



September 15, 2014

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

Attention: Selina Louie

Subject: Annual Report of Stormwater Program Implementation for FY 2013/2014

Dear Mr. Wolfe:

Enclosed is the City of Livermore's Annual Report of Stormwater Program Implementation for the FY 2013/2014.

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 assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or 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 of violations.

If you have questions regarding this report, please contact Steven Aguiar, Environmental Compliance Supervisor, at 925-960-8126.

Sincerely,

A handwritten signature in black ink, appearing to read "Darren Greenwood".

Darren Greenwood
Assistant Public Works Director
Water Resources Division, Public Works Department
Phone number: 925-960-8120
Fax number: 925-960-8105

cc: Dan McIntyre, Director of Public Works

ATTACHMENT B

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Section 1 – Permittee Information

Background Information				
Permittee Name:	City of Livermore			
Population:	83,325			
NPDES Permit No.:	CAS612008			
Order Number:	R2-2009-0074R			
Reporting Time Period (month/year):	July 2013 through June 2014			
Name of the Responsible Authority:	Darren Greenwood		Title:	Assistant Public Works Director
Mailing Address:	101 W. Jack London Blvd.			
City:	Livermore	Zip Code:	94551	County: Alameda
Telephone Number:	925-960-8100		Fax Number:	925-960-8105
E-mail Address:	dggreenwood@cityoflivermore.net			
Name of the Designated Stormwater Management Program Contact (if different from above):	Steven Aguiar		Title:	Environmental Compliance Supervisor
Department:	Public Works- Water Resources Division			
Mailing Address:	101 W. Jack London Blvd.			
City:	Livermore	Zip Code:	94551	County: Alameda
Telephone Number:	925-960-8126		Fax Number:	925-960-8105
E-mail Address:	smaguiar@cityoflivermore.net			

Section 2 - Provision C.2 Reporting Municipal Operations

Program Highlights and Evaluation

Highlight/summarize activities for reporting year:

Summary: See Section C.2 - Municipal Operations - of the Alameda Countywide Clean Water Program's (ACCWP) FY 13-14 Annual Report for a summary of Program activities.

The City of Livermore participates in the Alameda Cleanwater Program's Municipal Maintenance Subcommittee. Mike Wells, Collection System Supervisor represent the City and attends these meetings. Please refer to the C.2. Municipal Operations section of the Alameda Cleanwater Program's FY 13-14 Annual Report for details of the activities implemented at the countywide and/or regional level.

C.2.a. ► Street and Road Repair and Maintenance

Place a **Y** in the boxes next to activities where applicable BMPs were implemented. If not applicable, type **NA** in the box and provide an explanation in the comments section below. Place an **N** in the boxes next to activities where applicable BMPs were not implemented for one or more of these activities during the reporting fiscal year, then in the comments section below provide an explanation of when BMPs were not implemented and the corrective actions taken.

Y	Control of debris and waste materials during road and parking lot installation, repaving or repair maintenance activities from polluting stormwater
Y	Control of concrete slurry and wastewater, asphalt, pavement cutting, and other street and road maintenance materials and wastewater from discharging to storm drains from work sites.
Y	Sweeping and/or vacuuming and other dry methods to remove debris, concrete, or sediment residues from work sites upon completion of work.

Comments: No additional comments.

C.2.b. ► Sidewalk/Plaza Maintenance and Pavement Washing

Place a **Y** in the boxes next to activities where applicable BMPs were implemented. If not applicable, type **NA** in the box and provide an explanation in the comments section below. Place an **N** in the boxes next to activities where applicable BMPs were not implemented for one or more of these activities during the reporting fiscal year, then in the comments section below provide an explanation of when BMPs were not implemented and the corrective actions taken.

Y	Control of wash water from pavement washing, mobile cleaning, pressure wash operations at parking lots, garages, trash areas, gas station fueling areas, and sidewalk and plaza cleaning activities from polluting stormwater
Y	Implementation of the BASMAA Mobile Surface Cleaner Program BMPs

Comments:

C.2.c. ► Bridge and Structure Maintenance and Graffiti Removal

Place a **Y** in the boxes next to activities where applicable BMPs were implemented. If not applicable, type **NA** in the box and provide an explanation in the comments section below. Place an **N** in the boxes next to activities where applicable BMPs were not implemented for one or more of these activities during the reporting fiscal year, then in the comments section below provide an explanation of when BMPs were not implemented and the corrective actions taken.

Y	Control of discharges from bridge and structural maintenance activities directly over water or into storm drains
Y	Control of discharges from graffiti removal activities
Y	Proper disposal for wastes generated from bridge and structure maintenance and graffiti removal activities
Y	Implementation of the BASMAA Mobile Surface Cleaner Program BMPs for graffiti removal
Y	Employee training on proper capture and disposal methods for wastes generated from bridge and structural maintenance and graffiti removal activities.
	Contract specifications requiring proper capture and disposal methods for wastes generated from bridge and structural maintenance and graffiti removal activities.

Comments: No additional comments.

C.2.d. ► Stormwater Pump Stations							
Does your municipality own stormwater pump stations:				<input checked="" type="checkbox"/>	Yes	<input type="checkbox"/>	No
If your answer is No then skip to C.2.e.							
Complete the following table for dry weather DO monitoring and inspection data for pump stations ¹ (add more rows for additional pump stations). If a pump station is exempt from DO monitoring, explain why it is exempt.							
Pump Station Name and Location	First inspection Dry Weather DO Data		Second inspection Dry Weather DO Data				
	Date	mg/L	Date	mg/L			
Murietta Pump Station: Stanley Blvd. and Murietta Blvd	Pump stations exempt from monitoring as the discharge remains in a stormwater collection system and/or infiltrates into a dry creek bed and does not reach stream flow.						
P Street Pump Station: Railroad Ave. and P Street							
North Livermore Pump Station: Railroad Ave. and North Livermore Ave.							
Summarize corrective actions as needed for DO monitoring at or below 3 mg/L. Attach inspection records of additional DO monitoring for corrective actions:							
Summary: No additional comments.							
Attachments:							
Complete the following table for wet weather inspection data for pump stations (add more rows for additional pump stations):							
Pump Station Name and Location	Date (2x/year required)	Presence of Trash (Cubic Yards)	Presence of Odor (Yes or No)	Presence of Color (Yes or No)	Presence of Turbidity (Yes or No)	Presence of Floating Hydrocarbons (Yes or No)	
Murietta Pump Station: Stanley Blvd. and Murietta Blvd.	8/20/2013	0	No	No	No	No	
P Street Pump Station: Railroad Ave and P Street	8/20/2013	1 Gallon	No	No	No	No	

¹ DO monitoring is exempted where all discharge from a pump station remains in a stormwater collection system or infiltrates into a dry creek immediately downstream.

North Livermore Pump Station: Railroad Ave. and North Livermore Ave.	8/21/2013	3 Gallons	No	No	No	No
Murietta Pump Station: Stanley Blvd. and Murietta Blvd.	11/21/2013	0	No	No	No	No
P Street Pump Station: Railroad Ave and P Street	11/21/2013	0	No	No	No	No
North Livermore Pump Station: Railroad Ave. and North Livermore Ave.	11/21/2013	2 Gallons	No	No	No	No

C.2.e. ► Rural Public Works Construction and Maintenance

Does your municipality own/maintain rural² roads: **Yes** **No**

If your answer is **No** then skip to **C.2.f.**

Place a **Y** in the boxes next to activities where applicable BMPs were implemented. If not applicable, type **NA** in the box and provide an explanation in the comments section below. Place an **N** in the boxes next to activities where applicable BMPs were not implemented for one or more of these activities during the reporting fiscal year, then in the comments section below provide an explanation of when BMPs were not implemented and the corrective actions taken.

Y	Control of road-related erosion and sediment transport from road design, construction, maintenance, and repairs in rural areas
Y	Identification and prioritization of rural road maintenance based on soil erosion potential, slope steepness, and stream habitat resources
Y	No impact to creek functions including migratory fish passage during construction of roads and culverts
Y	Inspection of rural roads for structural integrity and prevention of impact on water quality
Y	Maintenance of rural roads adjacent to streams and riparian habitat to reduce erosion, replace damaging shotgun culverts and excessive erosion
Y	Re-grading of unpaved rural roads to slope outward where consistent with road engineering safety standards, and installation of water bars as appropriate
Y	Inclusion of measures to reduce erosion, provide fish passage, and maintain natural stream geomorphology when replacing culverts or design of new culverts or bridge crossings

Comments including listing increased maintenance in priority areas: No additional comments.

