

Long-Term Trash Load Reduction Plan and Assessment Strategy

Submitted by:



City of Santa Clara, 1500 Warburton Avenue, Santa Clara, CA 95050

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

February 1st, 2014

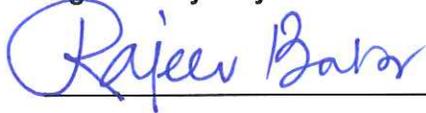
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**City of Santa Clara
LONG-TERM TRASH LOAD REDUCTION PLAN AND
ASSESSMENT STRATEGY**

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:



Rajeev Batra
Director of Public Works/City Engineer

1/30/2014

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ABBREVIATIONS

BASMAA	Bay Area Stormwater Management Agencies Association
BID	Business Improvement District
CalRecycle	California Department of Resources Recycling and Recovery
Caltrans	California Department of Transportation
CASQA	California Stormwater Quality Association
CDS	Continuous Deflection Separator
CEQA	California Environmental Quality Act
CY	Cubic Yards
EIR	Environmental Impact Report
EPA	Environmental Protection Agency
GIS	Geographic Information System
MRP	Municipal Regional Stormwater NPDES Permit
MS4	Municipal Separate Storm Sewer System
NGO	Non-Governmental Organization
NPDES	National Pollutant Discharge Elimination System
Q	Flow
SFRWQCB	San Francisco Regional Water Quality Control Board
SWRCB	State Water Resource Control Board
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 Santa Clara'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 Santa Clara 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 of Santa Clara, a revised Long-Term Plan will be submitted to the Water Board through the City of Santa Clara'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 Santa Clara 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 Santa Clara'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 Santa Clara'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 of Santa Clara 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.

The Long-Term Plan was reviewed and approved for submittal by the City of Santa Clara's City Council on January 28, 2014. The City of Santa Clara's Staff Report is attached as Appendix A.

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).

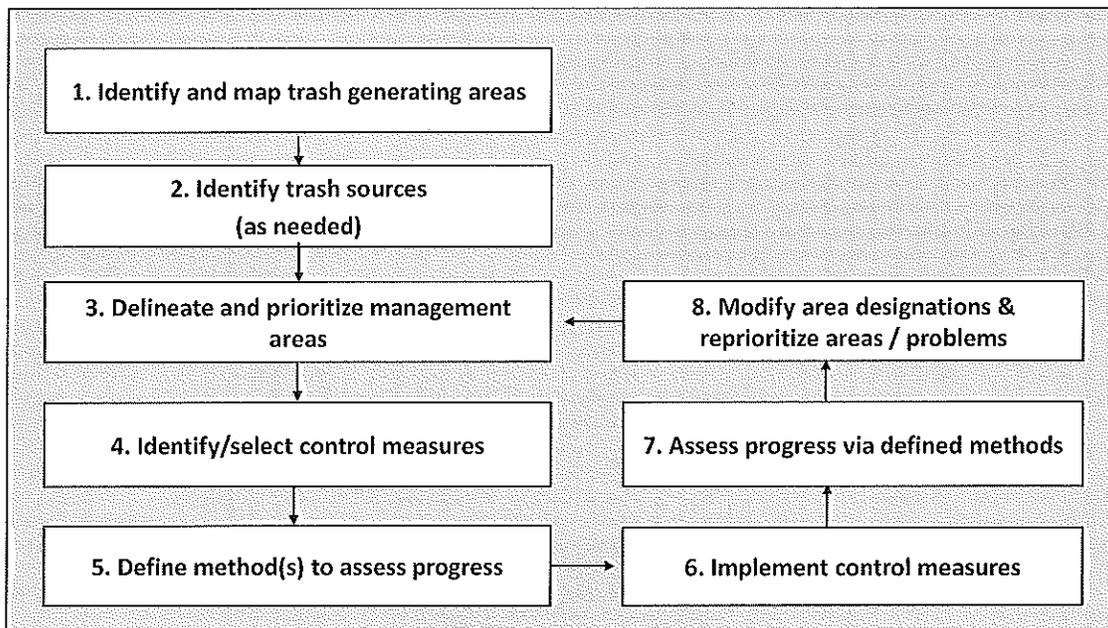


Figure 1. Eight-step framework for developing, implementing and refining Long-Term Trash Reduction Plans.

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.

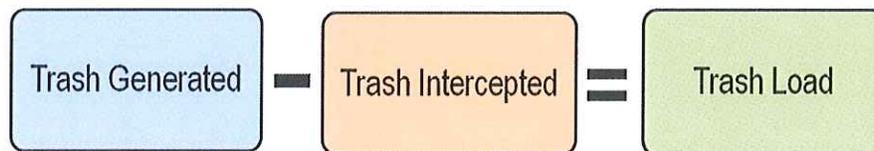


Figure 2. Conceptual model of trash generation, interception and load.

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 Santa Clara 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 of Santa Clara has begun to implement its short-term plan. Control measures implemented to date via the short-term trash reduction plan are:

- Enhanced Street Sweeping
- Public Education and Outreach Programs
- Anti-Littering and Illegal Dumping Enforcement Activities
- Improved Trash Bin/Container Management
- Enhanced On-land Trash Cleanups
- Installation of Curb Inlet Screens
- Enhanced Storm Drain Inlet Maintenance
- Installation of Full-Capture Treatment Devices
- Creek/Channel/Shoreline Clean-ups

Control measures described in this Long-Term Plan build upon actions taken to-date via City of Santa Clara'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 of Santa Clara'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 of Santa Clara. Control measures that will be implemented by the City of Santa Clara 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 1852, the City of Santa Clara is located in Santa Clara County, and has a jurisdictional area of 11,628 acres. According to the 2010 Census, it has a population of 116,468, with a population density of 6,327.3 people per square mile and average household size of 3.18. Of the 116,468 residents who call the City of Santa Clara home, 21.3% are under the age of 18, 10.7% are between 18 and 24, 36% are between 25 and 44, 22% are between 45 and 64, and 10% are 65 or older. The City of Santa Clara is home to Intel, Applied Materials, NVIDIA, Westfield Valley Fair Mall, and the 49ers headquarters and Levi's Stadium.

The 101 and 880 freeways, Montague, San Tomas, Lawrence, and Central expressways run through the City of Santa Clara and are maintained by Caltrans or the County of Santa Clara. Several public and private K-12 schools, Mission College, and Santa Clara University are also located in the City of Santa Clara. The City of Santa Clara has limited ability to control trash from these sources from being discharged into the MSr.

Land uses within the City of Santa Clara depicted in ABAG (2005) are provided in An example of "Other" land use is open space.

Table 2. The City of Santa Clara is primary comprised of six land uses. These include Commercial and Services, Industrial, Residential, Retail, K-12 Schools, and Urban Parks. An example of "Other" land use is open space.

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

Land Use Category	Jurisdictional Area (Acres)	% of Jurisdictional Area
Commercial and Services	1,912.0	17.5%
Industrial	1,983.9	18.2%
Residential	5,065.9	46.4%
Retail	570.7	5.2%
K-12 Schools	378.2	3.5%
Urban Parks	269.2	2.5%
Other	745.2	6.8%

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).

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 where food/drinks are not permitted (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 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.

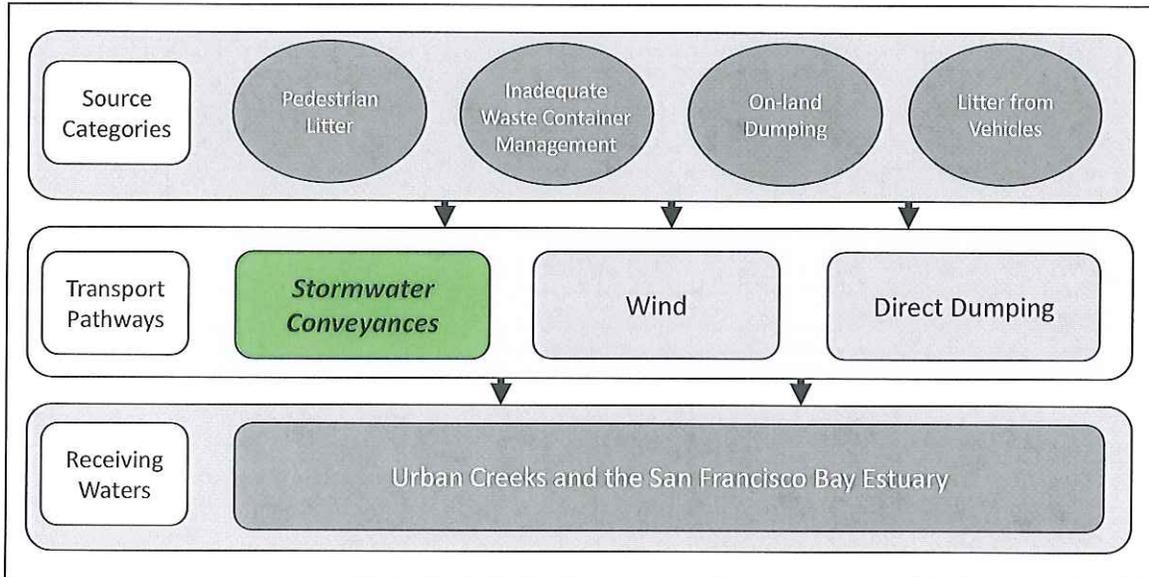


Figure 3. Trash sources categories and transport pathways to urban creeks

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 of Santa Clara are described in this section and illustrated in Figure 4.

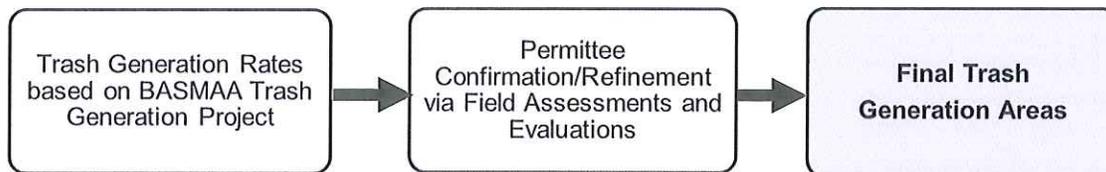


Figure 4. Trash sources categories and transport pathways to urban creeks.

As a first step, trash generation rates developed through *the BASMAA Trash Generation Rates Project* were applied to parcels within the City of Santa Clara based on current land uses and 2010 household median incomes. A Draft Trash Generation Map was created as a result of this application. The draft map served as a starting point for the City of Santa Clara 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 of Santa Clara 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 37 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 initial review of the draft trash generation maps was performed by Municipal staff. The Public Works Department is responsible for preparing this Plan and implements the majority of trash abatement related programs on public property. Street sweeping, parkways & boulevards, and street maintenance personnel have very good knowledge of specific issues that pertain to particular areas. On-land trash assessments were conducted in areas that Staff believed trash generation rates were incorrectly classified.

- Based on assessments conducted to confirm/refine trash generation category designations, the City of Santa Clara created a final trash generation map that depicts the most current understanding of trash generation within the City of Santa Clara. 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 Santa Clara's Final Trash Generation Map is included as Figure 5.

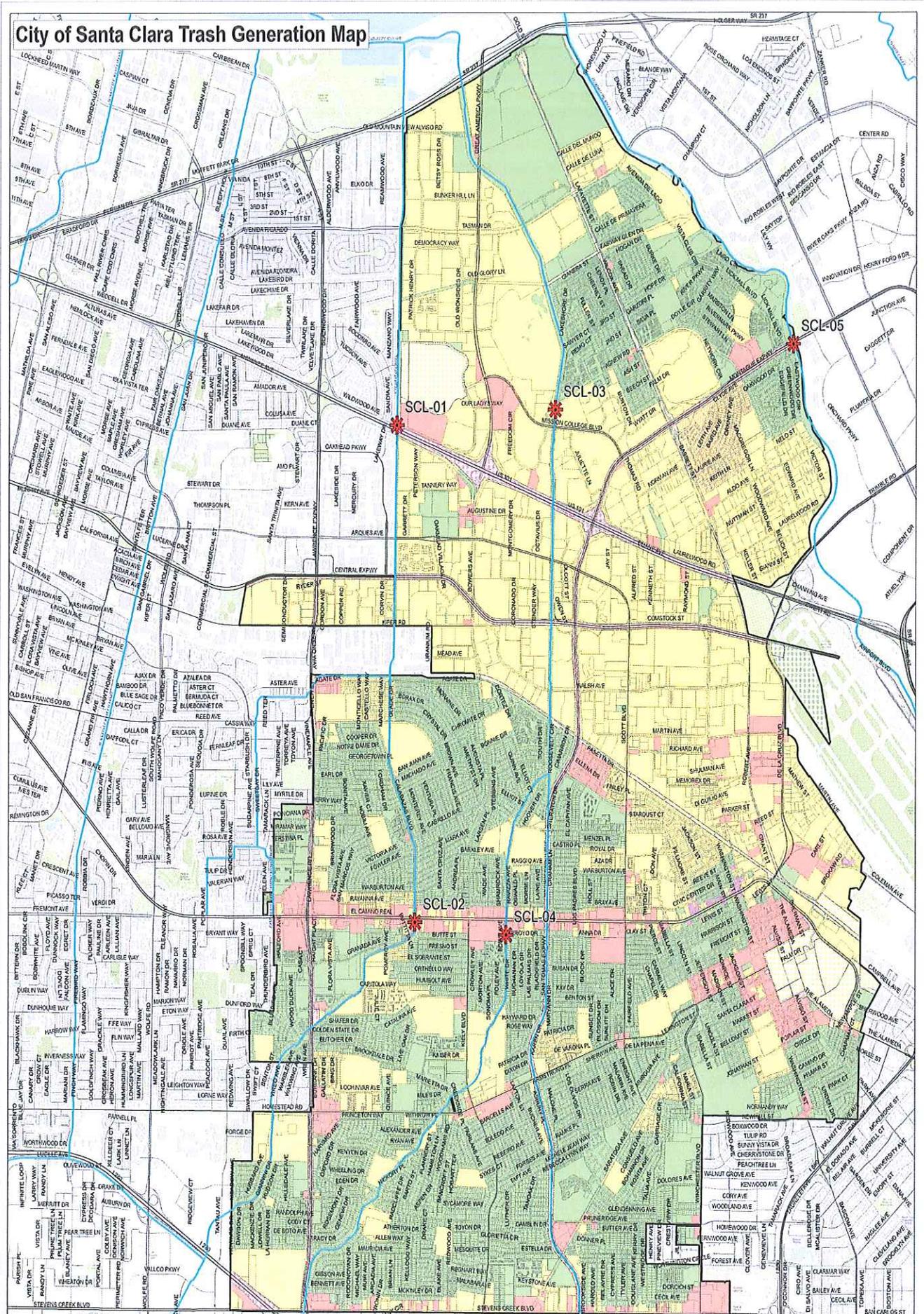
2.3.2 Summary of Trash Generating Areas and Sources

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 Santa Clara assigned to each trash generation category.

