capture” treatment controls are likely to be installed at additional locations. The City will also consider installing trash screens at curb drain inlets to improve trash screening and enhance street sweeping operations in this medium trash generating area.

Trash Management Area 12

- Enhanced/Improved Street Sweeping
- Partial Capture Treatment Devices
- On-Land Trash Clean-ups
- Jurisdiction-wide Activities to Reduce Trash in the City of Mountain View

TMA #12 represents the lowest trash generating areas of the City. TMA #12 is 3,235.6 acres and primarily consists of single family residential and open space (Shoreline) land uses, with 97.4% of TMA #12 consisting of low trash generating area. The medium trash generating area included in this TMA is a small industrial area that is planned for conversion to residential area within 10 years, and small areas with medium density residential buildings. The high trash generating area in this TMA consists of a few small commercial properties located within low density neighborhoods, and one of the properties will be converted to single family residential within 2 years. Since TMA represents the lowest trash generating areas in the City and these areas are scattered through the City, this TMA is indicated as numerous separate locations on the TMA Map. These separate areas drain to different catchment areas and outfalls into the local creeks. Due to the low trash generation area categories that exist in TMA #12, jurisdictional activities initiated prior to and continued after the MRP will be conducted in these areas. Examples of these activities include routine street sweeping, and response to litter complaints.

Trash Management Area Schools

- Enhanced/Improved Street Sweeping
- Partial Capture Treatment Devices

- On-Land Trash Clean-ups
- Jurisdiction-wide Activities to Reduce Trash in the City of Mountain View

TMA - Schools consists of 151.4 acres at 8 public school properties located within TMA #12, which are the low trash generating areas in the City. These schools are located throughout the low trash generating areas (TMA #12) of the City and are labeled on the TMA map. There is one additional school not labeled on the TMA Map that is located in a low trash generating (TMA #12) area. The TMA Map will be revised to include a label for this school within the low trash generating area. The school that is not labeled on the TMA map is approximately 15 acres. TMA - Schools is entirely (100%) comprised of medium trash generating area, and these locations drain to Permanente and Stevens Creeks through a number of different outfalls. Seven of the schools also include athletic fields and City park lands that are maintained by the City's Community Services Department, including litter collection and trash management. The athletic field and City parks associated with these schools consists of 49.7 acres. As part of proposed trash and litter removal enhancements, the medium trash generating areas in TMA - Schools will be evaluated for installation of trash screens at drain inlets to enhance street sweeping.

Trash Management Area - Parks

- Enhanced/Improved Street Sweeping
- Partial Capture Treatment Devices
- On-Land Trash Clean-ups
- Jurisdiction-wide Activities to Reduce Trash in the City of Mountain View

TMA - Parks consists of 25.4 acres of 2 separate City parks at locations within TMA #12, which are the low trash generating areas in the City. This does not represent all City parks properties. Other City parks are located in other TMAs that have higher trash generation rates or are associated with schools as described in TMA - Schools. TMA - Parks is entirely (100%) comprised of medium trash generating area, and these areas drain to Permanente Creek through two different outfalls. As part of proposed trash and litter removal enhancements, the medium trash generating areas in TMA - Parks will be evaluated for installation of trash screens at drain inlets to enhance street sweeping.

The control measures described above are believed to achieve the "full" trash reduction level required in each TMA. If assessments and study shows that additional measures are needed, an adaptive management process will be used to enhance and/or adapt trash control measures as needed.

3.3 Control Measure Implementation Schedule

The City has implemented trash control actions prior to the effective date of the MRP, including parks and trail maintenance, street sweeping, downtown business district maintenance, on-land cleanups, creek clean-ups, and implementation of the new and Redevelopment requirements, which is the reason that full-trash capture devices have been installed on properties throughout the City.

Trash control actions initiated after the MRP effective date and prior to July 1, 2014 include installation of a larger full-trash capture device, and integrating trash control enforcement into commercial, industrial, and construction site inspections. New programs will focus on targeting trash controls in priority high and medium trash generating areas of the City.

A partial and full-trash capture feasibility study is proposed in the FY 2014-15 budget. This study will be used to identify and evaluate cost-effective project to increase storm drain infrastructure trash removal within the high and medium trash generating areas.