² Rural means any watershed or portion thereof that is developed with large lot home-sites, such as one acre or larger, or with primarily agricultural, grazing or open space uses.

C.2.f. ► Corporation Yard BMP Implementation			
Place an X in the boxes below that apply to your corporations yard(s):			
<input type="checkbox"/>	We do not have a corporation yard		
<input type="checkbox"/>	Our corporation yard is a filed NOI facility and regulated by the California State Industrial Stormwater NPDES General Permit		
<input checked="" type="checkbox"/>	We have a Stormwater Pollution Prevention Plan (SWPPP) for the Corporation Yard(s)		
Place an X in the boxes below next to implemented SWPPP BMPs to indicate that these BMPs were implemented in applicable instances. If not applicable, type NA in the box. If one or more of the BMPs were not adequately implemented during the reporting fiscal year then indicate so and explain in the comments section below:			
<input checked="" type="checkbox"/>	Control of pollutant discharges to storm drains such as wash waters from cleaning vehicles and equipment		
<input checked="" type="checkbox"/>	Routine inspection prior to the rainy seasons of corporation yard(s) to ensure non-stormwater discharges have not entered the storm drain system		
<input checked="" type="checkbox"/>	Containment of all vehicle and equipment wash areas through plumbing to sanitary or another collection method		
<input checked="" type="checkbox"/>	Use of dry cleanup methods when cleaning debris and spills from corporation yard(s) or collection of all wash water and disposing of wash water to sanitary or other location where it does not impact surface or groundwater when wet cleanup methods are used		
<input checked="" type="checkbox"/>	Cover and/or berm outdoor storage areas containing waste pollutants		
Comments: No additional comments			
If you have a corporation yard(s) that is not an NOI facility, complete the following table for inspection results for your corporation yard(s) or attach a summary including the following information:			
Corporation Yard Name	Inspection Date (1x/year required)	Inspection Findings/Results	Follow-up Actions
Livermore Maintenance Service Center	08/12/2013	BMPs implemented; Facility in compliance with stormwater requirements	None

Section 3 - Provision C.3 Reporting New Development and Redevelopment

C.3.b.v.(2)(a) ► Green Streets Status Report

(All projects to be completed by December 1, 2014)

On an annual basis (if applicable), report on the status of any pilot green street projects within your jurisdiction. For each completed project, report the capital costs, operation and maintenance costs, legal and procedural arrangements in place to address operation and maintenance and its associated costs, and the sustainable landscape measures incorporated in the project including, if relevant, the score from the Bay-Friendly Landscape Scorecard.

Summary:

The C.3 New Development and Redevelopment section of the Countywide program's FY 13-14 Annual Report includes a description of activities conducted at the countywide or regional level.

C.3.b.v.(1) ► Regulated Projects Reporting

Fill in attached table **C.3.b.v.(1)** or attach your own table including the same information. **See the C.3.b.v.(1) Reporting Table attached.**

C.3.e.v. ► Alternative or In-Lieu Compliance with Provision C.3.c.

(For FY 11-12 Annual Report and each Annual Report thereafter)

Is your agency choosing to require 100% LID treatment onsite for all Regulated Projects and not allow alternative compliance under Provision C.3.e.?

	Yes	<input checked="" type="checkbox"/>	No
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Comments (optional):

C.3.e.vi ► Special Projects Reporting

1. Has your agency received, but not yet granted final discretionary approval of, a development permit application for a project that has been identified as a potential Special Project based on criteria listed in MRP Provision C.3.e.ii(2) for any of the three categories of Special Projects (Categories A, B or C)?		Yes	x	No
2. Has your agency granted final discretionary approval of a project identified as a Special Project in the March 15, 2014 report? If yes, include the project in both the C.3.b.v.(1) Table, and the C.3.e.vi. Table.		Yes	x	No
If you answered "Yes" to either question, 1) Complete Table C.3.e.vi . below. 2) Attach narrative discussion of 100% LID Feasibility or Infeasibility for each project.				

C.3.h.iv. ► Installed Stormwater Treatment Systems Operation and Maintenance Verification Inspection Program Reporting

(1) Fill in attached table C.3.h.iv.(1) or attach your own table including the same information. See attached table C.3.h.iv.
(2) On an annual basis, provide a discussion of the inspection findings for the year and any common problems encountered with various types of treatment systems and/or HM controls. This discussion should include a general comparison to the inspection findings from the previous year.
Summary: (highlighted numbers are from last year – please update) The City of Livermore conducted <u>23</u> operation and maintenance verification inspection of facilities with stormwater treatment measures during this reporting period. Additionally, the City performed <u>21</u> initial inspections of newly installed stormwater treatment measures during this reporting period. Please refer to table C.3.h.iv.of this report for details regarding the findings and observations from these inspections.
(3) On an annual basis, provide a discussion of the effectiveness of the O&M Program and any proposed changes to improve the O&M Program (e.g., changes in prioritization plan or frequency of O&M inspections, other changes to improve effectiveness program).
Summary: The City of Livermore has been requiring new development projects to install stormwater treatment measures since approximately the year 2000. The initial stages of our O & M inspection program were focused on developing an inventory of these measures and their locations. Currently, with the adoption of the MRP, our efforts have been focused on performing the required inspections to comply with the MRP. During this reporting period, City staff performed a total of <u>44 inspections</u> of stormwater treatment measures.
(4) During the reporting year, did your agency:

<ul style="list-style-type: none"> Inspect all newly installed stormwater treatment systems and HM controls within 45 days of installation? 	x	Yes		No		Not applicable. No new facilities were installed.
<ul style="list-style-type: none"> Inspect at least 20 percent of the total number of installed stormwater treatment systems or HM controls?³ 	x	Yes		No		Not applicable. No treatment measures
<ul style="list-style-type: none"> Inspect at least 20 percent of the total number of installed vault-based systems? 	x	Yes		No		Not applicable. No vault systems.
If you answered "No" to any of the questions above, please explain:						

C.3.i. ► Required Site Design Measures for Small Projects and Detached Single Family Home Projects

On an annual basis, discuss the implementation of the requirements of Provision C.3.i, including ordinance revisions, permit conditions, development of standard specifications and/or guidance materials, and staff training.

Summary:
 BASMAA prepared standard specifications in four fact sheets regarding the site design measures listed in Provision C.3.i, as a resource for Co-permittees. We are using the BASMAA site design fact sheets for C.3.i implementation. We have modified local ordinances/policies/procedures and forms/checklists to require all applicable projects approved after December 1, 2012 to implement at least one of the site design measures listed in Provision C.3.i.

³ If there is only 1 treatment measure in the jurisdiction, the agency must inspect it every year.

C.3.b.v.(1) ► Regulated Projects Reporting Table (part 1) – Projects Approved During the Fiscal Year Reporting Period

Project Name Project No.	Project Location ¹⁰ , Street Address	Name of Developer	Project Phase No. ¹¹	Project Type & Description ¹²	Project Watershed ¹³	Total Site Area (Acres)	Total Area of Land Disturbed (Acres)	Total New Impervious Surface Area (ft ²) ¹⁴	Total Replaced Impervious Surface Area (ft ²) ¹⁵	Total Pre- Project Impervious Surface Area ¹⁶ (ft ²)	Total Post- Project Impervious Surface Area ¹⁷ (ft ²)
Private Projects - Anticipated											
Kibler Harris	Railroad Avenue	City	None	Multi-Family Housing	G-Arroyo Mocho	12,500	12,500	0	12,500	12,500	12,500
DT Hotel Site	Railroad Avenue	Sonnenblack	None	Hotel	G-Arroyo Mocho	47,500	42,500	0	42,500	47,500	47,500
Regional Theatre	Railroad Avenue	LVPAC/City	None	Theatre	G-Arroyo Mocho	51,890	50,000	0	50,000	51,890	50,000
Tiffany Gardens II	Arroyo Road	Steve Harriman	None	Residential Care Center	G-Arroyo Mocho	16,720	16,720	0	15,000	16,720	15,000
Sunset Homes T8144	Holmes Street	Sunset Development	None	Homes	G-Arroyo Mocho	586,427	586,427	69,930	258,427	258,427	323,357
Cabral/Frame Storage Yard SPDR 14-006	7925 National Drive	Topcon	None	Construction Demonstration Site	H-Arroyo Las Positas	249,262	43560	43560	0	0	43560
The Shoppes CUP14-001	Jack London Boulevard	Robert Himsl	None	Retail	H-Arroyo Las Positas	505,049	505,049	457749	0	0	457749
Private Projects – Planning Entitlement											
Ironwood Apartments APN: 099A-1441-050-00	5643 Charlotte Way @ East Ave.	Jeff Ratto	None	New apartments and parking lot	P- Arroyo Seco	662,343	343,100	69,100	0	343,100	412,200
Airport FBO	Terminal Circle Drive	Five Rivers	None	Hangars, Airport	H-Arroyo Las Positas	130,000	130,000	32,000	26,000	26,000	58,000

¹⁰ Include cross streets

¹¹ If a project is being constructed in phases, indicate the phase number and use a separate row entry for each phase. If not, enter "NA".