Trash Generation Category	Commercial and Services	Industrial	Residential	Retail	K-12 Schools	Urban Parks	Other
Very High	0.0%	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%
High	2.8%	5.7%	17.5%	73.3%	0.3%	0.0%	0.4%
Medium/High	5.0%	0.0%	91.2%	1.8%	0.0%	2.0%	0.0%
Medium	38.2%	40.0%	8.5%	0.3%	7.7%	5.2%	0.0%
Low/Medium	0.0%	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%
Low	0.7%	0.0%	84.8%	0.0%	0.0%	0.3%	14.2%

Figure 5



3.0 TRASH MANAGEMENT AREAS AND CONTROL MEASURES

This section describes the control measures that the City of Santa Clara has or plans to implement to solve trash problems and achieve a target of no adverse impacts associated with trash discharged from the City's MS4 by July 1, 2022. The selection of control measures described in this section is based on the City of Santa Clara'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 of Santa Clara 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 of Santa Clara 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 Santa Clara's annual reporting process.

3.1 Management Area Delineation and Prioritization

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

TMA #1 was delineated because it is the largest catchment area in the City and Association of Bay Area Government (ABAG) grant funding was used to purchase and install full trash capture netting systems in the Westside Retention Basin. TMAs #2 - #4 were created because they contain the largest sections of high trash load generating properties in the City. TMA #2 and #4 are the largest contiguous commercial/retail areas in the City. TMA #3 is the area surrounding Santa Clara University, which presents unique characteristics for trash generation and control measures. These TMAs have been designated the highest priority for implementation of control measures.

TMA #5 contains mostly industrial zoned properties, but contains a significant amount of high trash load generating areas relative to other industrial zoned properties. TMAs # 6 – 9 are residential zoned properties that have medium to high trash load generation rates. These TMAs contain higher density housing, impacted on-street parking, and are in close proximity to schools and/or convenience stores that contribute to higher on-land trash generation. TMAs #5 - #9 are the second tier priority implementation of control measures.

TMAs #10 & 11 are predominantly industrial areas. Currently, the majority of these TMAs are designated as medium trash load generating. Staff will conduct additional future on-land assessments to determine if these areas can be re-categorized to lower trash load generation categories. This area was broken into two (2) smaller separate TMAs to make budgeting for and implementation of control measures simpler.

TMA #12 contains Levi's Stadium and the City's closed landfill. Currently, trash generation in TMA #12 is in the low to medium range for the entire area. There will likely be a significant amount of development in this area in the near future, which makes projecting the installation of future control measures challenging.

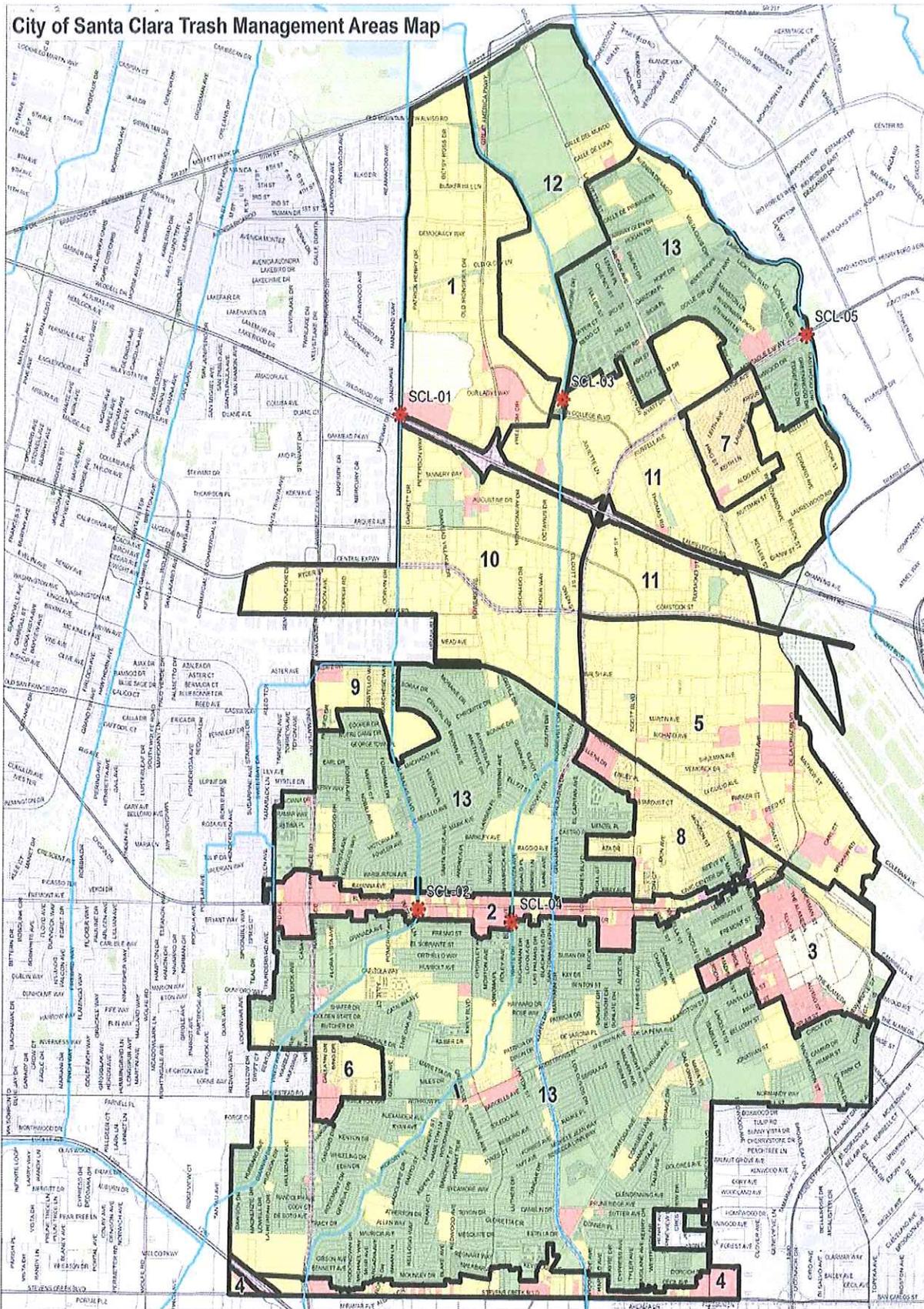
TMA #13 comprises mainly residential properties. Staff has conducted several on-land trash load generation assessments to confirm the designation of the area as low trash generating. There are some schools and parks in TMA #13 that are designated as medium trash generating. This area is being given the lowest priority because Staff does not believe trash is a significant issue here.

A map depicting the City of Santa Clara'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 Category					
		Very High	High	Medium/High	Medium	Low/Medium	Low
1	643.4	0.0%	9.2%	0.0%	83.8%	0.0%	7.0%
2	302.5	3.0%	66.2%	0.0%	28.5%	0.0%	2.4%
3	214.0	0.0%	68.2%	0.0%	21.8%	0.0%	10.0%
4	189.6	0.0%	41.9%	0.0%	48.9%	0.0%	9.2%
5	908.1	0.2%	9.8%	0.0%	89.1%	0.0%	0.9%
6	93.5	0.0%	23.1%	0.0%	76.2%	0.0%	0.7%
7	146.3	0.0%	2.7%	73.9%	23.3%	0.0%	0.1%
8	276.5	0.2%	11.4%	0.0%	78.9%	0.0%	9.5%
9	128.9	0.0%	8.4%	0.0%	82.5%	0.0%	9.1%
10	872.3	0.0%	1.2%	0.0%	91.4%	0.0%	7.5%
11	1010.4	0.0%	0.9%	0.0%	96.8%	0.2%	2.2%
12	638.2	0.0%	0.9%	0.0%	41.1%	0.0%	58.1%
13	5501.3	0.0%	1.2%	0.0%	14.7%	0.0%	84.0%

FIGURE 6



Legend

Trash Generation Category

- Low
- Low/Medium
- Medium
- Medium/High
- 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.

3.2 Current and Planned Trash Control Measures

The introductory section to Section 3.2 of this Plan lays out the specific trash control measures that will be used to achieve no adverse impacts associated with trash discharged by the City's MS4 by the year 2022. Discussions of actions implemented prior to the MRP adoption and actions implemented during the current MRP term and planned future actions are included for each trash control measure. This introductory section defines the larger, overarching actions for each trash control measure. To reduce repetition, the trash control measures are referenced in Sections 3.2.1 – 3.2.13 of this Plan to denote the individual control measures that are in place in each of the City's 13 Trash Management Areas (TMAs). Additional explanation is provided for actions that are unique to specific TMAs.

This plan has been developed as a working document to achieve no adverse impacts associated with trash discharged from the City's MS4. More effective trash control measures may be identified, or implemented trash control measures may be deemed to be ineffective. Each planned trash control measure that requires additional capital or operating funds is subject to City Council approval. The current and planned trash control measures detailed in this plan are subject to change at the discretion of the City of Santa Clara.

Full Trash Capture Devices

Continued Pre-MRP Actions:

The City of Santa Clara had no full-trash capture devices installed.

New/Enhanced Post-MRP Actions Initiated/Planned:

The City of Santa Clara installed end of pipe full trash capture netting devices at our Westside Retention Basin in TMA #1 (see Figure 7 – Trash Full Capture Treatment Device Map) in 2012. The City of Santa Clara will install full-trash capture treatment devices in all areas with medium/high or greater trash generation by 2022. It is not known at this time whether full trash capture devices will need to be installed in medium trash load generating areas to achieve no adverse impacts associated with trash discharged from the City's MS4. The City will evaluate specific types of full trash capture devices to install in specific areas.

Street Sweeping

Continued Pre-MRP Actions:

The baseline street sweeping program consisted of residential street sweeping three times a month and commercial/industrial street sweeping two times a month.

New/Enhanced Post-MRP Actions Initiated/Planned:

On January 6, 2014 the City of Santa Clara enhanced the street sweeping program. City employed Street Sweeper Operators shifted their start times from 5:00 am to 3:00 am. On their 9-hour work days the Street Sweeper Operators are scheduled to sweep two (2) commercial/industrial routes between the hours of 3:00 am – 5:30 am. This will boost our commercial/industrial street sweeping frequency to three times a month. Additionally, there should be fewer vehicles parked on the street during the early morning commercial/industrial sweeping hours to better enable the street sweeper to reach the curb. Staff will monitor the effectiveness of the shift change and will evaluate whether to propose permanent parking

restrictions on sweeping days in specific areas that are continuously parked in. The residential street sweeping frequency will remain at three times per month.

On-Land Trash Clean-Up

Continued Pre-MRP Actions:

The City's Park's Department collects litter and trash from public parks and the Public Works Department responds to illegal dumping complaints on public property. The Police Department coordinates with the Public Works Department to clean homeless encampments as necessary.

New/Enhanced Post-MRP Actions Initiated/Planned:

Public Works Department Grounds Maintenance Workers have added trash/litter collection to their work areas within close proximity to median islands. Grounds Maintenance Workers now track the amount of trash/litter picked up in their work areas on their daily timecards and the totals are tabulated in the department's Monthly Activity Reported.

Partial-Capture Treatment Devices

Continued Pre-MRP Actions:

The Public Works Department continues to maintain trash racks at the City's storm pump stations. The trash racks are cleaned prior to every forecasted rain event, after each rain event, and sometimes during a rain event. Pump station wetwells are cleaned during the summer months, with trash being one of the constituents removed.

New/Enhanced Post-MRP Actions Initiated/Planned:

The City has installed non-retractable catch basin screens (openings are larger than 5 millimeters) over the vertical opening of inlets in a few areas that have little to no on-street parking to prevent clogging in the catch basin. The screens have been successful in keeping debris on the street so it can be collected by a street sweeper. The City of Santa Clara will consider the installation of retractable curb inlet screens over vertical in medium trash generation areas (TMAs #5 - #12 and around schools and parks in TMA #13) in combination with other treatment measures to achieve no adverse impacts associated with trash discharged from the City's MS4. Additionally, partial trash capture treatment measures installed at new and redevelopment sites as required by Provision C.3. The majority of these treatment measures are maintained by private entities. However, the City executes an agreement with the property owner requiring they maintain the treatment measures and gives the City the right to inspect the treatment measures to ensure they are being maintained.

Enhanced Storm Drain Inlet Maintenance

Continued Pre-MRP Actions:

The Public Works Department continues to clean catch basin inlets twice a year. Main and lateral line flushing programs are conducted as well.

New/Enhanced Post-MRP Actions Initiated/Planned:

The City of Santa Clara will increase the frequency of inlet inspection and cleaning at catch basins with full trash capture devices installed. The frequency of inspection and cleaning will be developed over time after the full trash capture devices are installed.