The feasibility study will evaluate potential full-capture projects associate with detention basins in TMA #1 and TMA #2; partial-capture, full-capture, and enhanced sweeping opportunities in TMA #3, TMA #4, TMA #5, TMA #6, TMA #7, TMA #8, and TMA #10; and partial-capture and enhanced sweeping opportunities in TMA #9, TMA #11, TMA Parks, and TMA Schools. Projects to implement controls will be considered after completion of the study. The feasibility study will help inform the implementation schedule, but based on current knowledge the City hopes to undertake the following measures:

1. Coast-Casey Full Capture - large area of medium trash and high trash generating area of the City. The goal is to complete the project by the end of 2017.
2. Shoreline Detention Pond Full Capture - large area of medium trash generating area of the City. This potential project is tied to other pump station project so the implementation date is still pending.
3. Downtown full capture Castro St. – large commercial area of the City with many retail and food service establishments. The City will consider both curb-inlet protection and inserts, and installation of a device in-line with the existing storm pipe. The implementation date is still pending but the City hopes to have the project completed by the end of 2018.
4. Along El Camino Real – Large, heavily trafficked area of the City that runs through two different TMAs. The City will consider curb screens with curb inlet inserts and try and partner with CalTrans to provide full trash capture along El Camino Real. The implementation date is pending.
5. Other medium and high trash generating areas - install curb screens to provide partial-trash capture and enhance street sweeping. The implementation date is pending.

The Table below outlines the City’s trash control implementation schedule. Implementation of partial-capture, full-capture, and enhanced street sweeping indicated on Table 7 are indicated as potential projects and the scheduled implementation dates are subject to change.