¹² Project Type is the type of development (i.e., new and/or redevelopment). Example descriptions of development are: 5-story office building, residential with 160 single-family homes with five 4-story buildings to contain 200 condominiums, 100 unit 2-story shopping mall, mixed use retail and residential development (apartments), industrial warehouse.

¹³ State the watershed(s) in which the Regulated Project is located. Downstream watershed(s) may be included, but this is optional.

¹⁴ All impervious surfaces added to any area of the site that was previously existing pervious surface.

¹⁵ All impervious surfaces added to any area of the site that was previously existing impervious surface.

¹⁶ For redevelopment projects, state the pre-project impervious surface area.

¹⁷ For redevelopment projects, state the post-project impervious surface area.

C.3.b.v.(1) ► Regulated Projects Reporting Table (part 1) – Projects Approved During the Fiscal Year Reporting Period

Project Name Project No.	Project Location ¹⁰ , Street Address	Name of Developer	Project Phase No. ¹¹	Project Type & Description ¹²	Project Watershed ¹³	Total Site Area (Acres)	Total Area of Land Disturbed (Acres)	Total New Impervious Surface Area (ft ²) ¹⁴	Total Replaced Impervious Surface Area (ft ²) ¹⁵	Total Pre- Project Impervious Surface Area ¹⁶ (ft ²)	Total Post- Project Impervious Surface Area ¹⁷ (ft ²)
SPDR 13-031		Aviation		Services							
Primose School PM10217	Las Positas Avenue	Jeff Hardy, Design Build Concepts	None	Day Care	H–Arroyo Las Positas	142,180	142,180	53,098	0	0	53,098
Garavanta Hills SUB13-001	North of Garavanta Ranch Road	RL Communities	None	47 Residential Homes	H–Arroyo Las Positas	450,000	250,000	180,000	0	0	180,000
Old Town Village-First & Inman – T8114	2375 Old First Street	Taylor Morrison	Phase 1	94 High Density Residential Homes	G–Arroyo Mocho	218,946	218,946	156529	24,080	24,080	156,529
Old Town Village-First & Inman – T8146	2375 Old First Street	Taylor Morrison	Phase 2	10 High Density Residential Homes	G–Arroyo Mocho	50,094	50,094	32254	4000	4,000	32,254
Old Town Village-First & Inman – T8173	2375 Old First Street	Mike Serpa	Phase 3A	26 High Density Residential Homes	G–Arroyo Mocho	68,450	68,450	0	456,450	58,250	456,450
Old Town Village-First & Inman – T8184	2375 Old First Street	Mike Serpa	Phase 3B	10 High Density Residential Homes	G–Arroyo Mocho	19,980	19,980	0	13,760	16,570	13,760
First and Portola T7633	3800 First Street	Taylor Morrison	None	70 Multi-Family Homes	G–Arroyo Mocho	163,992	163992	146158	0	0	146158
Crosswinds Church –PM9747 (SUBA14-003)	1660 Freisman Road	Dave Nielson	None	Church	H–Arroyo Las Positas	1,547,725	256568	91,391	75,108	60,123	166,499
Orchid Ranch T7671 (SUBA14- 002)	1330 Isabel Avenue	Ponderosa Homes	None	14 Residential Homes	G–Arroyo Mocho	212,254	212,254	47,800	43,000	43,000	90,880
Morning Glory T8125	Morning Glory Circle	Ponderosa Homes	None	26 Residential Homes	H–Arroyo Las Positas	242,052	242052	109692	9481	9481	109692

C.3.b.v.(1) ► Regulated Projects Reporting Table (part 1) – Projects Approved During the Fiscal Year Reporting Period

Project Name Project No.	Project Location ¹⁰ , Street Address	Name of Developer	Project Phase No. ¹¹	Project Type & Description ¹²	Project Watershed ¹³	Total Site Area (Acres)	Total Area of Land Disturbed (Acres)	Total New Impervious Surface Area (ft ²) ¹⁴	Total Replaced Impervious Surface Area (ft ²) ¹⁵	Total Pre- Project Impervious Surface Area ¹⁶ (ft ²)	Total Post- Project Impervious Surface Area ¹⁷ (ft ²)
Shea Sage T8121	Portola Avenue	Shea Homes	None	467 Residential Homes	H–Arroyo Las Positas	2,456,580	1,742,400	436,115	0	0	436,115
Brisa Neighborhood Plan – T7870	Brisa Street	Summerhill Homes	Phase 1-5	465 Single Family and Multi-Family Homes	H–Arroyo Las Positas	1,522,695	1,522,695	930,000	0	0	930,000
College Avenue T 8030	College Avenue	Porter Development	None	7 Single Family Homes	G–Arroyo Mocho	38,000	17,293	11,105	12,709	12,709	23,814
Oaks Business Park - Trammel Crow PM 10266	Voyager Street/Discovery Drive	Trammel Crow	Phase 1-2	3 Commercial Buildings, 635,533 SF, 294,940 SF, 367,734SF	H–Arroyo Las Positas	67.87 AC	67.87 AC	1,298,207 SF	0	0	1,298,207 SF
Oaks Business Park Phantom Site	Voyager Street/Discovery Drive	Trammel Crow	None	1 Commercial Building	H–Arroyo Las Positas						
Bluebell Condos T7724	Bluebell Avenue	KB Homes	None	Condominiums	H–Arroyo Las Positas	139,319	139,319	95,319	0	0	95,319
Catalina Crossings T8145	Barcelona Avenue	Sunset Development	None	Homes	G–Arroyo Mocho	94,034	94,032	0	61,855	61,855	61,855
Orchid Place	1130 Orchid Place	Patel	None	Custom Home	H–Arroyo Las Positas	11,725	2,398	2,398	0	0	2,398

C.3.b.v.(1) ► Regulated Projects Reporting Table (part 1) – Projects Approved During the Fiscal Year Reporting Period