Activities to Reduce Trash from Uncovered Loads

Continued Pre-MRP Actions:

Prior to the MRP, the City had not adopted any specific control measures to reduce trash from vehicles with uncovered loads.

New/Enhanced Post-MRP Actions Initiated/Planned:

On July 1, 2013 Non-Exclusive Franchise hauling agreements with eight (8) companies were approved. Each agreement contained the following language: "Contractor shall be responsible for ensuring all Containers are covered during transportation to a recycling or disposal facility. Contractor shall be responsible for ensuring that trash from its solid waste collection vehicle is not being littered during transport. Contractor is required to pick up litter generated from all hauling operations." The penalty for transporting an uncovered load is \$500.00 per occurrence.

Anti-Littering and Illegal Dumping Enforcement Activities

Continued Pre-MRP Actions:

The Police Department responds to complaints from citizens as resources allow. Citations are issued to littering/illegal dumping caught in the act.

New/Enhanced Post-MRP Actions Initiated/Planned:

Specific additional anti-littering and illegal dumping enforcement activities have not yet been identified. The City would consider participating in a regional anti-littering enforcement campaign targeting tobacco product litter if one is developed in the future.

Improved Trash Bins/Container Management

Continued Pre-MRP Actions:

The City's Public Works Department services trash containers at Valley Transportation Authority transit stops on a weekly basis to minimize container overflow. The City of Santa Clara has developed solid waste enclosure design guidelines. The Santa Clara City Code (SCCC) contains sections that are used to require the proper storage of solid waste in containers.

New/Enhanced Post-MRP Actions Initiated/Planned:

On December 7, 2009, the City converted to a single-stream recycling program. Residents were provided carts with lids, replacing open to 18-gallon tubs and paper bags. The amount of windblown trash and scavenging decreased significantly after implementation. The City adopted a Mandatory Recycling Ordinance that became effective July 1, 2012, which requires all new construction and remodeling of existing structures to be designed to adequately store containers for both garbage and recycling. The Ordinance gives the Planning Department the ability to require the design of enclosures at the front end of the permitting process.

Single-Use Carryout Bag Ordinance

Continued Pre-MRP Actions:

The City had not initiated any activity on a single-use carryout bag ordinance prior to the MRP.

New / Enhanced Pre-MRP Actions:

The City of Santa Clara began a community outreach and engagement process to determine the feasibility of implementing a single-use carryout bag ordinance in December 2013. Electronic surveys for residents and retailers in both English and Spanish were posted on the

City's website for about a month. As of January 15, 2014, 185 residents and 7 retailer, and 4 food vendors had taken the online surveys.

The City mailed postcards to 1,319 potentially affected retail establishments notifying them of upcoming public meetings to discuss potential plastic bag and polystyrene foam food service ware ordinances, as well as the availability of the online surveys. Public meetings were conducted on January 7 and January 15, 2014. A press release and flyers with the public meeting schedule were posted at multiple City facilities to advertise the public meetings.

Public Works staff also made a presentation to the Chamber of Commerce's Government Relations Committee on January 7, 2014 that provided an overview of a potential bag ban. Staff will compile and summarize all the community outreach efforts and feedback in a report to the City Council on February 25, 2014. The City Council will be asked to provide staff with additional direction at that time.

Expanded Polystyrene (EPS) Foam Food Ware Ordinance

Continued Pre-MRP Actions:

The City had not initiated any activity on an expanded polystyrene foam food ware ordinance prior to the MRP.

New / Enhanced Pre-MRP Actions:

The City Council directed Staff to commence the CEQA process for an EPS foam food ware ban as one of its 6-Month Strategic Objectives that were adopted in September 2013. The City of Santa Clara was covered under the San Jose's regional CEQA analysis of an EPS foam food ware ban that resulted in a Negative Declaration. The City of Santa Clara has developed a community outreach plan to inform and educate businesses and residents of the possible EPS foam food ware ban. Surveys were developed and posted on the City's website so Staff could identify community concerns and better develop future outreach strategies to educate food service providers of the ban and provide them with cost effective alternatives to EPS. The City conducted two public meetings with concerned businesses and residents in January 2014 and had an equivalent meeting with the Santa Clara Chamber of Commerce Government Relations Committee. On February 25, 2014, the City Council will be asked to approve an EPS foam food service ware ordinance that mirrors the requirements of the City of San Jose's EPS ban, although the potential ordinance. The proposed ordinance will prohibit food service providers from providing EPS foam food ware. The effective date is projected to be in June/July of 2014. If approved, Staff will develop a post-adoption public education component, perform some data collection to evaluate the effectiveness of the ordinance, and develop and implement an enforcement plan.

Public Education and Outreach Efforts

Continued Pre-MRP Actions:

The City of Santa Clara implemented the following public education and outreach control measures prior to the effective date of the MRP and has continued to implement these measures since MRP adoption.

Watershed Watch Campaign (Countywide)

In addition to the BASMAA Campaign, the City of Santa Clara 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. The FY 12-13 Watershed Watch media advertising included 312 anti-littering advertisements on TV, radio, and online media. The Campaign also conducted outreach at a community events to promote the BASMAA "Be the Street" anti-littering campaign.

Outreach to School-age Children or Youth

ZunZun (Countywide)

Through participation and funding of the SCVURPPP countywide ZunZun Program, the City of Santa Clara is continuing 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. During FY 12-13, ZunZun conducted 49 assemblies at 27 elementary schools in ten cities. In addition, two assemblies were conducted at the Pumpkins in the Park event, and one at the Water Wizards event for the general public. The assemblies reached approximately 15,632 students and their teachers in grades K-6.

City also hosted educational booths to inform students about urban runoff pollution prevention at its Arbor Day/Earth Day Celebration. Staff also conducts classroom presentations using the Enviroscope interactive education tool.

Media Relations

BASMAA Regional Media Relations Project (Regional)

Through participation and funding of the BASMAA Regional Media Relations Project, the City of Santa Clara is continuing 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.). In FY 12-13, the Media Relations project developed a press release to highlight new and recent bag bans in cities around the region. The pitch included information on the litter caused by plastic bags. Information ran on KBAY, KCBS, and on eight Bay Area Patch.com sites.

Locally, urban runoff pollution prevention messages are communicated to the public via utility bill inserts, the Inside Santa Clara publication, the City's website, and cable channel.

New/Enhanced Post-MRP Actions Initiated/Planned:

In addition to the control measures continued post-MRP adoption, the City of Santa Clara is currently implementing or planning to implement the following public education and outreach control measures that were initiated after the MRP was adopted.

Litter Reduction Advertising Campaign(s) *BASMAA Youth Outreach Campaign (Regional)*

Through participation and funding of the regional BASMAA Youth Outreach Campaign, the City of Santa Clara is implementing an outreach campaign designed to reduce littering from the target audience in the Bay Area. The Youth Outreach Campaign was launched in September 2011, and aims to increase the awareness of Bay Area youth (ages 16-24) on litter and stormwater pollution issues to 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 through FY 13-14. A brief description of the Campaign activities is provided below:

Raising Awareness: The Campaign is raising awareness of the target audience on litter and stormwater pollution issues. Partnerships with youth commissions, high schools, and other youth focused organizations have been developed to reach the target audience. Messages targeted to youth have been created and distributed via paid advertising, email marketing, Campaign website, and social networking sites (e.g., Facebook and Twitter).

Engage the Youth: The advertisements encourage the audience to participate in the Youth Campaign by joining a Facebook page, entering a contest, taking an online quiz, etc. At the beginning of FY 12-13, a video contest was launched to get Bay Area youth further involved in the Campaign. An online voting system was used to select the winning entry. Media advertising was conducted to promote the winning entry.

Change Behaviors: To move the audience along the behavior change continuum, the Campaign is using 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 continues to interact with the target audience through email marketing and social media websites.

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

Activities in FY 12-13 included maintaining the website www.BetheStreet.org, Facebook page, and Instagram account. A video contest asking participants to submit their best anti-litter video was also conducted. The Be the Street campaign received 52 entries in response to the contest.

The winning video was promoted on television, Pandora (online music site), YouTube, Google, and Facebook. The Watershed Watch Campaign promoted the winning video on KNTV. Highlights of FY 12-13 Be the Street activities are below:

- The website received 15,431 total visits and 10,040 unique visitors.
- The Facebook page received 1,062 new fans, resulting in a total of 1,468 fans. There were a total of 2,048 total interactions (includes likes, comments, shares and responses to poll questions).
- The contest resulted in 52 video entries. The online voting resulted in a total of 4,844 votes being cast.
- Media advertising results - Using the winning video, Be the Street launched a regional ad buy on Pandora, Facebook, and KTVU, resulting in approximately 6.5 million impressions from target demographic of 14-24 year olds in the Bay Area.

Media advertising results are summarized below:

- Television advertising - The winning video ran 12 times in June and July 2013 on KTVU Fox. The video also ran on KTVU online 273 times.
- Facebook advertising - Advertisements promoting the Be the Street Facebook page were placed in August 2012, September 2012, March 2013, May 2013, and June 2013. Overall, the advertisements received 5,733,573 impressions and 2,173 "click-throughs". The advertisements also resulted in 917 additional likes on the Be the Street Facebook page.
- Pandora - The placement of the winning video on Pandora resulted in 371,919 impressions and 13,143 "click-throughs". The 3.82% click through rate on the Pandora advertisement is significantly above the industry standard of 1.2%.

The City of Santa Clara will continue to participate in the regional trash load reduction related outreach efforts. Future outreach efforts will include the continuation of current campaigns as deemed necessary and the development of new ones.

Future Enhanced Outreach Efforts in Our Community:

The City of Santa Clara will attempt to establish partnerships with volunteer groups to help keep neighborhoods and stretches of the San Tomas Aquino Creek Trail trash free. This component is contingent upon adding an additional Staff Aide II – Environmental Programs to help develop the community relationships necessary for this to be successful. A request to add the additional position will be included as part of the Public Works Department's FY 14-15 operating budget submittal. Staff would like to partner with Santa Clara University to adopt blocks of streets around the school for clean-ups and provide students with an opportunity to work on waste reduction projects that can benefit their studies and the community at large. Staff would also like develop relationships with K-12 schools to work with volunteers to commit to on-street clean-ups around campuses and enhance the environmental education curriculum currently offered. We also see opportunities to work with residents and businesses to implement "adopt a block" or "adopt a trail" programs to leverage volunteer efforts to perform clean-ups and raise awareness to the importance of reducing trash going into our waterways.

Creeks and Shoreline Hot Spot Cleanups

Continued Pre-MRP Actions:

The City identified trash hotspots and surveyed them using the Keep America Beautiful (KAB) litter index.

New / Enhanced Pre-MRP Actions:

The City cleans five (5) trash hot spots per year in conjunction with the Coastal Clean-Up Day. Three (3) of hot spots are cleaned using community volunteers. The other two hotspots are cleaned with City personnel because of access constraints. Below is a summary of the hotspots:

1. Calabazas Creek, north of US 101: Dominant types of trash include paper and cardboard, convenience/fast food items, other plastic products, bottles, and aluminum cans. Trash sources include illegal dumping, litter, trash accumulation, and outfall.
2. Calabazas Creek, at El Camino Real: Dominant types of trash include paper and cardboard, cigarette butts, other plastic products, convenience/fast food items, and expanded polystyrene (EPS). Trash sources include litter, trash accumulation, and illegal dumping.
3. San Tomas Aquino Creek, at Agnew Road: Dominant types of trash include convenience/fast food items, paper and cardboard, other plastic products, cigarette butts, and EPS. Trash sources include litter and illegal dumping.
4. Saratoga Creek, south of El Camino Real: Dominant types of trash include other plastic products, convenience/fast food items, cigarette butts, paper and cardboard, and plastic bags. Trash sources included litter, trash accumulation, and illegal dumping.
5. Guadalupe River, at Montague Expressway: Dominant types of trash include cigarette butts, paper and cardboard, other plastic products, convenience/fast food items, and glass pieces. Trash sources include litter and trash accumulation.

The City would like to expand its creek and shoreline hot spot clean ups to include participation in the annual National River Cleanup Day that is typically conducted in May. The City has not been able to participate in this event in the past because staffing resources can't be freed up to organize the event due to timing conflicts with the City's annual Arbor Day Celebration and Clean-Up Campaign. The Public Works Department will participate in future National River Cleanup Days if an additional Staff Aide II – Environmental Programs is added. Additionally, the section of San Tomas Aquino Creek at Tasman Drive by Levi's Stadium will be added to the list of locations that receive clean ups on a regular basis in September of 2014. Staff will attempt to see if a community group will want to adopt this particular section of San Tomas Aquino Creek and perform more frequent clean-ups.