Table 7. City of Mountain View 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														
Full-Capture - C.3 Implementation	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Trash Capture Feasibility Study							X							
Full Capture - C.10 Implementation										X	X	X	X	X
Street Sweeping	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Enhanced Street Sweeping														
On-land Trash Cleanup	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Partial-Capture - C.3 Implementation			X	X	X	X	X	X	X	X	X	X	X	X
Partial-Capture - C.10 Implementation														
TMA #2														
Full-Capture - C.3 Implementation	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Trash Capture Feasibility Study							X							
Full Capture - C.10 Implementation												X	X	X
Street Sweeping	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Enhanced Street Sweeping														
On-land Trash Cleanup	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Partial-Capture - C.3 Implementation			X	X	X	X	X	X	X	X	X	X	X	X
Partial-Capture - C.10 Implementation														
TMA #3														
Full-Capture - C.3 Implementation														
Trash Capture Feasibility Study						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
Full Capture - C.10 Implementation												X	X	X
Street Sweeping	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Enhanced Street Sweeping												X	X	X
On-land Trash Cleanup	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Partial-Capture - C.3 Implementation			X	X	X	X	X	X	X	X	X	X	X	X
Partial-Capture - C.10 Implementation												X	X	X
TMA #4														
Full-Capture - C.3 Implementation	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Trash Capture Feasibility Study						X								
Full Capture - C.10 Implementation												X	X	X
Street Sweeping	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Enhanced Street Sweeping												X	X	X
On-land Trash Cleanup	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Partial-Capture - C.3 Implementation			X	X	X	X	X	X	X	X	X	X	X	X
Partial-Capture - C.10 Implementation												X	X	X
TMA #5														
Full-Capture - C.3 Implementation	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Trash Capture Feasibility Study						X								
Full Capture - C.10 Implementation												X	X	X
Street Sweeping	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Enhanced Street Sweeping												X	X	X
On-land Trash Cleanup	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Partial-Capture - C.3 Implementation			X	X	X	X	X	X	X	X	X	X	X	X
Partial-Capture - C.10 Implementation												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
TMA #6														
Full-Capture - C.3 Implementation														
Trash Capture Feasibility Study						X								
Full Capture - C.10 Implementation											X	X	X	
Street Sweeping	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Enhanced Street Sweeping											X	X	X	
On-land Trash Cleanup	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Partial-Capture - C.3 Implementation				X	X	X	X	X	X	X	X	X	X	X
Partial-Capture - C.10 Implementation											X	X	X	
TMA #7														
Full-Capture - C.3 Implementation	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Trash Capture Feasibility Study						X								
Full Capture - C.10 Implementation					X	X	X	X	X	X	X	X	X	X
Street Sweeping	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Enhanced Street Sweeping											X	X	X	
On-land Trash Cleanup	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Partial-Capture - C.3 Implementation				X	X	X	X	X	X	X	X	X	X	X
Partial-Capture - C.10 Implementation											X	X	X	
TMA #8														
Full-Capture - C.3 Implementation														
Trash Capture Feasibility Study						X								
Full Capture - C.10 Implementation											X	X	X	
Street Sweeping	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Enhanced Street Sweeping											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
On-land Trash Cleanup	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Partial-Capture - C.3 Implementation														
Partial-Capture - C.10 Implementation												X	X	X
TMA #9														
Full-Capture - C.3 Implementation	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Trash Capture Feasibility Study							X							
Full Capture - C.10 Implementation												X	X	X
Street Sweeping	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Enhanced Street Sweeping												X	X	X
On-land Trash Cleanup	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Partial-Capture - C.3 Implementation														
Partial-Capture - C.10 Implementation												X	X	X
TMA #10														
Full-Capture - C.3 Implementation	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Trash Capture Feasibility Study							X							
Full Capture - C.10 Implementation												X	X	X
Street Sweeping	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Enhanced Street Sweeping												X	X	X
On-land Trash Cleanup	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Partial-Capture - C.3 Implementation				X	X	X	X	X	X	X	X	X	X	X
Partial-Capture - C.10 Implementation												X	X	X
TMA #11														
Full-Capture - C.3 Implementation	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Trash Capture Feasibility Study							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
Full Capture - C.10 Implementation														
Street Sweeping	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Enhanced Street Sweeping												X	X	X
On-land Trash Cleanup	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Partial-Capture - C.3 Implementation				X	X	X	X	X	X	X	X	X	X	X
Partial-Capture - C.10 Implementation												X	X	X
TMA #12														
Full-Capture - C.3 Implementation	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Trash Capture Feasibility														
Full Capture - C.10 Implementation														
Street Sweeping	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Enhanced Street Sweeping														
On-land Trash Cleanup	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Partial-Capture - C.3 Implementation														
Partial-Capture - C.10 Implementation														
TMA Parks														
Full-Capture - C.3 Implementation														
Trash Capture Feasibility Study							X							
Full Capture - C.10 Implementation														
Street Sweeping	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Enhanced Street Sweeping														
On-land Trash Cleanup	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Partial-Capture - C.3 Implementation														
Partial-Capture - C.10 Implementation												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
TMA Schools														
Full-Capture - C.3 Implementation														
Full Capture - C.10 Implementation														
Street Sweeping	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Enhanced Street Sweeping												X	X	X
On-land Trash Cleanup	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Partial-Capture - C.3 Implementation														
Partial-Capture - C.10 Implementation												X	X	X
Jurisdiction-wide Control Measures														
Activities to Reduce Trash from Uncovered Loads	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Anti-littering and Illegal Dumping Enforcement Activities	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Improved Trash Bin/Container Management	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Enhanced Storm Drain Maintenance														
Single-use Carryout Plastic Bag Ordinance					X	X	X	X	X	X	X	X	X	X
Polystyrene Foam Food Service Ware Policy							X	X	X	X	X	X	X	X
Public Education and Outreach	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Creek and Shoreline Hot Spot Cleanups														
Pre-MRP Volunteer Creek Cleanups	X													
Hot Spot Creek Cleanups		X	X	X	X	X	X	X	X	X	X	X	X	X

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

4. 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 Santa Clara Valley Urban Runoff Pollution Prevention Program (SCVURPPP), including the City of Mountain View. 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 SCVURPPP. 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 SCVURPPP Pilot Assessment Strategy

The following SCVURPPP Pilot Trash Assessment Strategy (SCVURPPP Pilot Strategy) was developed by SCVURPPP on behalf of the City and other Santa Clara Valley Permittees. The SCVURPPP Pilot Strategy will be implemented at a pilot scale on a countywide basis and includes measurements and observations in the City of Mountain View.

4.1.1 Management Questions

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

- Are the MS4 trash load reduction targets being achieved?
- Have trash problems in receiving waters been resolved?
- If trash problems in receiving waters exist, what are the important sources and transport pathways?