Project Name Project No.	Project Location ¹⁰ , Street Address	Name of Developer	Project Phase No. ¹¹	Project Type & Description ¹²	Project Watershed ¹³	Total Site Area (Acres)	Total Area of Land Disturbed (Acres)	Total New Impervious Surface Area (ft ²) ¹⁴	Total Replaced Impervious Surface Area (ft ²) ¹⁵	Total Pre- Project Impervious Surface Area ¹⁶ (ft ²)	Total Post- Project Impervious Surface Area ¹⁷ (ft ²)
Private Projects – Final Map											
Brisa Neighborhood Plan – T7870	Brisa Street	Summerhill Homes	Phase 1-5	465 Single Family Homes	H–Arroyo Las Positas	1,522,695	1,522,695	930,000	0	0	930,000
Old Town Village-First & Inman – T8114	2375 Old First Street	Taylor Morrison	Phase 1	94 High Density Residential Homes	G–Arroyo Mocho	218,946	218,946	132,449	24,080	24,080	156,529
Old Town Village-First & Inman – T8146	2375 Old First Street	Taylor Morrison	Phase 2	10 High Density Residential Homes	G–Arroyo Mocho	50,094	50,094	28,254	4,000	4,000	32,254
First and Portola T7633	3800 First Street	Taylor Morrison	None	70 Multi-Family Homes	G–Arroyo Mocho	163,992	163,992	146,158	0	0	146,158
Morning Glory T8125	Morning Glory Circle	Ponderosa Homes	None	26 Single Family Homes	H–Arroyo Las Positas	242,052	242,052	109,692	9,481	9,481	109,692
Premium II Outlet Expansion PM10090	Livermore Outlets Drive	Simon Properties	None	200,000 SF Retail	H–Arroyo Las Positas	648,863	648,863	616,419	0	0	616,419
Positano T7840	North L and Chestnut Street	David Edgington Freedom LLC	None	10 Multi-Family Homes	G–Arroyo Mocho	24,829	24,829	17,250	4,311	4,311	17,250
Private Projects – Building Permits											
Crosswinds Church –PM9747	1660 Freisman Road	Dave Nielson	Phase 1	Worship Center, Parking Lot, Vineyard Buffer	H–Arroyo Las Positas	1,547,725	256,568	9,131	75,108	60,123	166,499
Old Town Village-First & Inman – T8114	2375 Old First Street	Taylor Morrison	Phase 1	94 High Density Residential Homes	G–Arroyo Mocho	218,946	218,946	132,449	24,081	24,080	156,529
Morning Glory T8125	Morning Glory Circle	Ponderosa Homes	None	26 Residential Homes	H–Arroyo Las Positas	242,052	242,052	109,692	9,481	9,481	109,692
First & Portola	3800 First Street	Taylor Morrison	None	70 Multi Family Homes	G–Arroyo Mocho	163,992	163,992	139,000	0	0	139,000

C.3.b.v.(1) ► Regulated Projects Reporting Table (part 1) – Projects Approved During the Fiscal Year Reporting Period

Project Name Project No.	Project Location ¹⁰ , Street Address	Name of Developer	Project Phase No. ¹¹	Project Type & Description ¹²	Project Watershed ¹³	Total Site Area (Acres)	Total Area of Land Disturbed (Acres)	Total New Impervious Surface Area (ft ²) ¹⁴	Total Replaced Impervious Surface Area (ft ²) ¹⁵	Total Pre- Project Impervious Surface Area ¹⁶ (ft ²)	Total Post- Project Impervious Surface Area ¹⁷ (ft ²)
Public Projects											
Airport Administration	Terminal Circle	City of Livermore	None	Airport Administration Building	H–Arroyo Las Positas	41,000	41,000	36,900	0	0	36,900
Airport FBO	Terminal Circle	Five Rivers Aviation	None	Airport Fixed Base Operator Building	H–Arroyo Las Positas	534,817	534,817	45,000	455,000	455,	500,000
Fire Station Number 9	1919 Cordoba Street	City of Livermore	None	Fire Station	G–Arroyo Mocho	18,673	18,673	0	17,740	17,740	17,740
ECSP Phase 2A	Livermore Outlets Drive	City of Livermore	None	Public road	H–Arroyo Las Positas	621,974	621,974	56,000	0	0	560,000
Freisman Park	Jack London Boulevard	City of Livermore	None	Public park	H–Arroyo Las Positas	500,000	500,000	50,000	0	0	50,000
Isabel Avenue	Isabel Avenue	City of Livermore	None	Public road	H–Arroyo Las Positas	1,088,896	823,284	146,015	677,269	653,286	969,299

C.3.b.v.(1) ► Regulated Projects Reporting Table (part 2) – Projects Approved During the Fiscal Year Reporting Period (private projects)

Project Name Project No.	Application Deemed Complete Date ¹⁸	Application Final Approval Date ¹⁹	Source Control Measures ²⁰	Site Design Measures ²¹	Treatment Systems Approved ²²	Type of Operation & Maintenance Responsibility Mechanism ²³	Hydraulic Sizing Criteria ²⁴	Alternative Compliance Measures ^{25/26}	Alternative Certification ²⁷	HM Controls ^{28/29}
Private Projects - Anticipated										
Kibler Harris	Pre-application	None	A,D & G	a	None Yet	None Yet	None Yet	NA	NA	None Yet
DT Hotel Site	Pre-application	None	A,D & G	a	None Yet	None Yet	None Yet	NA	NA	None Yet
Regional Theater	Pre-application	None	A,D & G	a	None Yet	None Yet	None Yet	NA	NA	None Yet
Tiffany Gardens	Pre-application	None	A,D & G	a	None Yet	None Yet	None Yet	NA	NA	None Yet
Sunset Homes T8144	Pre-application	None	A,D & G	a	None Yet	None Yet	None Yet	NA	NA	None Yet
Cabral/Frame Storage Yard SPDR 14-006	Incomplete	None	A,D & G	a	None Yet	None Yet	None Yet	NA	NA	None Yet
The Shoppes CUP14-001	Incomplete	None	A,D & G	a	None Yet	None Yet	None Yet	NA	NA	None Yet

¹⁸ For private projects, state project application deemed complete date. If the project did not go through discretionary review, report the building permit issuance date.

¹⁹ For private projects, state project application final discretionary approval date. If the project did not go through discretionary review, report the building permit issuance date.

²⁰ List source control measures approved for the project. Examples include: properly designed trash storage areas; storm drain stenciling or signage; efficient landscape irrigation systems; etc.

²¹ List site design measures approved for the project. Examples include: minimize impervious surfaces; conserve natural areas, including existing trees or other vegetation, and soils; construct sidewalks, walkways, and/or patios with permeable surfaces, etc.

²² List all approved stormwater treatment system(s) to be installed onsite or at a joint stormwater treatment facility (e.g., flow through planter, bioretention facility, infiltration basin, etc.).

²³ List the legal mechanism(s) (e.g., O&M agreement with private landowner; O&M agreement with homeowners' association; O&M by public entity, etc...) that have been or will be used to assign responsibility for the maintenance of the post-construction stormwater treatment systems.

²⁴ See Provision C.3.d.i. "Numeric Sizing Criteria for Stormwater Treatment Systems" for list of hydraulic sizing design criteria. Enter the corresponding provision number of the appropriate criterion (i.e., 1.a., 1.b., 2.a., 2.b., 2.c., or 3).

²⁵ For Alternative Compliance at an offsite location in accordance with Provision C.3.e.i.(1), on a separate page, give a discussion of the alternative compliance site including the information specified in Provision C.3.b.v.(1)(m)(i) for the offsite project.

²⁶ For Alternative Compliance by paying in-lieu fees in accordance with Provision C.3.e.i.(2), on a separate page, provide the information specified in Provision C.3.b.v.(1)(m)(ii) for the Regional Project.

²⁷ Note whether a third party was used to certify the project design complies with Provision C.3.d.

²⁸ If HM control is not required, state why not.

²⁹ If HM control is required, state control method used (e.g., method to design and size device(s) or method(s) used to meet the HM Standard, and description of device(s) or method(s) used, such as detention basin(s), bioretention unit(s), regional detention basin, or in-stream control).

C.3.b.v.(1) ► Regulated Projects Reporting Table (part 2) – Projects Approved During the Fiscal Year Reporting Period (private projects)

Project Name Project No.	Application Deemed Complete Date ¹⁸	Application Final Approval Date ¹⁹	Source Control Measures ²⁰	Site Design Measures ²¹	Treatment Systems Approved ²²	Type of Operation & Maintenance Responsibility Mechanism ²³	Hydraulic Sizing Criteria ²⁴	Alternative Compliance Measures ^{25/26}	Alternative Certification ²⁷	HM Controls ^{28/29}
Private Projects – Planning Entitlement										
Ironwood Apartments APN:099A-1441-050-00	Application submitted	None	A,D & G	a	None Yet	None Yet	None Yet	NA	NA	None Yet
Airport FBO SPDR 13-031	3-15-14	4-15-14	A,D & G	a	None Yet	None Yet	None Yet	NA	NA	None Yet
Primrose School PM10217	Pre-application	None	A,D & G	a	None Yet	None Yet	None Yet	NA	NA	None Yet
Garavanta Hills SUB 13-001	7-12	None	A,D & G	a	None Yet	None Yet	None Yet	NA	NA	None Yet
Old Town Village First & Inman T8114	5-15-12	7-23-12	A,D & G	a	Bio-retention	O&M Agreement	Volume	NA	NA	Bio-retention
Old Town Village First & Inman T8146	5-18-13	10-28-13	A,D & G	a	Bio-retention	O&M Agreement	Volume	NA	NA	Bio-retention
Old Town Village First & Inman T8173	5-18-13	10-28-14	A,D & G	a	Bio-retention	O&M Agreement	Volume	NA	NA	Bio-retention
Old Town Village First & Inman T8184	5-15-14	Not yet	A,D & G	a	Bio-retention	O&M Agreement	Not Yet	NA	NA	Bio-retention
First and Portola T7633	6-6-05	5-17-11	A,D & G	a	Bio-retention	O&M Agreement	Volume	NA	NA	Bio-retention
Crosswinds Church PM9747 SUBA 14-031	8-7-14	8-14-14	A,D & G	a	Bio-retention	O&M Agreement	Volume	NA	NA	Bio-retention
Orchid Ranch T7671 SUBA 14-002	4-30-14	9-8-14	A,D & G	a	Bio-retention	O&M Agreement	Volume	NA	NA	Bio-retention
Moring Glory T8125	6-14-13	9-23-13	A,D & G	a	Bio-retention	O&M Agreement	Volume	NA	NA	Bio-retention