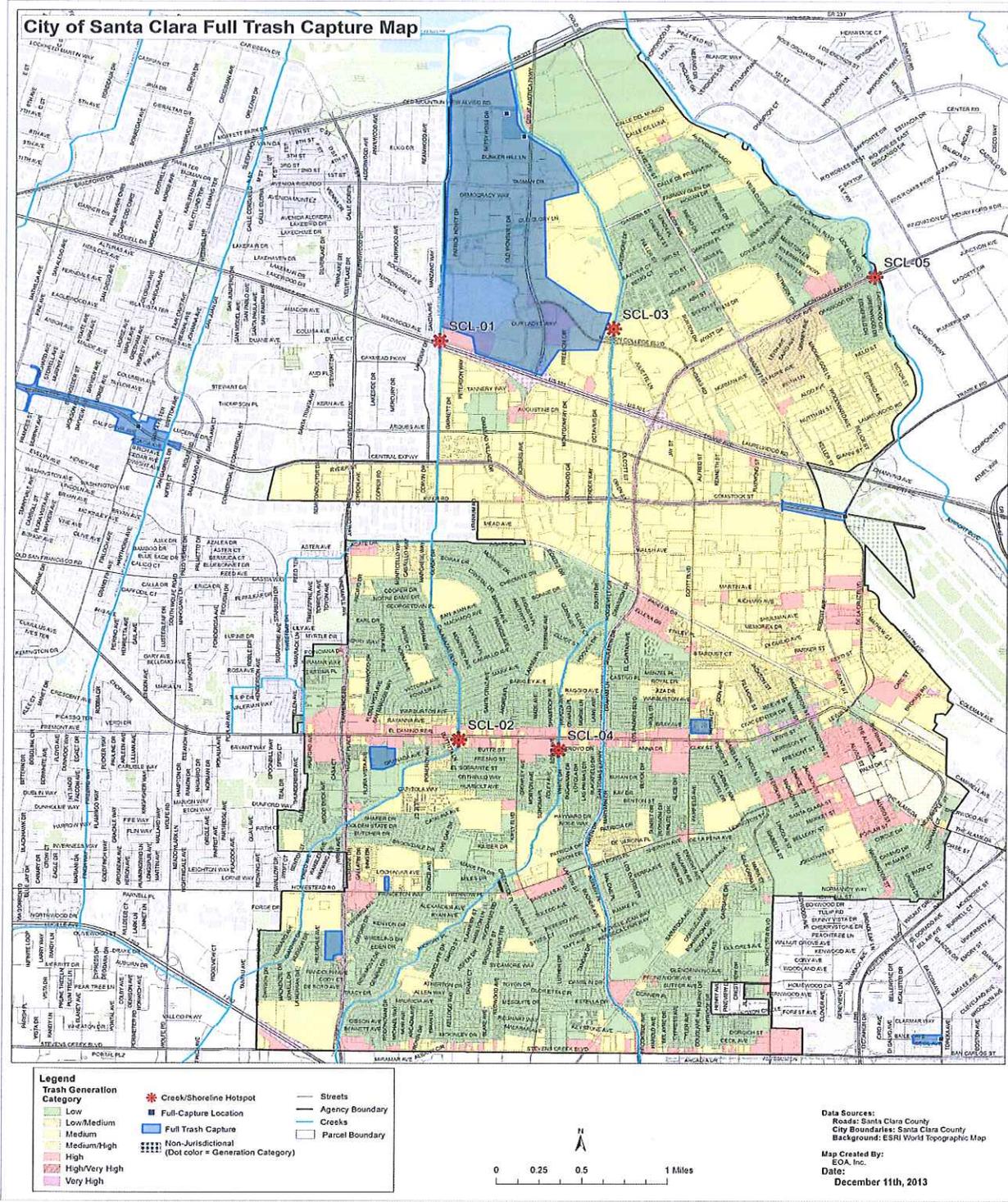


Figure 7. Trash Full Capture Device Map for the City of Santa Clara

3.2.1 Trash Management Area #1

This area is the largest catchment area in the City. The surface run-off from 835 acres discharges into the Westside Retention Basin. The catchment area includes the majority of Mission College, the Mercado shopping center, two strip malls with food services, a portion of the Great America parking lot, and several commercial/industrial office complexes. This area was given a Tier 1 priority because we were able to achieve the lowest cost per acre treated and address some significant high trash generating areas.

Actions Initiated prior to and Continued after the MRP effective date:

1. Street Sweeping.
2. On-land Trash Clean-Ups.
3. Enhanced Storm Drain Inlet Maintenance.
4. Anti-Littering and Illegal Dumping Enforcement Activities.
5. Improved Trash Bins/Container Management.
6. Public Education and Outreach.

Actions Initiated After the MRP Effective Date and Implemented Prior to July 1, 2014:

1. Installation and Maintenance of Fresh Creek Technologies Full Trash Capture Netting Systems at Westside Retention Basin. City staff inspects the nets prior to predicted storm events to ensure net capacity is available for incoming materials and checks the nets following each storm event. The nets are serviced when they are about half full, despite the manufactures recommendation of two-thirds full because of past experiences with torn nets. The cause of the nets tearing is unknown at this time, so we are spending more labor hours performing maintenance than we had thought originally. Organic material is the largest constituent found in the nets and maintenance events reduce significantly in January, after most of the trees have finished dropping leaves.
2. Enhanced street sweeping (increase commercial/industrial street sweeping 3 times a month at earlier hours).
3. On-land Trash Clean-Ups by Grounds Maintenance Workers in close proximity to median islands they maintain.
4. Non-Exclusive Franchise Hauler contract language to require solid waste companies to cover their loads and assume responsibility for trash generated via their collection activities.
5. Improved trash bin/container management through Mandatory Recycling Ordinance that requires enclosures for new and remodeling construction activities.
6. Four (4) partial trash capture Filtrex bio-filters installed at the Santa Clara Convention Center, 5001 Great America Parkway per Provsion C.3 New and Redevelopment requirements.
7. Community outreach plan to educate the public about a potential single-use carryout bag ban has been developed and initiated. Staff will request direction from the City Council on February 25, 2014 on whether to proceed with preparing the necessary CEQA documents to adopt a bag ban. If the City Council directs staff to proceed with the CEQA, staff would also prepare an ordinance for Council consideration that would not be implemented before July 1, 2014, if approved.

8. Community outreach plan to educate the public about a potential polystyrene foam food ware ordinance has been developed and initiated. Staff will request approval from the City Council to adopt polystyrene foam food ware ordinance on February 25, 2014. The effective date of the potential ordinance has not been finalized yet, but is projected to be in the June/July 2014 timeframe.
9. Public Education and Outreach.
10. Creek and Shoreline Hot Spot Cleanups.

Actions Planned for Future Implementation between July 2014 and June 2022:

1. Installation of partial trash capture screens over vertical openings to keep debris on the street to minimize the maintenance of full trash capture nets at the Westside Retention Basin.
2. Possible consideration of a single-use carryout bag ordinance, subject to future City Council direction and approval.
3. Polystyrene foam food ware ordinance implementation, subject to City Council approval.
4. Additional cleanup of Calabazas Creek north of US 101 during the National River Cleanup Day each year.

3.2.2 Trash Management Area #2

The El Camino Real corridor is the largest commercial/retail/wholesale area in the City of Santa Clara and also serves as a major transit corridor. The retail businesses, fast food, and Valley Transportation Authority (VTA) bus shelters are the major sources of trash along El Camino Real. El Camino Real runs East/West through the City of Santa Clara. El Camino Real has catchments that drain to the Guadalupe River, San Tomas Aquino Creek, Saratoga Creek, and Calabazas Creek, which all traverse the City from south to north. The large number of catchment areas along El Camino makes the installation of a large full trash capture device less cost effective. The City will need to coordinate with CalTrans to install and maintain curb inlet full trash capture devices to achieve no adverse impacts associated with trash discharged from the City's MS4 in this area. TMA #2 has been designated as a Tier 2 priority for installation of trash load reduction control measures.

Actions Initiated prior to and Continued after the MRP effective date:

1. Street Sweeping.
2. On-land Trash Clean-Ups.
3. Enhanced Storm Drain Inlet Maintenance.
4. Anti-Littering and Illegal Dumping Enforcement Activities.
5. Improved Trash Bins/Container Management.
6. Public Education and Outreach.

Actions Initiated After the MRP Effective Date and Implemented Prior to July 1, 2014:

1. Enhanced street sweeping (increase commercial/industrial street sweeping 3 times a month at earlier hours).
2. On-land Trash Clean-Ups by Grounds Maintenance Workers in close proximity to median islands they maintain.
3. Non-Exclusive Franchise Hauler contract language to require solid waste companies to cover their loads and assume responsibility for trash generated via their collection activities.

4. Improved trash bin/container management through Mandatory Recycling Ordinance that requires enclosures for new and remodeling construction activities.
5. Partial trash capture screens installed over vertical openings in two catch basin inlets on Bowe Avenue at El Camino Real, which is adjacent to Saratoga Creek and one of our trash hotspots.
6. Partial trash capture bioretention at the Presidio El Camino at 1450 El Camino Real as via Provision C.3 New and Redevelopment Requirements.
7. Community outreach plan to educate the public about a potential single-use carryout bag ban has been developed and initiated. Staff will request direction from the City Council on February 25, 2014 on whether to proceed with preparing the necessary CEQA documents to adopt a bag ban. If the City Council directs staff to proceed with the CEQA, staff would also prepare an ordinance for Council consideration that would not be implemented before July 1, 2014, if approved.
8. Community outreach plan to educate the public about a potential polystyrene foam food ware ordinance has been developed and initiated. Staff will request approval from the City Council to adopt polystyrene foam food ware ordinance on February 25, 2014. The effective date of the potential ordinance has not been finalized yet, but is projected to be in the June/July 2014 timeframe.
9. Public Education and Outreach.
10. Creek and Shoreline Hot Spot Cleanups.

Actions Planned for Future Implementation between July 2014 and June 2022:

1. Installation of full-trash capture devices in all catch basin inlets in FY 2014-15, subject to City Council approval of funds. Staff has identified 44 inlets for installation and will be requesting the funds to purchase and install the full trash capture devices through the FY 2014-15 budget process.
2. Possible consideration of a single-use carryout bag ordinance, subject to future City Council direction and approval.
3. Polystyrene foam food ware ordinance implementation, subject to City Council approval.
4. Additional cleanup of Calabazas Creek and Saratoga Creek at El Camino Real during the National River Cleanup Day each year.

3.2.3 Trash Management Area #3

This area has been designated as a Tier 2 priority for installation of trash load reduction control measures because of its proximity to Santa Clara University. The Santa Clara University area generates significant amounts of beverage container, plastic cup, paper, and plastic bag litter. It is a challenging area to address because the majority of the properties are rented to students. The high turnover rate of rental properties reduces the effectiveness of outreach and code enforcement efforts. The onsite parking at many properties in the area does not fully accommodate the parking needs of the residents. Many residents park their vehicles on the street making the curblin inaccessible for the street sweeper. The western most portion of Area #3 contains the Franklin Square and other retail/wholesale properties, which have been designated as high trashload generating.

Actions Initiated prior to and Continued after the MRP effective date:

1. Street Sweeping.

2. On-land Trash Clean-Ups.
3. Enhanced Storm Drain Inlet Maintenance.
4. Anti-Littering and Illegal Dumping Enforcement Activities.
5. Improved Trash Bins/Container Management.
6. *Two (2) Student Move-Out Special Collections (only in the University Area)*
 The City was having difficulty maintaining cleanliness around the university at the end of the school year every June. Code Enforcement efforts were ineffective at addressing private property trash because the tenants were getting ready to move out. The City began offering students two special collection days in June to help with the extra move-out trash. Residents can place extra bags of trash and bulky items at the curb for collection by a Mission Trail Waste Systems rear-load compactor truck collection crew. City staff measures the pile, leaves a collection receipt, and has the charges for the extra garbage service added to the customer utility bills. The special collections did not completely solve the move-out trash problem, but certainly helped.
7. Public Education and Outreach.

Actions Initiated After the MRP Effective Date and Implemented Prior to July 1, 2014:

1. On-land Trash Clean-Ups by Grounds Maintenance Workers whose work areas are in close proximity to median islands.
2. Improved trash bin/container management through Mandatory Recycling Ordinance that requires enclosures for new and remodeling construction activities.
3. Improved trash bin/container management by switching to a single-stream recycling program that uses carts with lids instead of 18-gallon tubs/paper bags for containers.
4. Community outreach plan to educate the public about a potential single-use carryout bag ban has been developed and initiated. Staff will request direction from the City Council on February 25, 2014 on whether to proceed with preparing the necessary CEQA documents to adopt a bag ban. If the City Council directs staff to proceed with the CEQA, staff would also prepare an ordinance for Council consideration that would not be implemented before July 1, 2014, if approved.
5. Community outreach plan to educate the public about a potential polystyrene foam food ware ordinance has been developed and initiated. Staff will request approval from the City Council to adopt polystyrene foam food ware ordinance on February 25, 2014. The effective date of the potential ordinance has not been finalized yet, but is projected to be in the June/July 2014 timeframe.
6. Public Education and Outreach.

Actions Planned for Future Implementation between July 2014 and June 2022:

1. Installation of full trash capture devices in all catch basin inlets in FY 2014-15, subject to City Council approval of funds. Staff has identified 120 inlets for installation and will be requesting the funds to purchase and install the full trash capture devices through the FY 2014-15 budget process.
2. Possible consideration of a single-use carryout bag ordinance, subject to future City Council direction and approval.
3. Polystyrene foam food ware ordinance implementation, subject to City Council approval.

5. Staff will need to monitor the effectiveness of street sweeping in this area. Parking enforcement on street sweeping days may need to be implemented to enable the street sweepers to reach the curb.
6. Enhanced storm drain inlet maintenance will be needed to clean the full trash capture devices, even if street sweeping is effective. The amount of additional maintenance will not be known until the devices have been installed for at least a year.
7. Staff has begun outreach efforts to Santa Clara University, although nothing has come to fruition yet. Individuals or groups of students living on or around campus will be encouraged to "Adopt a Block" type of program to help keep the university neighborhood clean. Staff has also reached out to the Environmental Studies Department to see if there is any interest in developing trash surveys and/or studies around the university area. These may include, but not be limited to trash characterization from full trash capture devices, study on how to best outreach environmental messages to college students, and studies on the effectiveness of plastic bag and expanded polystyrene foam foodware ordinances (if passed by Council).

3.2.4 Trash Management Area #4

The Stevens Creek Boulevard corridor is the second largest commercial/retail/wholesale area in the City of Santa Clara, and also serves as a major transit corridor. The retail businesses, fast food, and VTA bus shelters are the major sources of trash along Stevens Creek Boulevard. TMA #4 has been designated as a Tier 2 priority for implementation of trash load reduction control measures. Stevens Creek Boulevard runs East/West through the City of Santa Clara. Stevens Creek Boulevard has catchments that drain to the San Tomas Aquino Creek and Saratoga Creek, which traverse the City from south to north. The north side of Stevens Creek Boulevard is in Santa Clara and the south side is in the City of San Jose.