The SCVURPPP Pilot Strategy, including indicators and methods, is summarized in this section and fully described in the SCVURPPP Pilot Trash Assessment Strategy, a compendium document submitted to the Water Board on February 1, 2014 on behalf of all SCVURPPP Permittees (SCVURPPP 2014).

4.1.2 Indicators of Progress and Success

The management questions listed in the previous section will be addressed by tracking information and collecting data needed to report on a set of key environmental indicators. Environmental indicators are simple measures that communicate what is happening in the environment. Since trash in the environment is very complex, indicators provide a more practical

and economical way to track the state of the environment than if we attempted to record every possible variable.

With regard to municipal stormwater trash management, indicators are intended to detect progress towards trash load reduction targets and solving trash problems. Ideally, indicators should be robust and able to detect progress that is attributable to multiple types of trash control measure implementation scenarios. Assessment results should also provide Permittees with an adequate level of confidence that trash load reductions from MS4s have occurred, while also assessing whether trash problems in receiving waters have been resolved. Indicators must also be cost effective, relatively easy to generate, and understandable to stakeholders.

Primary and secondary indicators that SCVURPPP Permittees will use to answer core management questions include:

Primary Indicators:

- 1-A Reduction in the level of trash present on-land and available to MS4s
- 1-B Effective full capture device operation and maintenance

Secondary Indicators:

- 2-A Successful levels of trash control measures implementation
- 2-B Reductions in the amount of trash in receiving waters

In selecting the indicators above, the City of Mountain View in collaboration with SCVURPPP and other SCVURPPP 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.

The ultimate goal of municipal stormwater trash reduction strategies is to reduce the impacts of trash associated with MS4s on receiving waters. Indicators selected to assess progress towards this goal should ideally measure outcomes (e.g., reductions in trash discharged). The primary indicators selected by SCVURPPP are outcome-based and include those that are directly related to MS4 discharges. Secondary indicators are outcome or output-based and are intended to provide additional perspective on and evidence of, successful trash control measure implementation and improvements in receiving water condition with regard to trash.

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. Due to this challenge of linking MS4 control measure implementation to receiving water conditions, the receiving water based indicator is currently considered a secondary indicator. 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 Mountain View will implement through the SCVURPPP Pilot Strategy to generate indicator information described in the previous section. Additional information on each method can be found in the

SCVURPPP Pilot Trash Assessment Strategy submitted to the Water Board by SCVURPPP on behalf of the City.

1-A. On-land Visual Assessments

As part of the Trash Generation Map assessment and refinement process (see Section 2.3.1), a draft on-land visual assessment method was developed to assist Permittees in confirming and refining trash generating area designations (i.e., very high, high, moderate and low trash generating categories). The draft on-land visual assessment method is intended to be a cost-effective tool and provide Permittees with a viable alternative to quantifying the level of trash discharged from MS4s. As part of BASMAA's *Tracking California's Trash* grant received from the State Water Resources Control Board (see Section 4.2), quantitative relationships between trash loading from MS4s and on-land visual assessment condition categories will be established. Condition categories defined in the draft on-land assessment protocol are listed in Table 8

Table 8. Trash condition categories used in the draft on-land visual assessment protocol.

Trash 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.

On-land visual assessments will be conducted in trash management areas within the City of Mountain View as part of the SCVURPPP Pilot Trash Assessment Strategy. On-land assessments are intended to establish initial conditions and detect improvements in the level of trash available to MS4s over time. More specifically, on-land visual assessment methods will be conducted in areas not treated by trash full capture devices in an attempt to evaluate reductions associated with other types of control measures. Assessment methods for areas treated by full capture devices are described in this next section.

Given that the on-land assessment method and associated protocol have not been fully tested and refined, initial assessments will occur at a pilot scale in the City and in parallel to the *Tracking California's Trash* project. The frequency of assessments and number of sites where assessments will occur during the pilot stage are more fully described in the SCVURPPP Pilot Trash Assessment Strategy (SCVURPPP 2014).

1-B. Full Capture Operation and Maintenance Verification

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 Mountain View is currently developing an operation and maintenance verification program (Trash O&M Verification Program), via SCVURPPP, to ensure that devices are inspected and maintained at a level that maintains this designation.

The SCVURPPP 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. Additional details regarding the Trash O&M Verification Program can be found in the SCVURPPP Pilot Trash Assessment Strategy (SCVURPPP 2014).