C.3.b.v.(1) ► Regulated Projects Reporting Table (part 2) – Projects Approved During the Fiscal Year Reporting Period (private projects)

Project Name Project No.	Application Deemed Complete Date ¹⁸	Application Final Approval Date ¹⁹	Source Control Measures ²⁰	Site Design Measures ²¹	Treatment Systems Approved ²²	Type of Operation & Maintenance Responsibility Mechanism ²³	Hydraulic Sizing Criteria ²⁴	Alternative Compliance Measures ^{25/26}	Alternative Certification ²⁷	HM Controls ^{28/29}
Shea Sage T8121	4-20-14	7-28-14	A,D & G	a	Bio-retention	O&M Agreement	Volume	NA	NA	Bio-retention
Brisa Neighborhood Plan – T7870	10-5-13	1-13-14	A,D & G	a	Bio-retention	O&M Agreement	Volume	NA	NA	Bio-retention
College Ave. T8030	7-25-08	3-10-10	A,D & G	a	Bio-retention	O&M Agreement	Volume	NA	NA	Bio-retention
Oaks Business Park Trammel Crow PM 10266	7-16-14	Not yet	A,D & G	a	None Yet	None Yet	None Yet	NA	NA	None Yet
Oaks Business Park Phantom Site	6-8-14	6-20-14	A,D & G	a	None Yet	None Yet	None Yet	NA	NA	
Bluebell Condos T7724	5-19-14	7-14-14	A,D & G	a	Bio-retention	O&M Agreement	Volume	NA	NA	Bio-retention
Catalina Crossing T8145	5-3-14	7-14-14	A,D & G	a	Bio-retention	O&M Agreement	Volume	NA	NA	Bio-retention

C.3.b.v.(1) ► Regulated Projects Reporting Table (part 2) – Projects Approved During the Fiscal Year Reporting Period (private projects)

Project Name Project No.	Application Deemed Complete Date ¹⁸	Application Final Approval Date ¹⁹	Source Control Measures ²⁰	Site Design Measures ²¹	Treatment Systems Approved ²²	Type of Operation & Maintenance Responsibility Mechanism ²³	Hydraulic Sizing Criteria ²⁴	Alternative Compliance Measures ^{25/26}	Alternative Certification ²⁷	HM Controls ^{28/29}
Private Projects – Building Permits										
Crosswinds Church PM9747	5-20-14	5-21-14	A,D & G	a	Bio-retention	O&M Agreement	Volume	NA	NA	Bio-retention
Old Town Village First & Inman T8114	2-27-14	2-28-14	A,D & G	a	Bio-retention	O&M Agreement	Volume	NA	NA	Bio-retention
Morning Glory T8125	4-24-14	2-28-14	A,D & G	a	Bio-retention	O&M Agreement	Volume	NA	NA	Bio-retention
First and Portola T7633	2-27-14	2-28-14	A,D & G	a	Bio-retention	O&M Agreement	Volume	NA	NA	Bio-retention
1130 Orchid Place	5-20-14	Not Yet	A	a	Bio-retention	O&M Agreement	Volume	NA	NA	Bio-retention

C.3.b.v.(1) ► Regulated Projects Reporting Table (part 2) – Projects Approved During the Fiscal Year Reporting Period (public projects)

Project Name Project No.	Approval Date ³⁰	Date Construction Scheduled to Begin	Source Control Measures ³¹	Site Design Measures ³²	Treatment Systems Approved ³³	Operation & Maintenance Responsibility Mechanism ³⁴	Hydraulic Sizing Criteria ³⁵	Alternative Compliance Measures ^{36/37}	Alternative Certification ³⁸	HM Controls ^{39/40}
Public Projects										
Airport	July -13	Jan-14	A,B,D,F,G,H		Bio-retention	Maintained by	Volume	NA	NA	Bio-retention

³⁰ For public projects, enter the plans and specifications approval date.

³¹ List source control measures approved for the project. Examples include: properly designed trash storage areas; storm drain stenciling or signage; efficient landscape irrigation systems; etc.

³² List site design measures approved for the project. Examples include: minimize impervious surfaces; conserve natural areas, including existing trees or other vegetation, and soils; construct sidewalks, walkways, and/or patios with permeable surfaces, etc.

³³ List all approved stormwater treatment system(s) to be installed onsite or at a joint stormwater treatment facility (e.g., flow through planter, bioretention facility, infiltration basin, etc.).

³⁴ List the legal mechanism(s) (e.g., maintenance plan for O&M by public entity, etc...) that have been or will be used to assign responsibility for the maintenance of the post-construction stormwater treatment systems.

³⁵ See Provision C.3.d.i. "Numeric Sizing Criteria for Stormwater Treatment Systems" for list of hydraulic sizing design criteria. Enter the corresponding provision number of the appropriate criterion (i.e., 1.a., 1.b., 2.a., 2.b., 2.c., or 3).

³⁶ For Alternative Compliance at an offsite location in accordance with Provision C.3.e.i.(1), on a separate page, give a discussion of the alternative compliance site including the information specified in Provision C.3.b.v.(1)(m)(i) for the offsite project.

³⁷ For Alternative Compliance by paying in-lieu fees in accordance with Provision C.3.e.i.(2), on a separate page, provide the information specified in Provision C.3.b.v.(1)(m)(ii) for the Regional Project.

³⁸ Note whether a third party was used to certify the project design complies with Provision C.3.d.

³⁹ If HM control is not required, state why not.

⁴⁰ If HM control is required, state control method used (e.g., method to design and size device(s) or method(s) used to meet the HM Standard, and description of device(s) or method(s) used, such as detention basin(s), bioretention unit(s), regional detention basin, or in-stream control).

C.3.b.v.(1) ► Regulated Projects Reporting Table (part 2) – Projects Approved During the Fiscal Year Reporting Period (private projects)

Project Name Project No.	Application Deemed Complete Date ¹⁸	Application Final Approval Date ¹⁹	Source Control Measures ²⁰	Site Design Measures ²¹	Treatment Systems Approved ²²	Type of Operation & Maintenance Responsibility Mechanism ²³	Hydraulic Sizing Criteria ²⁴	Alternative Compliance Measures ^{25/26}	Alternative Certification ²⁷	HM Controls ^{28/29}
Administration						City Staff				
Airport FBO	Pending	Pending	A,D & G	a	Bio-retention	Maintained by City Staff	Volume	NA	NA	Bio-retention
Fire Station Number 9	Pending	Pending			Bio-retention	Maintained by City Staff	Volume	NA	NA	Bio-retention
ECSP Phase 2A	Dec-13	April-14	A,D & G	a	Bio-retention	Maintained by City Staff	Volume	NA	NA	Bio-retention
Freisman Park	July -14	Oct-14	A,D & G	a	Bio-retention	Maintained by City Staff	Volume	NA	NA	Bio-retention
Isabel Interchange Portola APN:099-026001204	Dec-08	Dec-09	A,D & G	a	Bio-retention	Maintained by City Staff	Volume	NA	NA	Bio-retention
Galaxy Ct. Flood Protection	April -14	Aug-14		Infiltration	Infiltration MEP	N/A	N/A	N/A	N/A	N/A
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C.3.b.v.(1) ► Regulated Projects Reporting Table (part 2) – Projects Approved During the Fiscal Year Reporting Period (private projects)

Project Name Project No.	Application Deemed Complete Date ⁴¹	Application Final Approval Date ⁴²	Source Control Measures ⁴³	Site Design Measures ⁴⁴	Treatment Systems Approved ⁴⁵	Type of Operation & Maintenance Responsibility Mechanism ⁴⁶	Hydraulic Sizing Criteria ⁴⁷	Alternative Compliance Measures ^{48/49}	Alternative Certification ⁵⁰	HM Controls ^{51/52}
Reference footnotes below for private project tables.										