Actions Initiated prior to and Continued after the MRP effective date:

1. Street Sweeping.
2. On-land Trash Clean-Ups.
3. Enhanced Storm Drain Inlet Maintenance.
4. Anti-Littering and Illegal Dumping Enforcement Activities.
5. Improved Trash Bins/Container Management.
6. Public Education and Outreach.

Actions Initiated After the MRP Effective Date and Implemented Prior to July 1, 2014:

1. Enhanced street sweeping (increase commercial/industrial street sweeping 3 times a month at earlier hours).
2. On-land Trash Clean-Ups by Grounds Maintenance Workers whose work areas are in close proximity to median islands.
3. Non-Exclusive Franchise Hauler contract language to require solid waste companies to cover their loads and assume responsibility for trash generated from their collection activities.
4. Improved trash bin/container management through Mandatory Recycling Ordinance that requires enclosures for new and remodeling construction activities.
5. Community outreach plan to educate the public about a potential single-use carryout bag ban has been developed and initiated. Staff will request direction from the City Council

on February 25, 2014 on whether to proceed with preparing the necessary CEQA documents to adopt a bag ban. If the City Council directs staff to proceed with the CEQA, staff would also prepare an ordinance for Council consideration that would not be implemented before July 1, 2014, if approved.

6. Community outreach plan to educate the public about a potential polystyrene foam food ware ordinance has been developed and initiated. Staff will request approval from the City Council to adopt polystyrene foam food ware ordinance on February 25, 2014. The effective date of the potential ordinance has not been finalized yet, but is projected to be in the June/July 2014 timeframe.
7. Public Education and Outreach.

Actions Planned for Future Implementation between July 2014 and June 2022:

1. Installation of full-trash capture devices in all catch basin inlets in FY 2014-15, subject to City Council approval of funds. Staff has identified 12 inlets for installation and will be requesting the funds to purchase and install the full trash capture devices through the FY 2014-15 budget process.
2. Possible consideration of a single-use carryout bag ordinance, subject to future City Council direction and approval.
3. Polystyrene foam food ware ordinance implementation, subject to City Council approval.

3.2.5 Trash Management Area #5

TMA #5 contains mostly old Industrial zoned properties. There are also small pockets of commercial/retail properties in the area that have been identified as high trash generating. There are multiple solid waste collection and material recovery facilities in this area, which contribute to trashload generation. On-street parking has been an issue in parts of TMA #5. TMA #5 has been designated a Tier 3 priority for implementation of trash load reduction control measures, although there are smaller TMAs with higher ratios of high trashload generating areas. Staff believes TMA #5 is a good testing ground for the use of retractable screens that cover the vertical openings of the catch basin inlets. On-street parking should not be as big of a challenge in TMA #5 if the change in street sweeping times is successful in enabling the street sweepers to reach the curb. TMA #5 would also be an easier area to implement parking restrictions if necessary, given its primarily Industrial zoning designation. The lessons learned in TMA #5 will affect control measure implementation decisions in TMAs #6 - #13.

Actions Initiated prior to and Continued after the MRP effective date:

1. Street Sweeping.
2. On-land Trash Clean-Ups.
3. Enhanced Storm Drain Inlet Maintenance.
4. Anti-Littering and Illegal Dumping Enforcement Activities.
5. Improved Trash Bins/Container Management.
6. Public Education and Outreach.

Actions Initiated After the MRP Effective Date and Implemented Prior to July 1, 2014:

1. Enhanced street sweeping (increase commercial/industrial street sweeping 3 times a month at earlier hours). TMA #5 will need to be monitored to see if the sweeping time change will result in fewer vehicles parked on the street.

2. On-land Trash Clean-Ups by Grounds Maintenance Workers whose work areas are in close proximity to median island.
3. Non-Exclusive Franchise Hauler contract language to require solid waste companies to cover their loads and assume responsibility for trash generated from their collection activities.
4. Improved trash bin/container management through Mandatory Recycling Ordinance that requires enclosures for new and remodeling construction activities.
5. Partial capture bioretention treatment at Robinson Oil located at 955 Martin Avenue as part of Provision C.3 New and Redevelopment requirements.
6. Community outreach plan to educate the public about a potential single-use carryout bag ban has been developed and initiated. Staff will request direction from the City Council on February 25, 2014 on whether to proceed with preparing the necessary CEQA documents to adopt a bag ban. If the City Council directs staff to proceed with the CEQA, staff would also prepare an ordinance for Council consideration that would not be implemented before July 1, 2014, if approved.
7. Community outreach plan to educate the public about a potential polystyrene foam food ware ordinance has been developed and initiated. Staff will request approval from the City Council to adopt polystyrene foam food ware ordinance on February 25, 2014. The effective date of the potential ordinance has not been finalized yet, but is projected to be in the June/July 2014 timeframe.
8. Public education and outreach.

Actions Planned for Future Implementation between July 2014 and June 2022:

1. Staff will evaluate the performance of the catch basin inlet full trash capture devices installed in TMA#'s 2,3,&4 between 2014 - 2016. This information is essential before committing additional funding and labor resources in TMA #5 and others.
2. Installation of catch basin inlet full trash capture devices in high trash load generation sections and retractable screens over vertical inlet openings in medium trash load generation sections (tentative date 2016). This is the projected control measure at this time, based on known information. The use of retractable screens in TMA #5 will enable staff to evaluate the effectiveness of the retractable screens with effective street sweeping. The success of the retractable screens will dictate trash load reduction treatment strategies in medium trash load generating areas in TMAs #6 - #13.
 - a. Alternative 1: installation of catch basin inlet full trash capture devices in entire area.
 - b. Alternative 2: installation of larger inline full trash capture device(s) at or adjacent to the Mission Site, Laurelwood, and/or Nelo-Victor storm pump stations. This would also trigger a reconfiguration of TMA #'s 5 & 11 to follow catchment areas.
3. Possible consideration of a single-use carryout bag ordinance, subject to future City Council direction and approval.
4. Polystyrene foam food ware ordinance implementation, subject to City Council approval.

3.2.6 Trash Management Area #6

TMA #6 contains two retail moderately sized shopping centers, a convenience store, a school, and high density housing. About half of the area has been designated as high trashload generating and the other half as medium trashload generating. Beverage containers, food

packaging, paper and plastic bags are common types of trash generated in TMA #6. On-street parking is an issue in the multi-family residential area, so street sweepers have difficulty reaching the curb. TMA #6 has been designated a Tier 4 priority for implementation of trash load reduction control measures.

Actions Initiated prior to and Continued after the MRP effective date:

1. Street Sweeping.
2. On-land Trash Clean-Ups.
3. Enhanced Storm Drain Inlet Maintenance.
4. Anti-Littering and Illegal Dumping Enforcement Activities.
5. Improved Trash Bins/Container Management.
6. Public Education and Outreach.

Actions Initiated After the MRP Effective Date and Implemented Prior to July 1, 2014:

1. On-land Trash Clean-Ups by Grounds Maintenance Workers in close proximity to median islands they maintain.
2. Improved trash bin/container management through Mandatory Recycling Ordinance that requires enclosures for new and remodeling construction activities.
3. Improved trash bin/container management by switching to a single-stream recycling program that uses carts with lids instead of 18-gallon tubs/paper bags for containers.
4. Community outreach plan to educate the public about a potential single-use carryout bag ban has been developed and initiated. Staff will request direction from the City Council on February 25, 2014 on whether to proceed with preparing the necessary CEQA documents to adopt a bag ban. If the City Council directs staff to proceed with the CEQA, staff would also prepare an ordinance for Council consideration that would not be implemented before July 1, 2014, if approved.
5. Community outreach plan to educate the public about a potential polystyrene foam food ware ordinance has been developed and initiated. Staff will request approval from the City Council to adopt polystyrene foam food ware ordinance on February 25, 2014. The effective date of the potential ordinance has not been finalized yet, but is projected to be in the June/July 2014 timeframe.
6. Public education and outreach.

Actions Planned for Future Implementation between July 2014 and June 2022:

1. Installation of catch basin inlet full trash capture devices in high trash load generation sections and retractable screens over vertical inlet openings in medium trash load generation sections (tentative date 2018). This assumes that retractable screens are installed in TMA #5 in 2016 and have been determined to be effective in preventing trash from entering the inlets combined with street sweeping.
 - Alternative: installation of catch basin inlet full trash capture devices in entire area.
2. Staff will need to monitor the effectiveness of street sweeping in this area to determine if parking enforcement is necessary.
3. Enhanced storm drain inlet maintenance will be needed to clean the full trash capture devices, even if street sweeping is effective. The amount of additional maintenance will not be known until the devices have been installed for at least a year.

4. Staff will reach out to the school to see if there is interest in an "Adopt a Block" type of program. Student and/or school volunteers would commit to picking up trash around the perimeter of the school, including from the gutterline.
5. Possible consideration of a single-use carryout bag ordinance, subject to future City Council direction and approval.
6. Polystyrene foam food ware ordinance implementation, subject to City Council approval.

3.2.7 Trash Management Area #7

The majority of TMA #7 has been designated as a medium/high trash load generation area based on City Staff on-land trash load assessments. TMA #7 contains two convenience stores, two schools, a park, and multi-family housing along Lafayette Street, Haig Street, and Clyde Avenue. The interior streets contain single-family homes, but they are impacted by the surrounding land uses. Beverage containers, food packaging, paper and plastic bags are common types of trash generated in TMA #7. On-street parking is an issue in the multi-family residential area, so street sweepers have difficulty reaching the curb. All municipal separate storm sewer (MS4) run-off in TMA #7 flows through pump stations that have trash racks. TMA #7 has been designated a Tier 4 priority for implementation of trash load reduction control measures.

Actions Initiated prior to and Continued after the MRP effective date:

1. Street Sweeping.
2. On-land Trash Clean-Ups.
3. Enhanced Storm Drain Inlet Maintenance.
4. Anti-Littering and Illegal Dumping Enforcement Activities.
5. Improved Trash Bins/Container Management.
6. Public Education and Outreach.

Actions Initiated After the MRP Effective Date and Implemented Prior to July 1, 2014:

1. On-land Trash Clean-Ups by Grounds Maintenance Workers whose work areas are in close proximity to median islands.
2. Improved trash bin/container management through Mandatory Recycling Ordinance that requires enclosures for new and remodeling construction activities.
3. Improved trash bin/container management by switching to a single-stream recycling program that uses carts with lids instead of 18-gallon tubs/paper bags for containers.
4. Community outreach plan to educate the public about a potential single-use carryout bag ban has been developed and initiated. Staff will request direction from the City Council on February 25, 2014 on whether to proceed with preparing the necessary CEQA documents to adopt a bag ban. If the City Council directs staff to proceed with the CEQA, staff would also prepare an ordinance for Council consideration that would not be implemented before July 1, 2014, if approved.
5. Community outreach plan to educate the public about a potential polystyrene foam food ware ordinance has been developed and initiated. Staff will request approval from the City Council to adopt polystyrene foam food ware ordinance on February 25, 2014. The effective date of the potential ordinance has not been finalized yet, but is projected to be in the June/July 2014 timeframe.
6. Public education and outreach.

Actions Planned for Future Implementation between July 2014 and June 2022:

1. Installation of catch basin inlet full trash capture devices in high trashload generation sections and retractable screens over vertical inlet openings in medium trashload generation sections (tentative date 2018). This assumes that retractable screens are installed in TMA #5 in 2016 and have been determined to be effective in preventing trash from entering the inlets combined with street sweeping.
 - Alternative: installation of catch basin inlet full trash capture devices in entire area.
2. Staff will need to monitor the effectiveness of street sweeping in this area to determine if parking enforcement is necessary.
3. Enhanced storm drain inlet maintenance will be needed to clean the full trash capture devices, even if street sweeping is effective. The amount of additional maintenance will not be known until the devices have been installed for at least a year.
4. Staff will reach out to the schools to see if there is interest in an "Adopt a Block" type of program. Student and/or school volunteers would commit to picking up trash around the perimeter of the school, including from the gutterline.
5. Possible consideration of a single-use carryout bag ordinance, subject to future City Council direction and approval.
6. Polystyrene foam food ware ordinance implementation, subject to City Council approval.

3.2.8 Trash Management Area #8

The northwest portion of TMA #8 contains high density homes adjacent to a gas station with a convenience store, and has been designated as high trash load generating. Public Works Department maintenance crews respond to many illegal dumping complaints in this neighborhood, and on-street parking is an issue. Most of the remainder of TMA #8 has been designated as medium trash load generating and contains another convenience store, a school, multiple parks, and multi-family dwellings. Stardust Court, Sahara Way, Monroe Street (from Scott to Cabrillo), Main Street (from Cabrillo to west cul-de-sac), and Reeve Street (from Monroe to western cul-de-sac) may need to be reevaluated for consideration to be changed from a medium to a medium/high or high trash load generating area prior to treatment. Staff conducted on-land trash load assessments in TMA #8 in May of 2013, and these streets were graded as medium trash generating. However, we experienced a spike in illegal dumping on these streets over the summer. The multi-family properties on Monroe Street place their dumpsters on the street for collection and are overloaded at times. TMA #8 has been given a Tier 4 priority for implementation of trash load reduction control measures.

Actions Initiated prior to and Continued after the MRP effective date:

1. Street Sweeping.
2. On-land Trash Clean-Ups.
3. Enhanced Storm Drain Inlet Maintenance.
4. Anti-Littering and Illegal Dumping Enforcement Activities.
5. Improved Trash Bins/Container Management.
6. Public Education and Outreach.