2-A. Control Measure Effectiveness Evaluations

In addition to on-land trash assessments and full capture operation and maintenance verification, the City will also conduct assessments of trash control measures implemented within their jurisdictional area. Assessment methods will be selected based on trash sources and the type of control measure being implemented. Control measure effectiveness evaluations are more fully described in the SCVURPPP Pilot Trash Assessment Strategy. The following are example assessment methods that may be used to demonstrate successful control measure implementation and progress towards trash reduction targets:

- Product-related Ordinances – Annually tracking and reporting the % of businesses in compliance with the ordinance and the percentage requiring a response.
- Street Sweeping – Reporting the frequency of sweeping and ability to sweep to the curb in specific areas where enhanced sweeping is implemented; and/or documenting the level of trash on streets directly after street sweeping during wet and dry weather seasons.
- Public/Private Trash Container Management – Reporting the magnitude and extent of enhanced actions; and/or visually assessing and documenting conditions around public trash containers before and after implementing enhanced control measures.
- Targeted Outreach and Enforcement – Reporting the magnitude and extent of enhanced actions; tracking and reporting the % increase in enforcement actions; and/or visually assessing and documenting the conditions in targeted areas before and after implementing control measures.
- Public Outreach Campaigns – Reporting the magnitude and extent of enhanced actions, and/or conducting pre and post campaign surveys.
- On-land Cleanups and Enforcement – Reporting the magnitude and extent of enhanced actions; visually assessing and documenting the conditions in targeted areas before and after control measure implementation; and/or tracking the volumes of trash removed.
- Illegal Dumping Prevention – Reporting the magnitude and extent of enhanced actions; and/or tracking and reporting improvements in the number of incidents.
- Business Improvement Districts – Reporting the magnitude and extent of enhanced actions; and/or visually assessing and documenting the conditions in BID areas before and after implementing control measures.

- Prevention of Uncovered Loads - Reporting the magnitude and extent of enhanced actions; tracking and reporting the decreases in the number of incidents; and/or visually assessing and documenting the conditions in targeted areas before and after implementing control measures.
- Partial Capture Devices – Reporting the magnitude and extent of enhanced actions; and/or visually assessing and the amount of trash in storm drains or downstream of partial capture devices.

2-C. Receiving Water Condition Assessments

The ultimate goal of stormwater trash management in the Bay Area is to significantly reduce the amount of trash found in receiving waters. In the last decade, Santa Clara Valley Permittees and volunteers have collected data on the amounts of trash removed during cleanup events. More recently, Permittees have conducted trash assessments in creek and shoreline hotspots using standardized assessment methods. In an effort to answer the core management question *Have trash problems in receiving waters been resolved?*, the City of Mountain View plans to continue conducting receiving water condition assessments at trash hot spots a minimum of one time per year. Assessment will be conducted consistent with Permit hot spot cleanup and assessment requirements. Additional information on receiving water assessment methods can be found in the SCVURPPP Pilot Trash Assessment Strategy (SCVURPPP 2014).

4.2 BASMAA “Tracking California’s Trash” Project

The SCVURPPP 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 by the scientific community. In an effort to address these information gaps associated with trash assessment methods, the Bay Area Stormwater Management Agencies Association (BASMAA), in collaboration with SCVURPPP, 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 SCVURPPP 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 Long-Term Assessment Strategy

The City of Mountain View is committed to implementing standardized assessment methods post-2016 based on the lessons learned from pilot assessments and studies that will occur between 2014 and 2016. 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 agreed upon assessment methods that will be used to demonstrate progress during the remaining term of trash reduction requirements. Reporting using the new/revised methods will begin with the FY 2016-17 Annual Report.

4.4 Implementation Schedule

The implementation schedule for the SCVURPPP Pilot Implementation Strategy, BASMAA's *Tracking California's Trash* project, and the Long-Term Assessment Strategy are included in Table 9. 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. For more detailed information on implementation timelines, refer to the SCVURPPP Pilot Trash Assessment Strategy (SCVURPPP 2014) and monitoring plans developed as part of BASMAA's Tracking California's Trash project.