⁴¹ For private projects, state project application deemed complete date. If the project did not go through discretionary review, report the building permit issuance date.

⁴² For private projects, state project application final discretionary approval date. If the project did not go through discretionary review, report the building permit issuance date.

⁴³ List source control measures approved for the project. Examples include: properly designed trash storage areas; storm drain stenciling or signage; efficient landscape irrigation systems; etc.

⁴⁴ List site design measures approved for the project. Examples include: minimize impervious surfaces; conserve natural areas, including existing trees or other vegetation, and soils; construct sidewalks, walkways, and/or patios with permeable surfaces, etc.

⁴⁵ List all approved stormwater treatment system(s) to be installed onsite or at a joint stormwater treatment facility (e.g., flow through planter, bioretention facility, infiltration basin, etc.).

⁴⁶ List the legal mechanism(s) (e.g., O&M agreement with private landowner; O&M agreement with homeowners' association; O&M by public entity, etc...) that have been or will be used to assign responsibility for the maintenance of the post-construction stormwater treatment systems.

⁴⁷ See Provision C.3.d.i. "Numeric Sizing Criteria for Stormwater Treatment Systems" for list of hydraulic sizing design criteria. Enter the corresponding provision number of the appropriate criterion (i.e., 1.a., 1.b., 2.a., 2.b., 2.c., or 3).

⁴⁸ For Alternative Compliance at an offsite location in accordance with Provision C.3.e.i.(1), on a separate page, give a discussion of the alternative compliance site including the information specified in Provision C.3.b.v.(1)(m)(i) for the offsite project.

⁴⁹ For Alternative Compliance by paying in-lieu fees in accordance with Provision C.3.e.i.(2), on a separate page, provide the information specified in Provision C.3.b.v.(1)(m)(ii) for the Regional Project.

⁵⁰ Note whether a third party was used to certify the project design complies with Provision C.3.d.

⁵¹ If HM control is not required, state why not.

⁵² If HM control is required, state control method used (e.g., method to design and size device(s) or method(s) used to meet the HM Standard, and description of device(s) or method(s) used, such as detention basin(s), bioretention unit(s), regional detention basin, or in-stream control).

C.3.b.v.(1) ► Regulated Projects Reporting Table (part 2) – Projects Approved During the Fiscal Year Reporting Period (public projects)										
Project Name Project No.	Approval Date ⁵³	Date Construction Scheduled to Begin	Source Control Measures ⁵⁴	Site Design Measures ⁵⁵	Treatment Systems Approved ⁵⁶	Operation & Maintenance Responsibility Mechanism ⁵⁷	Hydraulic Sizing Criteria ⁵⁸	Alternative Compliance Measures ^{59/60}	Alternative Certification ⁶¹	HM Controls ^{62/63}
Comments: Reference footnotes below for public projects.										

⁵³ For public projects, enter the plans and specifications approval date.

⁵⁴ List source control measures approved for the project. Examples include: properly designed trash storage areas; storm drain stenciling or signage; efficient landscape irrigation systems; etc.

⁵⁵ List site design measures approved for the project. Examples include: minimize impervious surfaces; conserve natural areas, including existing trees or other vegetation, and soils; construct sidewalks, walkways, and/or patios with permeable surfaces, etc.

⁵⁶ List all approved stormwater treatment system(s) to be installed onsite or at a joint stormwater treatment facility (e.g., flow through planter, bioretention facility, infiltration basin, etc.).

⁵⁷ List the legal mechanism(s) (e.g., maintenance plan for O&M by public entity, etc...) that have been or will be used to assign responsibility for the maintenance of the post-construction stormwater treatment systems.

⁵⁸ See Provision C.3.d.i. "Numeric Sizing Criteria for Stormwater Treatment Systems" for list of hydraulic sizing design criteria. Enter the corresponding provision number of the appropriate criterion (i.e., 1.a., 1.b., 2.a., 2.b., 2.c., or 3).

⁵⁹ For Alternative Compliance at an offsite location in accordance with Provision C.3.e.i.(1), on a separate page, give a discussion of the alternative compliance site including the information specified in Provision C.3.b.v.(1)(m)(i) for the offsite project.

⁶⁰ For Alternative Compliance by paying in-lieu fees in accordance with Provision C.3.e.i.(2), on a separate page, provide the information specified in Provision C.3.b.v.(1)(m)(ii) for the Regional Project.

⁶¹ Note whether a third party was used to certify the project design complies with Provision C.3.d.

⁶² If HM control is not required, state why not.

⁶³ If HM control is required, state control method used (e.g., method to design and size device(s) or method(s) used to meet the HM Standard, and description of device(s) or method(s) used, such as detention basin(s), bioretention unit(s), regional detention basin, or in-stream control).

C.3.h.iv. ► Table of Installed Stormwater Treatment Systems Operation and Maintenance Verification Inspection Program Reporting

Fill in table below or attach your own table including the same information.

Inspections of Newly Installed Stormwater Treatment Systems

Name of Facility/Site Inspected	Address of Facility/Site Inspected	Newly Installed? (YES/NO) ⁶⁴	Party Responsible ⁶⁵ For Maintenance	Date of Inspection	Type of Inspection ⁶⁶	Type of Treatment/HM Control(s) Inspected ⁶⁷	Inspection Findings or Results ⁶⁸	Enforcement Action Taken ⁶⁹	Comments/Follow-up
Meritage APN: 099B-535100900 T8075	6412 Scenic Avenue	Yes	Meritage Home Joshua Roden	1/14/13 6/30/13	45-day	Swales	Installed Properly	None	
Vinsanto Phase 1, T8045	Caldera and San Vicente Dr.	Yes	Ponderosa Jeff Shaffer	6/30/13	45-day	Swales	Installed Properly	None	
Vinsanto Phase 2, T8091	Caldera and San Vicente Dr.	Yes	Ponderosa Jeff Shaffer	6/30/13	45-day	Swales	Installed Properly	None	
The Grove Ph. 2 APN: 099-137800305 T7552	Sonia St / N Milnes Rd. Old Hexcel site	Yes	Northbrook Homes Gary Brooks	6/30/13	45-day	Swales	Installed Properly	None	
The Grove Ph. 3 APN: 099-137800305 T7552	Sonia St / N Milnes Rd. Old Hexcel site	Yes	Northbrook Homes Gary Brooks	8/11/14	45-day	Swales	Installed Properly	None	
Magnolia APN: 099B-507500608 T8061	1000 Vasco Road, North.	Yes	Standard Pacific Aaron Ross-Swain	7/26/13	45-day	Swales	Installed Properly	None	

⁶⁴ Indicate "YES" if the facility was installed within the reporting period, or "NO" if installed during a previous fiscal year.

⁶⁵ State the responsible operator for installed stormwater treatment systems and HM controls.

⁶⁶ State the type of inspection (e.g., 45-day, routine or scheduled, follow-up, etc.).

⁶⁷ State the type(s) of treatment systems inspected (e.g., bioretention facility, flow-through planter, infiltration basin, etc...) and the type(s) of HM controls inspected, and indicate whether the treatment system is an onsite, joint, or offsite system.

⁶⁸ State the inspection findings or results (e.g., proper installation, improper installation, proper O&M, immediate maintenance needed, etc.).

⁶⁹ State the enforcement action(s) taken, if any.