Actions Initiated After the MRP Effective Date and Implemented Prior to July 1, 2014:

1. On-land Trash Clean-Ups by Grounds Maintenance Workers whose work areas are in close proximity to median islands.

2. Improved trash bin/container management through Mandatory Recycling Ordinance that requires enclosures for new and remodeling construction activities.
3. Improved trash bin/container management by switching to a single-stream recycling program that uses carts with lids instead of 18-gallon tubs/paper bags for containers.
4. Contech Hydrodynamic Separator installed on private property at 1655 Scott Boulevard.
5. Community outreach plan to educate the public about a potential single-use carryout bag ban has been developed and initiated. Staff will request direction from the City Council on February 25, 2014 on whether to proceed with preparing the necessary CEQA documents to adopt a bag ban. If the City Council directs staff to proceed with the CEQA, staff would also prepare an ordinance for Council consideration that would not be implemented before July 1, 2014, if approved.
6. Community outreach plan to educate the public about a potential polystyrene foam food ware ordinance has been developed and initiated. Staff will request approval from the City Council to adopt polystyrene foam food ware ordinance on February 25, 2014. The effective date of the potential ordinance has not been finalized yet, but is projected to be in the June/July 2014 timeframe.
7. Public education and outreach.

Actions Planned for Future Implementation between July 2014 and June 2022:

1. Installation of catch basin inlet full trash capture devices in high trash load generation sections and retractable screens over vertical inlet openings in medium trashload generation sections (tentative date 2019). This assumes that retractable screens are installed in TMA #5 in 2016 and have been determined to be effective in preventing trash from entering the inlets combined with street sweeping.
 - Alternative: installation of catch basin inlet full trash capture devices in all areas designated as medium trash load generating or greater.
2. Staff will need to monitor the effectiveness of street sweeping in this area to determine if parking enforcement is necessary.
3. Enhanced storm drain inlet maintenance will be needed to clean the full trash capture devices, even if street sweeping is effective. The amount of additional maintenance will not be known until the devices have been installed for at least a year.
4. Staff will reach out to the school to see if there is interest in an "Adopt a Block" type of program. Student and/or school volunteers would commit to picking up trash around the perimeter of the school, including from the gutterline.
5. Possible consideration of a single-use carryout bag ordinance, subject to future City Council direction and approval.
6. Polystyrene foam food ware ordinance implementation, subject to City Council approval.

3.2.9 Trash Management Area #9

The western portion of Agate Drive in TMA #9 was reclassified from medium to high trash load generating during on-land trash load assessments conducted in May of 2013. This area has been a notorious illegal dumping spot for quite some time. However, illegal dumping has decreased somewhat since some relatively recent redevelopment in the area. The rest of TMA #9 is classified as medium trash load generating. A convenience store, two schools, multi-

family, and single-family homes comprise the medium trash load generating area of TMA #9. TMA #9 has been given a Tier 4 priority for implementation of trash load reduction control measures.

Actions Initiated prior to and Continued after the MRP effective date:

1. Street Sweeping.
2. On-land Trash Clean-Ups.
3. Enhanced Storm Drain Inlet Maintenance.
4. Anti-Littering and Illegal Dumping Enforcement Activities.
5. Improved Trash Bins/Container Management.
6. Public Education and Outreach.

Actions Initiated After the MRP Effective Date and Implemented Prior to July 1, 2014:

1. On-land Trash Clean-Ups by Grounds Maintenance Workers whose work areas are in close proximity to median islands.
2. Improved trash bin/container management through Mandatory Recycling Ordinance that requires enclosures for new and remodeling construction activities.
3. Improved trash bin/container management by switching to a single-stream recycling program that uses carts with lids instead of 18-gallon tubs/paper bags for containers.
4. Community outreach plan to educate the public about a potential single-use carryout bag ban has been developed and initiated. Staff will request direction from the City Council on February 25, 2014 on whether to proceed with preparing the necessary CEQA documents to adopt a bag ban. If the City Council directs staff to proceed with the CEQA, staff would also prepare an ordinance for Council consideration that would not be implemented before July 1, 2014, if approved.
5. Community outreach plan to educate the public about a potential polystyrene foam food ware ordinance has been developed and initiated. Staff will request approval from the City Council to adopt polystyrene foam food ware ordinance on February 25, 2014. The effective date of the potential ordinance has not been finalized yet, but is projected to be in the June/July 2014 timeframe.
6. Public education and outreach.

Actions Planned for Future Implementation between July 2014 and June 2022:

1. Installation of catch basin inlet full trash capture devices in high trash load generation sections and retractable screens over vertical inlet openings in medium trash load generation sections (tentative date - 2019). This assumes that retractable screens are installed in TMA #5 in 2016 and have been determined to be effective in preventing trash from entering the inlets combined with street sweeping.
 - Alternative: installation of catch basin inlet full trash capture devices in all areas designated as medium trash load generating or greater.
2. Staff will need to monitor the effectiveness of street sweeping in this area to determine if parking enforcement is necessary.
3. Enhanced storm drain inlet maintenance will be needed to clean the full trash capture devices, even if street sweeping is effective. The amount of additional maintenance will not be known until the devices have been installed for at least a year.

4. Staff will reach out to the school to see if there is interest in an "Adopt a Block" type of program. Student and/or school volunteers would commit to picking up trash around the perimeter of the school, including from the gutterline.
5. Possible consideration of a single-use carryout bag ordinance, subject to future City Council direction and approval.
6. Polystyrene foam food ware ordinance implementation, subject to City Council approval.

3.2.10 Trash Management Area #10

TMA #10 is comprised primarily of properties zoned for Industrial use and is designated as medium trash load generating for the most part. All municipal separate storm sewer (MS4) runoff in TMA #10 flows through pump stations that have trash racks. There are a few commercial food establishments along Bowers Avenue that comprise the small pockets of high trash load generating areas in TMA #10. There isn't very much pedestrian traffic in TMA #10 even though there are two Valley Transportation bus stops on Bowers Avenue. On-street parking is not an issue in TMA #10. The garbage service in this area is almost exclusively on private property versus on-street. Prior to treatment, staff will conduct on-land trash assessments to see if the medium trash load generating areas can be downgraded to low/medium or low trash load generating. TMA #10 has been given a Tier 5 priority for implementation of trash load reduction control measures.

Actions Initiated prior to and Continued after the MRP effective date:

1. Street Sweeping.
2. On-land Trash Clean-Ups.
3. Enhanced Storm Drain Inlet Maintenance.
4. Anti-Littering and Illegal Dumping Enforcement Activities.
5. Improved Trash Bins/Container Management.
6. Public Education and Outreach.

Actions Initiated After the MRP Effective Date and Implemented Prior to July 1, 2014:

1. Enhanced street sweeping (increase commercial/industrial street sweeping 3 times a month at earlier hours).
2. On-land Trash Clean-Ups by Grounds Maintenance Workers whose work areas are in close proximity to median islands.
3. Non-Exclusive Franchise Hauler contract language to require solid waste companies to cover their loads and assume responsibility for trash generated from their collection activities.
4. Improved trash bin/container management through Mandatory Recycling Ordinance that requires enclosures for new and remodeling construction activities.
5. Partial trash capture infiltration basin installed at Coresite Coronado Stender at 2901 Coronado to comply with Provision C.3 New and Redevelopment requirements.
6. Partial trash capture bioretention/media filter installed at NAP West at 3000 Corvin to comply with Provision C.3 New and Redevelopment requirements.
7. Community outreach plan to educate the public about a potential single-use carryout bag ban has been developed and initiated. Staff will request direction from the City Council on February 25, 2014 on whether to proceed with preparing the necessary CEQA documents to adopt a bag ban. If the City Council directs staff to proceed with the

CEQA, staff would also prepare an ordinance for Council consideration that would not be implemented before July 1, 2014, if approved.

8. Community outreach plan to educate the public about a potential polystyrene foam food ware ordinance has been developed and initiated. Staff will request approval from the City Council to adopt polystyrene foam food ware ordinance on February 25, 2014. The effective date of the potential ordinance has not been finalized yet, but is projected to be in the June/July 2014 timeframe.
9. Public education and outreach.

Actions Planned for Future Implementation between July 2014 and June 2022:

1. Installation of catch basin inlet full trash capture devices in high trashload generation sections and retractable screens over vertical inlet openings in medium trashload generation sections (tentative date - 2020). This assumes that retractable screens are installed in TMA #5 in 2016 and have been determined to be effective in preventing trash from entering the inlets combined with street sweeping.
 - a. Alternative 1: installation of catch basin inlet full trash capture devices in all areas designated as medium trashload generating or greater.
 - b. Alternative 2: installation of larger inline full trash capture device(s) at storm pump stations.
2. Implement a volunteer Adopt a Creek type of clean-up program along the San Tomas Aquino Creek Trail.
3. Possible consideration of a single-use carryout bag ordinance, subject to future City Council direction and approval.
4. Polystyrene foam food ware ordinance implementation, subject to City Council approval.

3.2.11 Trash Management Area #11

TMA #11 is comprised primarily of properties zoned for Industrial use and is designated as medium trash load generating for the most part. All municipal separate storm sewer (MS4) runoff in TMA #11 flows through pump stations that have trash racks. On-street parking preventing street sweepers from reaching the gutterline has been an issue in certain parts of TMA #11, prior to modifying the street sweeping hours on January 6, 2014. There are very few commercial/retail/wholesale establishments in TMA #11 that have high trash load generation rates and there is very little pedestrian traffic. The garbage service in this area is almost exclusively on private property versus on-street. Any trash generation in this area is likely a result of illegal dumping or littering out of a moving vehicle. Prior to treatment, staff will conduct on-land trash assessments to see if the medium trash load generating areas can be downgraded to low/medium or low trash load generating. TMA #11 has been given a Tier 5 priority for implementation of trash load reduction control measures.

Actions Initiated prior to and Continued after the MRP effective date:

1. Street Sweeping.
2. On-land Trash Clean-Ups.
3. Enhanced Storm Drain Inlet Maintenance.
4. Anti-Littering and Illegal Dumping Enforcement Activities.
5. Improved Trash Bins/Container Management.

6. Public Education and Outreach.

Actions Initiated After the MRP Effective Date and Implemented Prior to July 1, 2014:

1. Enhanced street sweeping (increase commercial/industrial street sweeping 3 times a month at earlier hours).
2. On-land Trash Clean-Ups by Grounds Maintenance Workers whose work areas are in close proximity to median islands.
3. Non-Exclusive Franchise Hauler contract language to require solid waste companies to cover their loads and assume responsibility for trash generated from their collection activities.
4. Improved trash bin/container management through Mandatory Recycling Ordinance that requires enclosures for new and remodeling construction activities.
5. Partial trash capture Kristar Treepod Biofilter installed at Digital Alfred, LLC at 3105 Alfred to comply with Provision C.3 New and Redevelopment requirements.
6. Community outreach plan to educate the public about a potential single-use carryout bag ban has been developed and initiated. Staff will request direction from the City Council on February 25, 2014 on whether to proceed with preparing the necessary CEQA documents to adopt a bag ban. If the City Council directs staff to proceed with the CEQA, staff would also prepare an ordinance for Council consideration that would not be implemented before July 1, 2014, if approved.
7. Community outreach plan to educate the public about a potential polystyrene foam food ware ordinance has been developed and initiated. Staff will request approval from the City Council to adopt polystyrene foam food ware ordinance on February 25, 2014. The effective date of the potential ordinance has not been finalized yet, but is projected to be in the June/July 2014 timeframe.
8. Public education and outreach.

Actions Planned for Future Implementation between July 2014 and June 2022:

1. Installation of catch basin inlet full trash capture devices in high trash load generation sections and retractable screens over vertical inlet openings in medium trash load generation sections (tentative date - 2020). This assumes that retractable screens are installed in TMA #5 in 2016 and have been determined to be effective in preventing trash from entering the inlets combined with street sweeping.
 - a. Alternative 1: installation of catch basin inlet full trash capture devices in all areas designated as medium trash load generating or greater.
 - b. Alternative 2: installation of larger inline full trash capture device(s) at storm pump stations.
2. Implement a volunteer Adopt a Creek type of clean-up program along the San Tomas Aquino Creek Trail.
3. Possible consideration of a single-use carryout bag ordinance, subject to future City Council direction and approval.
4. Polystyrene foam food ware ordinance implementation, subject to City Council approval.

3.2.12 Trash Management Area #12

Trash load generation analyses for the purposes of this Long Term Trash load Reduction Plan occurred prior to October of 2013. The control measure prioritization of areas for this Plan is based on current site conditions. The land uses in TMA # 12 are going to change drastically after the opening of Levi's Stadium in August of 2014. The City will modify the prioritization of all or significant portions of TMA #12 after the stadium is operational and we have a better idea of what the future land uses will entail.

The northern portion of TMA #12 consists primarily of open space occupied by the City's municipal golf course and BMX track, which are on top of a closed landfill and the Gateway commercial office complex, which is currently under construction. This section of TMA #12 is currently designated as low trash load generating. However, the City is currently evaluating the feasibility of significant developments on top of, and adjacent to the closed landfill that will completely change the dynamics of the area. Hotels, entertainment, retail, restaurants, office space, and residential uses are currently proposed. This development will result in new streets and parking structures, if approved to move forward by the City Council. It is probable that this portion of TMA #12 will need to be reclassified to medium or high trash load generating in the next three to five years.

The southern portion consists of TMA #12 is Great America Theme Park, Levi's Stadium, the 49ers headquarters and practice facility, and a Youth Soccer Park. This portion of TMA #12 is classified as medium trash generating. It is projected that the stadium opening will change the trash load generation rate of all properties along Tasman Drive to high. However, it is not practical to project the scope and timing of implementation of trash load reduction control measures as a whole for TMA #12 until we have a better idea of what the future development will entail, and a schedule for completion.

All municipal separate storm sewer (MS4) run-off in TMA #12 flows through either the Santa Clara Golf Course or Eastside Retention Basin pump stations, which have trash racks. It is possible that significant modifications or relocation of current facilities will be necessary if proposed developments are approved. Large in-line treatment devices could potentially be considered if new pump station facilities need to be constructed.