Table 9. City of Mountain View 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 (SCVURPPP)										
On-land Visual Assessments										
Initial (Baseline) Assessments	X									
Pilot Progress Assessments		X	X	X	X					
Full Capture Operation and Maintenance Verification			X	X	X					
Control Measure Effectiveness Evaluations	X	X	X	X	X					
Receiving Water Condition Assessments	X	X	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 Mountain View)										
Assessment Method #1 – Use IND/Comm and IDDE inspection information to evaluate the effectiveness of site visits and outreach to businesses and enforcement effectiveness.			X	X	X	X	X	X	X	X
Assessment Method #2 – Measure volume of trash and identify types of litter collected during on-land clean-up events.		X	X	X	X	X	X	X	X	X
Long-Term Trash Assessment Strategy (SCVURPPP)						X	X	X	X	X

^aJuly 1, 2014 40% trash reduction target

^bJuly 1, 2014 70% trash reduction target

^cJuly 1, 2022 100% trash reduction target

5.0 REFERENCES

- Allison R.A. and F.H.S. Chiew 1995. Monitoring stormwater pollution from various land uses in an urban catchment. Proceedings from the 2nd International Symposium on Urban Stormwater Management, Melbourne, 551-516.
- Allison, R.A., T.A. Walker, F.H.S. Chiew, I.C. O'Neill and T.A. McMahon 1998. From Roads to rivers: Gross pollutant removal from urban waterways. Report 98/6. Cooperative Research Centre for Catchment Hydrology. Victoria, Australia. May 1998.
- Armitage, N. 2003. The removal of urban solid waste from stormwater drains. Prepared for the International Workshop on Global Developments in Urban Drainage Management, Indian Institute of Technology, Bombay, Mumbai India. 5-7 February 2003.
- Armitage, N. 2007. The reduction of urban litter in the stormwater drains of South Africa. *Urban Water Journal* Vol. 4, No. 3: 151-172. September 2007.
- Armitage N., A. Rooseboom, C. Nel, and P. Townshend 1998. "The removal of Urban Litter from Stormwater Conduits and Streams. *Water Research Commission* (South Africa) Report No. TT 95/98, Pretoria.
- Armitage, N. and A. Rooseboom 2000. The removal of urban litter from stormwater conduits and streams: Paper 1 – The quantities involved and catchment litter management options. *Water S.A.* Vol. 26. No. 2: 181-187.
- ABAG (Association of Bay Area Governments). 2005. Bay Area Land Use Geographical Information Systems Datalayer.
- BASMAA (Bay Area Stormwater Management Agencies Association). 2011a. Progress Report on Methods to Estimate Baseline Trash Loads from Bay Area Municipal Stormwater Systems and Track Loads Reduced. February 2011.
- BASMAA (Bay Area Stormwater Management Agencies Association). 2011b. Method to Estimate Baseline Trash Loads from Bay Area Municipal Stormwater Systems: Technical Memorandum #1. Prepared by EOA, Inc. April 2011.
- BASMAA (Bay Area Stormwater Management Agencies Association). 2011c. Sampling and Analysis Plan. Prepared by EOA, Inc. April 2011.
- BASMAA (Bay Area Stormwater Management Agencies Association). 2012. Trash Baseline Generation Rates: Technical Report. Prepared by EOA, Inc. February 1, 2012.
- County of Los Angeles. 2002. Los Angeles County Litter Monitoring Plan for the Los Angeles River and Ballona Creek Trash Total Maximum Daily Load. May 30, 2002.
- County of Los Angeles. 2004a. Trash Baseline Monitoring Results Los Angeles River and Ballona Creek Watershed. Los Angeles County Department of Public Works. February 17, 2004.
- County of Los Angeles 2004b. Trash Baseline Monitoring for Los Angeles River and Ballona Creek Watersheds. Los Angeles County Department of Public Works. May 6, 2004.
- Kim, L.H, M. Kayhanian, M.K. Stenstrom 2004. Event mean concentration and loading of litter from highways during storms. *Science of the Total Environment* Vol 330: 101-113.
- Lippner, G., R. Churchwell, R. Allison, G. Moeller, and J. Johnston 2001. A Scientific Approach to Evaluating Storm Water Best Management Practices for Litter. *Transportation Research Record*. TTR 1743, 10-15.
- SCVURPPP (Santa Clara Valley Urban Runoff Pollution Prevention Program). 2014. Pilot Trash Assessment Strategy. Prepared by EOA. February 1.