C.3.h.iv. ► Table of Installed Stormwater Treatment Systems Operation and Maintenance Verification Inspection Program Reporting

Fill in table below or attach your own table including the same information.
Inspections of Newly Installed Stormwater Treatment Systems

Name of Facility/Site Inspected	Address of Facility/Site Inspected	Newly Installed? (YES/NO) ⁶⁴	Party Responsible ⁶⁵ For Maintenance	Date of Inspection	Type of Inspection ⁶⁶	Type of Treatment/HM Control(s) Inspected ⁶⁷	Inspection Findings or Results ⁶⁸	Enforcement Action Taken ⁶⁹	Comments/Follow-up
Hexcel APN: 099-137500304 T7782	75 Mines Road North	Yes	Northbrook Homes, Gary Brooks	6/30/13	45-day	Swales	Installed Properly	None	
Cayetano Park FNLMP05018 Shea Homes T7610	Portola and Campus Hill Drive	Yes	Shea Homes Northern Cal Dave Best	6/30/14	45-day	Swales	Installed Properly	None	
Wheelworks APN: 099-00150800 PMW10054	2852 Las Positas	Yes	Las Positas Partners, LLC, Paul B Smith	6/30/13	45-day	Swales	Installed Properly	None	
Hindu Temple Addition APN:099B-51250054 099B-51250055 099B-51250056 CB12004	240 Arrowhead Ave	Yes	Arvind Lyer Hindu Temple Representative	6/30/13	45-day	Swales	Installed Properly	None	
Hindu Community and Cultural Center APN:099B-510000701	240 Arrowhead Ave	Yes	Arvind Lyer Hindu Temple Representative	6/30/13	45-day	Swales	Installed Properly	None	

C.3.h.iv. ► Table of Installed Stormwater Treatment Systems Operation and Maintenance Verification Inspection Program Reporting

Fill in table below or attach your own table including the same information.

Inspections of Newly Installed Stormwater Treatment Systems

Name of Facility/Site Inspected	Address of Facility/Site Inspected	Newly Installed? (YES/NO) ⁶⁴	Party Responsible ⁶⁵ For Maintenance	Date of Inspection	Type of Inspection ⁶⁶	Type of Treatment/HM Control(s) Inspected ⁶⁷	Inspection Findings or Results ⁶⁸	Enforcement Action Taken ⁶⁹	Comments/Follow-up
Toyota PM 9707 APN: 099B-535101605 G12003 PM9707	Northfront Road	Yes	Toyota	3/27/14	45-day	Swales	Installed Properly	None	
Paragon Outlets PM9393 SUBA 10-001	2800 Paragon Outlets Drive	Yes	Peter Sandholt, Craig&Grant Flynn	6/30/14	45-day	Swales	Installed Properly	None	
Silver Oaks II Skilled Nursing Home Facility APN: 097-009002909	752 Holmes Street	Yes	Anelli Stamm (Freanel & Son Som. LLC	6/30/14	45-day	Swales	Installed Properly	None	
Protein Research G 13004	1852 Rutan Drive	Yes	Kier & Wright Engr. RW 45-dayatheson 2012 Trust	5/10/13	45-day	Swales	Installed Properly	None	
752 Kalthoff Common APN: 099-134302700 D 120209	752 Kalthoff Common	Yes	Hawk Bullders Inc. Dba Hawk Barry & Joan Wright	1/21/14	45-day	Swales	Installed Properly	None	
Public Projects									
Isabel I/C Portola APN: 099-026001204	Isabel (SR-84), Airway Kitty Hawk	Yes	City of Livermore	6/30/13	45-day	Swales	Installed Properly	None	

C.3.h.iv. ► Table of Installed Stormwater Treatment Systems Operation and Maintenance Verification Inspection Program Reporting

Fill in table below or attach your own table including the same information.
Inspections of Newly Installed Stormwater Treatment Systems

Name of Facility/Site Inspected	Address of Facility/Site Inspected	Newly Installed? (YES/NO) ⁶⁴	Party Responsible ⁶⁵ For Maintenance	Date of Inspection	Type of Inspection ⁶⁶	Type of Treatment/HM Control(s) Inspected ⁶⁷	Inspection Findings or Results ⁶⁸	Enforcement Action Taken ⁶⁹	Comments/Follow-up
Isabel I/C Portola Projects 1992381 & 1992382 2 APN: 099-026001204	Isabel (SR-84), Airway Kitty Hawk	Yes	City of Livermore	6/30/13	45-day	Swales	Installed Properly	None	
El Charro Specific Plan (Proj. 2007201) APN: 904-001300100	El Charro Specific Plan - South of I 580; East of El Charro Road	Yes	City of Livermore and Various Others	6/30/13	45-day	Swales	Installed Properly	None	
Iron Horse Trail Bridge (201040)	N. Livermore Ave.	Yes	City of Livermore	6/30/13	45-day	Swales	Installed Properly	None	
East vineyard Realignment (199660)	Vineyard @ Vallecitos	Yes	City of Livermore	6/30/14	45-day	Swales	Installed Properly	None	

C.3.h.iv. ► Table of Installed Stormwater Treatment Systems Operation and Maintenance Verification Inspection Program Reporting

Fill in table below or attach your own table including the same information.
Inspections of Previously Installed Stormwater Treatment Systems

Name of Facility/Site Inspected	Address of Facility/Site Inspected	Newly Installed? (YES/NO) ⁷⁰	Party Responsible ⁷¹ For Maintenance	Date of Inspection	Type of Inspection ⁷²	Type of Treatment/HM Control(s) Inspected ⁷³	Inspection Findings or Results ⁷⁴	Enforcement Action Taken ⁷⁵	Comments/Follow-up
Admedes, Inc.	2800 Collier Canyon Road	NO	Admedes, Inc	07/26/2013	Routine	Infiltration Basin/Swales	Compliant	None	None
Packaging Innovators	6650 National Drive	NO	Packaging Innovators	07/18/2013	Routine	Drain Inserts	Compliant	None	None
Sunbelt Rentals	4977 Southfront Road	NO	Sunbelt Rentals	08/27/2013	Routine	Swales	Compliant	None	None
Form Factor, Inc.	7005 Southfront Road	NO	Form Factor, Inc.	08/27/2013	Routine	Swales	Compliant	None	None
Heritage Estates	800 East Stanley Blvd.	NO	Heritage Estates	08/29/2013	Routine	Vortex Separator	Maintenance Required	Warning Notice	09/16/2013
Heritage Estates	800 East Stanley Blvd.	NO	Heritage Estates	09/16/2013	Follow-Up	Vortex Separator	Separator has been service and is clean	None	None
California Dept. of Transportation	6153 Southfront Road	NO	California Dept. of Transportation	10/3/2013	Routine	Water Quality Inlets-Oil/Grit Separator	Compliant	None	None
Wheel Works	2868 Southfront Road	NO	Wheel Works	10/3/2013	Routine	Swales	Compliant	None	None
U.S. Foods	300 Lawrence Drive	NO	U.S. Foods	10/15/2013	Routine	Extended Detention Basin	Compliant	None	None
Boatmasters	5162 Preston Ave.	NO	Boatmasters	10/29/2013	Routine	Swales	Invasive Weeds/Vegetation	None	None
Interstate Storage	1800 Sutter Street	NO	Interstate Storage	10/31/2013	Routine	Swales	Compliant	None	None

⁷⁰ Indicate "YES" if the facility was installed within the reporting period, or "NO" if installed during a previous fiscal year.

⁷¹ State the responsible operator for installed stormwater treatment systems and HM controls.

⁷² State the type of inspection (e.g., 45-day, routine or scheduled, follow-up, etc.).

⁷³ State the type(s) of treatment systems inspected (e.g., bioretention facility, flow-through planter, infiltration basin, etc...) and the type(s) of HM controls inspected, and indicate whether the treatment system is an onsite, joint, or offsite system.

⁷⁴ State the inspection findings or results (e.g., proper installation, improper installation, proper O&M, immediate maintenance needed, etc.).

⁷⁵ State the enforcement action(s) taken, if any.

C.3.h.iv. ► Table of Installed Stormwater Treatment Systems Operation and Maintenance Verification Inspection Program Reporting

Fill in table below or attach your own table including the same information.