TMA #12 is designated a Tier 6 priority because it does not have trash related problems as currently constructed. The City is acutely aware that the priority level for TMA #12 will change significantly in the near future.

Actions Initiated prior to and Continued after the MRP effective date:

1. Street Sweeping.
2. On-land Trash Clean-Ups.
3. Enhanced Storm Drain Inlet Maintenance.
4. Anti-Littering and Illegal Dumping Enforcement Activities.
5. Improved Trash Bins/Container Management.
6. Public Education and Outreach.

Actions Initiated After the MRP Effective Date and Implemented Prior to July 1, 2014:

1. Enhanced street sweeping (increase commercial/industrial street sweeping 3 times a month at earlier hours).

2. Installation of Kristar FloGard Perk Filter devices as part of the Provision C.3 treatment requirements at Levi's Stadium. The devices will not be operational until the project is complete.
3. On-land Trash Clean-Ups by Grounds Maintenance Workers whose work areas are in close proximity to median islands.
4. Non-Exclusive Franchise Hauler contract language to require solid waste companies to cover their loads and assume responsibility for trash generated from their collection activities.
5. Improved trash bin/container management through Mandatory Recycling Ordinance that requires enclosures for new and remodeling construction activities.
6. Partial trash capture Kristar FloGard Perk Filter device and bioretention/vegetated swales installed at KB Homes at 1601 Agnew Road to comply with Provision C.3 New and Redevelopment requirements.
7. Community outreach plan to educate the public about a potential single-use carryout bag ban has been developed and initiated. Staff will request direction from the City Council on February 25, 2014 on whether to proceed with preparing the necessary CEQA documents to adopt a bag ban. If the City Council directs staff to proceed with the CEQA, staff would also prepare an ordinance for Council consideration that would not be implemented before July 1, 2014, if approved.
8. Community outreach plan to educate the public about a potential polystyrene foam food ware ordinance has been developed and initiated. Staff will request approval from the City Council to adopt polystyrene foam food ware ordinance on February 25, 2014. The effective date of the potential ordinance has not been finalized yet, but is projected to be in the June/July 2014 timeframe.
9. Public education and outreach.
10. Creek and shoreline hot spot cleanups.

Actions Planned for Future Implementation between July 2014 and June 2022:

1. Staff will evaluate changes in site conditions and modify the Trash Management Areas Map as changes are made, as well as updating the priority for treatment.
2. The Stadium Authority has developed a progressive event operations plan that has significant labor on the ground to proactively collect trash and recyclables during events and is required to clean the stadium area after events, which will begin in August 2014.
3. Staff may create Conditions of Development to require the developers to install full trash capture treatment on new developments the closed landfill.
4. Installation of full trash capture treatment devices to cover current MS4 conditions.
 - a. Option 1 – install individual catch basin inlet full trash capture devices along Tasman Drive, Lafayette Street, and Great America Parkway.
 - b. Option 2 – install in-line full trash capture devices in front of storm pump station wetwells if new facilities need to be constructed.
5. Implement a volunteer Adopt a Creek type of clean-up program along the San Tomas Aquino Creek Trail. Include section of San Tomas Aquino Creek at Tasman Drive for cleaning during the Coastal Cleanup Day and National River Cleanup Day in September 2014, following the opening of Levi's Stadium.

6. Possible consideration of a single-use carryout bag ordinance, subject to future City Council direction and approval.
7. Polystyrene foam food ware ordinance implementation, subject to City Council approval.

3.2.13 Trash Management Area #13

TMA #13 is comprised mostly of residential neighborhoods that generate very little trash. There are schools, parks, and small pockets of commercial retail centers that have been designated as medium or high trash load generating. The commercial retail centers that are designated as high trash load generating have been assigned a Tier 4 level priority for implementation of trash load reduction control measures, which is in line with TMAs #6 - #9. Catch basin inlet full trash capture devices or curb inlet retractable screens will be installed in the high and medium trash load generating pockets of TMA #13 in 2018 or 2019. The City's Parks Department actively pick up trash from park sites, just as janitorial staff pick up trash from schools. The City will attempt to foster community activism by attempting to leverage volunteer efforts to help keep these areas clean.

Trash really isn't a major issue in the residential areas designated as low trash generating. City Staff has conducted several on-land trash assessments to confirm that these neighborhoods are in fact low trash generators. TMA #3, #6, #7, #8, and #9 were identified as medium to high trash generation and broken out for separate treatment plans via the on-land trash assessments completed in 2013. If the City implements plastic bag and expanded polystyrene bans, significant resources will not be spent to install mechanical trash treatment devices in the low trash generating areas. Trash load reduction programs currently in place will be maintained.

Actions Initiated prior to and Continued after the MRP effective date:

1. Street Sweeping.
2. On-land Trash Clean-Ups.
3. Enhanced Storm Drain Inlet Maintenance.
4. Anti-Littering and Illegal Dumping Enforcement Activities.
5. Improved Trash Bins/Container Management.
6. Public Education and Outreach.

Actions Initiated After the MRP Effective Date and Implemented Prior to July 1, 2014:

1. On-land Trash Clean-Ups by Grounds Maintenance Workers whose work areas are in close proximity to median islands.
2. Improved trash bin/container management through Mandatory Recycling Ordinance that requires enclosures for new and remodeling construction activities.
3. Improved trash bin/container management by switching to a single-stream recycling program that uses carts with lids instead of 18-gallon tubs/paper bags for containers.
4. Hydrodynamic Separators installed on private property at 3421 Homestead Road, 3565 Granada and 3625 Pruneridge Avenue as part of the Provision C.3 New and Redevelopment requirements.
5. Partial capture trash screens installed over vertical openings at:
 - a. Benton @ Los Padres (2)
 - b. Benton @ Chapel (1)
 - c. Alviso @ College (2)

6. Community outreach plan to educate the public about a potential single-use carryout bag ban has been developed and initiated. Staff will request direction from the City Council on February 25, 2014 on whether to proceed with preparing the necessary CEQA documents to adopt a bag ban. If the City Council directs staff to proceed with the CEQA, staff would also prepare an ordinance for Council consideration that would not be implemented before July 1, 2014, if approved.
7. Community outreach plan to educate the public about a potential polystyrene foam food ware ordinance has been developed and initiated. Staff will request approval from the City Council to adopt polystyrene foam food ware ordinance on February 25, 2014. The effective date of the potential ordinance has not been finalized yet, but is projected to be in the June/July 2014 timeframe.
8. Public education and outreach.
9. Creek and shoreline hot spot cleanups.

Actions Planned for Future Implementation between July 2014 and June 2022:

1. Installation of catch basin inlet full trash capture devices in high trashload generation sections and retractable screens over vertical inlet openings in medium trashload generation sections (tentative treatment date - 2019). This assumes that retractable screens are installed in TMA #5 in 2016 and have been determined to be effective in preventing trash from entering the inlets combined with street sweeping.
 - Alternative 1: installation of catch basin inlet full trash capture devices in all areas designated as medium trashload generating or greater.
2. Enhanced storm drain inlet maintenance will be needed to clean the full trash capture devices, even if street sweeping is effective. The amount of additional maintenance will not be known until the devices have been installed for at least a year.
3. Staff will reach out to the school to see if there is interest in an "Adopt a Block" type of program. Student and/or school volunteers would commit to picking up trash around the perimeter of the school, including from the gutterline.
4. Possible consideration of a single-use carryout bag ordinance, subject to future City Council direction and approval.
5. Polystyrene foam food ware ordinance implementation, subject to City Council approval.
6. Additional cleanups of Calabazas and Saratoga creeks at El Camino Real and Guadalupe River at Montague Expressway during the National River Cleanup Day each year.

3.3 Control Measure Implementation Schedule

Table 7 contains a Control Measure Implementation Schedule. The schedule depicted is tentative and may be changed at the discretion of the City. The City will track its progress to 100% trashload reduction by the year 2022 in our annual reports submitted to the Regional Water Quality Board each year.

Table 7. City of Santa Clara 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															
Installation of Full Trash Capture Netting Systems at Westside Retention Basin					X	X	X	X	X	X	X	X	X	X	X
Enhanced commercial/industrial street sweeping						X	X	X	X	X	X	X	X	X	X
Non-exclusive franchise hauler contract language for covering loads					X	X	X	X	X	X	X	X	X	X	X
TMA #2															
Enhanced commercial/industrial street sweeping						X	X	X	X	X	X	X	X	X	X
Non-exclusive franchise hauler contract language for covering loads					X	X	X	X	X	X	X	X	X	X	X
Partial trash capture screens					X	X	X	X	X	X	X	X	X	X	X
Partial trash capture bioretention					X	X	X	X	X	X	X	X	X	X	X
Installation of full trash capture devices in all catch basin inlets						X	X	X	X	X	X	X	X	X	X
TMA #3															
University Special Collection Days	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Switch to Single-Stream Recycling Program		X	X	X	X	X	X	X	X	X	X	X	X	X	X
Installation of full trash capture devices in all catch basin inlets						X	X	X	X	X	X	X	X	X	X
Implement parking enforcement on street sweeping days if necessary															
Engage Santa Clara University to implement clean-ups and studies/surveys															
TMA #4															
Enhanced commercial/industrial street sweeping						X	X	X	X	X	X	X	X	X	X

Trash Management Area and Control Measures	Pre-MRP	Short-Term					Long-Term								
		FY 2009-2010	FY 2010-2011	FY 2011-2012	FY 2012-2013	FY 2013-2014 ^a	FY 2014-2015	FY 2015-2016	FY 2016-2017 ^b	FY 2017-2018	FY 2018-2019	FY 2019-2020	FY 2020-2021	FY 2021-2022 ^c	
Non-exclusive franchise hauler contract language for covering loads						X	X	X	X	X	X	X	X	X	X
Installation of full trash capture devices in all catch basin inlets							X	X	X	X	X	X	X	X	X
TMA #5															
Enhanced commercial/industrial street sweeping						X	X	X	X	X	X	X	X	X	X
Non-exclusive franchise hauler contract language for covering loads						X	X	X	X	X	X	X	X	X	X
Installation of full trash capture devices in all catch basin inlets in high trash generation areas										X	X	X	X	X	X
Installation of retractable screens over all vertical catch basin inlet openings in medium trash generation areas										X	X	X	X	X	X
Implement parking enforcement on street sweeping days if necessary										X	X	X	X	X	X
TMA #6															
Switch to Single-Stream Recycling Program															
Installation of full trash capture devices in all catch basin inlets in high trash generation areas										X	X	X	X	X	X
Installation of retractable screens over all vertical catch basin inlet openings in medium trash generation areas															
Implement parking enforcement on street sweeping days if necessary															
TMA #7															
Switch to Single-Stream Recycling Program															
Installation of full trash capture devices in all catch basin inlets in high trash generation areas										X	X	X	X	X	X
Installation of retractable screens over all															

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	
vertical catch basin inlet openings in medium trash generation areas															
Implement parking enforcement on street sweeping days if necessary															
TMA #8															
Switch to Single-Stream Recycling Program															
Installation of full trash capture devices in all catch basin inlets in high trash generation areas															
Installation of retractable screens over all vertical catch basin inlet openings in medium trash generation areas															
Implement parking enforcement on street sweeping days if necessary															
TMA #9															
Switch to Single-Stream Recycling Program															
Installation of full trash capture devices in all catch basin inlets in high trash generation areas															
Installation of retractable screens over all vertical catch basin inlet openings in medium trash generation areas															
Implement parking enforcement on street sweeping days if necessary															
TMA #10															
Enhanced commercial/industrial street sweeping															
Non-exclusive franchise hauler contract language for covering loads															
Installation of full trash capture devices in all catch basin inlets in high trash generation areas															
Installation of retractable screens over all															

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	
vertical catch basin inlet openings in medium trash generation areas															
TMA #11															
Enhanced commercial/industrial street sweeping						x	x	x	x	x	x	x	x	x	x
Non-exclusive franchise hauler contract language for covering loads						x	x	x	x	x	x	x	x	x	x
Installation of full trash capture devices in all catch basin inlets in high trash generation areas															x
Installation of retractable screens over all vertical catch basin inlet openings in medium trash generation areas															x
TMA #12															
Enhanced commercial/industrial street sweeping						x	x	x	x	x	x	x	x	x	x
Non-exclusive franchise hauler contract language for covering loads						x	x	x	x	x	x	x	x	x	x
Installation of KriStar FloGard Perk Filter devices at Levi's Stadium						x	x	x	x	x	x	x	x	x	x
Stadium Authority to implement event day operations plan which includes proactive cleanup							x	x	x	x	x	x	x	x	x
Implement an Adopt a Creek clean-up type of clean-up program along San Tomas Aquino Creek at Tasman Drive							x	x	x	x	x	x	x	x	x
Installation of full trash capture treatment devices on public property after future development of the area is determined (<i>date is an estimate at this point</i>)										x	x	x	x	x	x
TMA #13															
Switch to Single-Stream Recycling Program															
Installation of full trash capture devices in all catch basin inlets in high trash generation		x	x	x	x	x	x	x	x	x	x	x	x	x	x

Trash Management Area and Control Measures	Pre-MRP	Short-Term				Long-Term								
		FY 2009-2010	FY 2010-2011	FY 2011-2012	FY 2012-2013	FY 2013-2014 ^a	FY 2014-2015	FY 2015-2016	FY 2016-2017 ^b	FY 2017-2018	FY 2018-2019	FY 2019-2020	FY 2020-2021	FY 2021-2022 ^c
areas														
Installation of retractable screens over all vertical catch basin inlet openings in medium trash generation areas														
Jurisdiction-wide Control Measures														
Baseline street sweeping of residential 3 times a month and commercial industrial routes 2 times a month	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Clean-up of City parks, response to illegal dumping complaints, clean homeless encampments	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Pump station trash rack and wetwell maintenance	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Catch basin inlet cleaning 2 times a year	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Police Department enforcement of littering and illegal dumping	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Weekly servicing of VTA trash receptacles	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Solid waste enclosure design guidelines	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Enforcement of SCCC sections regulating proper storage of solid waste	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Public education and outreach efforts (ZunZun, BASMAA Media Relations Project)	X	X	X	X	X	X	X	X	X	X	X	X	X	X
On-land trash/litter collection in close proximity to median islands				X	X	X	X	X	X	X	X	X	X	X
Public education and outreach efforts (BASMAA Youth Outreach Campaign)				X	X	X	X	X	X	X	X	X	X	X
Mandatory Recycling Ordinance				X	X	X	X	X	X	X	X	X	X	X
EPS Foam Foodware Ordinance					X	X	X	X	X	X	X	X	X	X
Single-Use Carryout Bag Ordinance						X	X	X	X	X	X	X	X	X
Installation of full or partial trash capture devices throughout City as required by Provision C.3 New and Redevelopment		X	X	X	X	X	X	X	X	X	X	X	X	X

Trash Management Area and Control Measures	Pre-MRP	Short-Term					Long-Term									
		FY 2009-2010	FY 2010-2011	FY 2011-2012	FY 2012-2013	FY 2013-2014 ^a	FY 2014-2015	FY 2015-2016	FY 2016-2017 ^b	FY 2017-2018	FY 2018-2019	FY 2019-2020	FY 2020-2021	FY 2021-2022 ^c		
section of MRP																
Adopt a trail, school, & block style clean up partnerships with community groups																
Creek and Shoreline Hot Spot Cleanups																
Clean-up of 5 trash hotspots 1x year																
Clean-up of 5 trash hotspots 2x year																

^aJuly 1, 2014 40% trash reduction target

^bJuly 1, 2014 70% trash reduction target

^cJuly 1, 2022 100% trash reduction target

4.0 PROGRESS ASSESSMENT STRATEGY

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

The Trash Assessment Strategy (Strategy) described in this section is intended to serve as Version 2.0 of the trash tracking method and replace version 1.0 previously submitted to the Water Board. The Strategy is specific to Permittees participating in the Santa Clara Valley Urban Runoff Pollution Prevention Program (SCVURPPP), including the City of Santa Clara. The City of Santa Clara 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 of Santa Clara 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 of Santa Clara 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 Santa Clara.

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 (i.e., 40%, 70%, and No Adverse Impacts) being achieved?
- Are there trash problems in receiving waters (e.g., creeks and rivers)?
- 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 Santa Clara 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 of Santa Clara 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 Santa Clara 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 of Santa Clara.

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 Santa Clara 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 of Santa Clara 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 Santa Clara 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 of Santa Clara 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 – Descriptions of outreach efforts, tracking, and reporting business compliance rates, or other metrics of control measure performance.
- Street Sweeping – Identification of sweeping frequency and the ability to sweep to the curb by primary TMA, including any enhancements that have been implemented; and any other metrics demonstrating the enhanced performance of street sweeping.
- Public/Private Trash Container Management – Descriptions of control measures implemented to prevent overflowing trash containers or promoting the more effective use of public/private bins, including any new or enhancements to existing actions; and any other metrics demonstrating the performance of the control measure.
- Public Outreach Campaigns – Descriptions of outreach and education actions specific to trash reduction, including the number of events conducted within the municipality; descriptions of effectiveness measurements, including the results of pre- and post-implementation surveys or other metrics.
- On-land Cleanups and Enforcement – Descriptions of on-land cleanup actions, including any enhancements that have been implemented; identification of whether on-land cleanups are Permittee or volunteer-led; or other metrics of control measure performance.
- Storm Drain Inlet Maintenance – Descriptions of the level of maintenance, including any enhancement to maintenance frequency; the numbers of inlets where enhanced maintenance is being implemented; and any other metrics demonstrating the performance of inlet maintenance.
- Anti-littering and Illegal Dumping Prevention/Enforcement – Descriptions of control measures implemented to prevent littering and illegal dumping, including any new or

enhancements to existing actions; descriptions and results of enhanced enforcement actions; and any other metrics demonstrating the performance of the control measure.

- Prevention of Uncovered Loads – Descriptions of control measures implemented to prevent trash dispersion from uncovered loads, including any new or enhancements to existing actions; descriptions and results of enhanced enforcement actions; and any other metrics demonstrating the performance of the control measure.
- Partial Capture Devices – Descriptions, numbers and types of devices implemented; maintenance frequencies, by device or groups of devices; and any other metrics demonstrating the partial capture device performance.
- Other Control Measures – Descriptions of control measures implemented to prevent or intercept trash before discharge to receiving waters, and any other metrics demonstrating the performance of the control measure.
- Other Control Measures – For areas where trash control measures other than full capture devices are implemented, Permittees will illustrate the current trash condition categories on trash loading maps based on on-land observations using the visual assessment protocol. Commensurate trash load reductions for those TMAs (or portions of TMAs) where changes in conditions categories will be estimated.

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 Santa Clara 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 Santa Clara 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 Santa Clara 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					
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

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Meeting Date: 1/28/14

AGENDA REPORT

Agenda Item # 12E

City of Santa Clara, California



APPENDIX A

Date: January 24, 2014

To: City Manager for Council Action

From: Director of Public Works/City Engineer

Subject: Authorize the Submittal of the Long-Term Trash Load Reduction Plan and Assessment Strategy to the Regional Water Quality Control Board to Eliminate Trash Loads from the Municipal Separate Storm Sewer System by 2022

EXECUTIVE SUMMARY:

The Municipal Regional Stormwater National Pollutant Discharge Elimination Permit (MRP) requires permittees to attain a 40% reduction in trash loads entering state waters from their Municipal Separate Storm Sewer Systems (MS4's) by June 2014, 70% by June 2017, and 100% by June 2022. The MRP requires the submittal of a Long-Term Trash Load Reduction Plan by February 1, 2014 that documents control measures implemented to date to achieve the 40% trash load reduction mandate, and lays out a strategy for achieving the longer term trash load reduction mandates.

In January 2012, all permittees regulated by the MRP submitted Short-Term Trash Load Reduction Plans to the Regional Water Quality Control Board (RWQCB) that used a trash load reduction calculator developed by the Bay Area Stormwater Management Agencies Association (BASMAA) to quantify trash load diversion by specific control measures. However, the RWQCB later refused to approve the trash load reduction calculator methodology for determining compliance. The RWQCB now appears to be leaning toward a subjective determination of what constitutes an equivalent to 100% full trash reduction in a given trash management area (TMA) that results in "no visual impact".

The BASMAA Trash Generation Project developed trash load generation rates for properties based on land use and economic data for retail and residential properties. The trash load generation rates were overlaid onto to the City's Zoning Map, and parcels of land were assigned a trash load generation rate designation of low, medium, or high. Trash load generation maps were provided to each City to verify and/or change the trash generation category of specific parcels based on assessments. Public Works staff conducted 37 on-land trash load assessments throughout the City, which resulted in the modification of trash generation categorizations. Using the updated Trash Load Generation Map (Figure 6 in the attached Long-Term Trash Load Reduction Plan and Assessment Strategy), the City of Santa Clara has been prioritized into thirteen (13) TMAs for the purpose of implementing trash control measures that ultimately equate to no adverse impacts to local creeks by the year 2022. Trash control measure implementation strategies and brief descriptions and prioritization of the TMAs are included in the Discussion section of this report. A copy of the Long-Term Trash Load Reduction Plan and Assessment Strategy study has been placed in Council offices for review.

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ADVANTAGES AND DISADVANTAGES OF ISSUE:

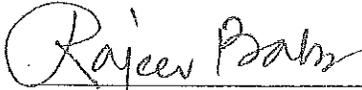
The Long-Term Trash Load Reduction Plan is an MRP requirement. The RWQCB may levy fines of up to \$5,000 per day for failure to achieve trash load reduction mandates.

ECONOMIC/FISCAL IMPACT:

There is no economic/fiscal impact incurred by approving the Long-Term Trash Load Reduction Plan and Assessment Strategy for submittal to the RWQCB. However, the capital and operational costs for control measures implemented after December 2009 through the year 2022 is estimated to be almost \$2 million dollars. Exhibit A contains a cost estimate for implementing the Long Term Trash Load Reduction Plan.

RECOMMENDATION:

That the Council authorize the City Manager to submit the Long-Term Trash Load Reduction Plan and Assessment Strategy to the Regional Water Quality Control Board to Eliminate Trash Loads from the Municipal Separate Storm Sewer System by 2022



Rajeev Batra
Director of Public Works/City Engineer

APPROVED:



Julio J. Fuentes
City Manager

Documents Related to this Report:

- 1) Long-Term Trash Load Reduction Plan and Assessment Strategy***

City Manager for Council Action

Subject: Authorize the Submittal of the Long-Term Trash Load Reduction Plan and Assessment Strategy to the Regional Water Quality Control Board to Eliminate Trash Loads from the Municipal Separate Storm Sewer System by 2022

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DISCUSSION:

The Long-Term Trash Load Reduction Plan and Assessment Strategy is designed to achieve no visual impacts from trash loads from the MS4 by the year 2022. Indications at this point in time are that trash from all high and medium trash generation areas will need to be controlled with either catch basin inlet full trash capture or in-line mechanical devices, or other equivalent measures to achieve the “no visual impacts” objective. The installation and maintenance of full trash capture devices would certainly achieve this objective.

BASMAA is attempting to make the case that retractable trash screens combined with robust street sweeping programs and a few other trash control measures implemented after December 2009 will also achieve the load reduction goal of “no visual impacts”. Retractable trash screens are less expensive to purchase, install, and maintain than full trash capture devices. The Long-Term Trash Load Reduction Plan and Assessment Strategy is written to give the City the flexibility to install retractable trash screens in medium trash generation areas, combined with enhanced street sweeping, public education, additional volunteer on-land clean ups, improvement in trash container management, and potential polystyrene and/or plastic bag bans, to achieve no visual impacts.

In low trash load generation areas, it appears that permittees will be able to achieve the load reduction goal by implementing a combination of existing and jurisdictional-wide control measures without the installation and maintenance of full capture devices or retractable screens. “No visual impacts” in low trash generation areas can be achieved by using a smaller subset of the control measures listed above. Financial and staffing resources will be focused in the higher priority high and medium trash generation areas.

The Long-Term Trash Load Reduction Plan identifies specific control measures that will be implemented in each TMA. TMA #1, which is the largest catchment area in the City, has achieved the trash reduction goal with the installation of full trash capture netting systems at the Westside Storm Retention Basin in 2012. The second phase of the plan is to install full trash capture devices in every catch basin inlet in TMA #2 (El Camino Real corridor), TMA # 3 (Santa Clara University area), and TMA #4 (Stevens Creek Boulevard corridor) in FY 2014/15, which are all high trash generation areas. Each full trash capture device costs about \$630, and it is projected to cost about \$76,300 to install 121 devices in the three TMAs. These inlets will require additional staff time to maintain, and parking enforcement on street sweeping days will likely be necessary around the university to enable the street sweeper to remove the majority of debris before it gets trapped in the full trash capture devices.

TMA #5 is zoned mostly for “Industrial” use and contains mostly medium trash load generating properties, although a few of the most trash impacted areas of the City are located within the area. Commercial / industrial street sweeping hours were moved up two hours earlier to begin at 3:00 a.m. and the frequency of sweeping increased from two to three times a month at the beginning of the month. The plan is to install full

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trash capture devices in catch basin inlets in high trash load generation areas in FY 16/17. Retractable trash screens over the vertical openings of catch basin inlets will be installed in the medium trash load generating portions of TMA #5 if it is determined that the combination of enhanced street sweeping, trash screens, on-land clean-ups, plastic bag and expanded polystyrene ordinances, and other control measures achieve a 100% trash load reduction equivalent. The effectiveness of the retractable trash screens will affect treatment decisions made in TMA #6 – TMA #13.

TMA #6 – #9 are primarily in residential neighborhoods, with some retail and schools, which have higher trash generation rates. The subject plan states that catch basin inlet full trash capture devices will be installed in the high trash load generation portions of the areas in FY 18/19 and FY 19/20. Retractable trash screens will be installed in the medium trash load generation portions of these areas if they are determined to be effective control devices and the RWQCB agrees that their use in combination with other control measures (plastic bag and expanded polystyrene bans, switch to single-stream recycling program, on-land trash clean-ups, and public education) achieves the MRP trash load reduction goal. If not, full trash capture devices will be installed in the medium trash load generation areas. Parking enforcement on street sweeping days will likely be necessary in these areas to enable the street sweepers to remove the debris from the gutter line.

TMA #10 and #11 are comprised of primarily industrial properties and categorized mainly as medium trash load generating. These areas will not be addressed until FY 20/21. The same treatment strategy will be used in these areas as TMA #5, provided it was successful.

TMA #12 comprises the Levi's Stadium area. TMA #12 is categorized as low to medium trash load generating right now because the golf course, BMX track, Gateway Project, and Great America parking lot do not generate trash related problems. However, this area is expected to change significantly in the coming years. The opening of the Stadium and future land uses will increase trash related concerns. The schedule for treatment to a 100% full trash capture in TMA #13 is not known at this time because of uncertainty over future development.

TMA #13 is comprised mainly of low trash generating residential properties. Most of the residential properties in the City are covered in TMA #13. There are some medium to high trash generating pockets sprinkled in TMA #13, consisting of schools, parks, and some small retail shopping centers. These locations will need to be treated differently than the residential sections. The City intends to reach out to neighborhood groups, schools, youth activity organizations, and service organizations to implement community based clean-up programs. The goal is to establish partnerships in which these groups adopt schools, parks, streets, and creeks to implement volunteer based clean-ups. This action, combined with some of the other jurisdiction-wide control measures, will achieve the MRP load reduction goal of no visual impacts by the year 2022. Staff estimates the cost to implement the Long-Term Trash Load Reduction Plan and Assessment Strategy to be almost \$2 million.