Inspections of Previously Installed Stormwater Treatment Systems

Name of Facility/Site Inspected	Address of Facility/Site Inspected	Newly Installed? (YES/NO) ⁷⁰	Party Responsible ⁷¹ For Maintenance	Date of Inspection	Type of Inspection ⁷²	Type of Treatment/HM Control(s) Inspected ⁷³	Inspection Findings or Results ⁷⁴	Enforcement Action Taken ⁷⁵	Comments/Follow-up
Penske Truck Leasing	6211 Las Positas Road	NO	Penske Truck Leasing	11/18/2013	Routine	Swales	Poor drainage/slope from parking lot to swale/design issues	None	None
Condon Johnson & Associates	7770 Hawthorne Ave.	NO	Condon Johnson & Associates	12/18/2013	Routine	Drain Inserts	Compliant	None	None
LPFD Station #10	330 Airway Blvd	NO	City of Livermore	12/20/2013	Routine	Swales	Compliant	None	None
Livermore Toyota	6200 Northfront Road	NO	Livermore Toyota	1/21/2014	45-Day	Swales	Compliant	None	None
Zone 7 Water Agency	100 North Canyons Parkway	NO	Zone 7 Water Agency	1/23/2014	Routine	Swales	Compliant	None	None
L.A.V. T. A.	875 Atlantis Ct.	NO	L.A.V.T.A.	01/23/2014	Routine	Infiltration Basin	Compliant	None	None
Admedes, Inc	2800 Collier Canyon Road	NO	Admedes, Inc.	02/14/2014	Routine	Swales/Infiltration Basin	Compliant	None	None
John Deere Landscapes	5380 Brisa Street	NO	John Deere Landscapes	02/12/2014	Routine	Swales	Invasive Weeds/Vegetation	None	None
Dun-Rite Excavating	5382 Brisa Street	NO	Dun-Rite Excavating	02/12/2014	Routine	Swales	Compliant	None	None
Clark Pest Control	2313 Research Drive	NO	Clark Pest Control	03/10/2014	Routine	Swales	Compliant	None	None
Walgreens	1620 First Street	NO	BDC Livermore	04/01/2014	Routine	Extended Detention Basin	Compliant	None	None
Livermore Sanitation	7000 National Drive	NO	Livermore Sanitation	06/11/2014	Routine	Bioretention Area	Erosion or Scouring	None	None

C.3.e.vi.Special Projects Reporting Table												
Reporting Period – January 1 – June 30, 2013												
Project Name & No.	Permittee	Address	Application Submittal Date ⁷⁶	Status ⁷⁷	Description ⁷⁸	Site Total Acreage	Density DU/Acre	Density FAR	Special Project Category ⁷⁹	LID Treatment Reduction Credit Available ⁸⁰	List of LID Stormwater Treatment Systems ⁸¹	List of Non-LID Stormwater Treatment Systems ⁸²
The City did not approve any projects that qualified as “Special Projects” during this reporting period.												

⁷⁶ Date that a planning application for the Special Project was submitted.

⁷⁷ Indicate whether final discretionary approval is still pending or has been granted, and provide the date or version of the project plans upon which reporting is based.

⁷⁸ Type of project (commercial, mixed-use, residential), number of floors, number of units, type of parking, and other relevant information.

⁷⁹ For each applicable Special Project Category, list the specific criteria applied to determine applicability. For each non-applicable Special Project Category, indicate n/a.

⁸⁰ For each applicable Special Project Category, state the maximum total LID Treatment Reduction Credit available. For Category C Special Projects also list the individual Location, Density, and Minimized Surface Parking Credits available.

⁸¹ List all LID stormwater treatment systems proposed. For each type, indicate the percentage of the total amount of runoff identified in Provision C.3.d. for the Special Project's drainage area.

⁸² List all non-LID stormwater treatment systems proposed. For each type of non-LID treatment system, indicate: (1) the percentage of the total amount of runoff identified in Provision C.3.d. for the Special Project's drainage area, and (2) whether the treatment system either meets minimum design criteria published by a government agency or received certification issued by a government agency, and reference the applicable criteria or certification.

Section 4 – Provision C.4 Industrial and Commercial Site Controls

Program Highlights

Provide background information, highlights, trends, etc.
See Section C.4 – Industrial and Commercial Site Control – of the ACCWP FY 13-14 Annual Report for a summary of Program activities.

C.4.b.i. ► Business Inspection Plan

Do you have a Business Inspection Plan? Yes No
If No, explain:

C.4.b.iii.(1) ► Potential Facilities List

List below or attach your list of industrial and commercial facilities in your Inspection Plan to inspect that could reasonably be considered to cause or contribute to pollution of stormwater runoff.
The City of Livermore developed a 5-Year Inspection Plan in 2010 to comply with the requirements as prescribed in Section C.4.b of the Municipal Regional Stormwater Permit. Please refer to the attached document entitled "Stormwater Industrial and Commercial Inspection Plan" (Attachment C.4). Prior to the start of each fiscal year, City of Livermore Source Control Staff query the City's Business License Data Base to insure the most accurate facility inspection list for the specific types of facilities designated for inspection during the reporting period.

C.4.b.iii.(2) ► Facilities Scheduled for Inspection

List below or attach your list of facilities scheduled for inspection during the current fiscal year.
During the Fiscal Year 2014/2015, the City of Livermore plans to perform 130 stormwater facility inspections comprised of the following:

1. All industrial/commercial facilities permitted under the City's Pretreatment Program (97 facilities of which 12 are also NOI facilities)
2. All NOI Facilities (18 facilities)
3. All facilities listed under SIC3599-Industrial and Commercial Machinery and Equipment, SIC3679-Electronic Components Manufacturing, and SIC3089-Plastic Products (27 facilities)

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C.4.c.iii.(1) ► Facility Inspections

Fill out the following table or attach a summary of the following information. Indicate your violation reporting methodology below.

<input checked="" type="checkbox"/>	Permittee reports multiple discrete violations on a site as one violation.
<input type="checkbox"/>	Permittee reports the total number of discrete violations on each site.

	Number	Percent
Number of businesses inspected	212	
Total number of inspections conducted	220	
Number of violations (excluding verbal warnings)	5	
Sites inspected in violation	5	2.3%
Violations resolved within 10 working days or otherwise deemed resolved in a longer but still timely manner	5	100%

Comments: **Violations that were classified as an illicit discharge were corrected on the day the event was observed. All other violations were corrected within 10 working days.**

C.4.c.iii.(2) ► Frequency and Types/Categories of Violations Observed

Fill out the following table or attach a summary of the following information.

Type/Category of Violations Observed	Number of Violations
Actual discharge (e.g. active non-stormwater discharge or clear evidence of a recent discharge)	3
Potential discharge and other	2

Comments:
 The three illicit discharges are classified as streams are counted as one discharge per inspection per site.

C.4.c.iii.(2) ► Frequency and Type of Enforcement Conducted

Fill out the following table or attach a summary of the following information.

	Enforcement Action (as listed in ERP) ⁷⁷	Number of Enforcement Actions Taken	% of Enforcement Actions Taken⁷⁸
Level 1	Verbal Warning	10	67%
Level 2	Warning Letter	1	6.5%
Level 3	Notice of Violation	1	6.5%
Level 4	Notice of Violation with Administrative Citation	3	20%
Total		15	100%

C.4.c.iii.(3) ► Types of Violations Noted by Business Category

Fill out the following table or attach a summary of the following information.

Business Category⁷⁹	Number of Actual Discharge Violations	Number of Potential/Other Discharge Violations
Commercial/Retail		
Winery/Tasting Rooms		
Industrial/Manufacturing		1
Construction		5
Gasoline Station		
Warehouse/Transportation		
Food Service Establishment	3	2
Automobile Dealership		2
Las Positas Golf Course		1
Livermore Pleasanton Fire Department- Station 8		1

C.4.c.iii.(4) ► Non-Filers

List below or attach a list of the facilities required to have coverage under the Industrial General Permit but have not filed for coverage:

Triple S Metal was a new facility that was determined to need coverage during this reporting period. Triple S has filed an NOI for coverage.

⁷⁷ Agencies to list specific enforcement actions as defined in their ERPs.

⁷⁸ Percentage calculated as number of each type of enforcement action divided by the total number of enforcement actions.

⁷⁹ List your Program's standard business categories.

C.4.d.iii ► Staff Training Summary				
Training Name	Training Dates	Topics Covered	No. of Inspectors in Attendance	Percent of Inspectors in Attendance
ACCWP Stormwater Business Inspectors Workshop: Enforcement Tools	November 14, 2013	<ul style="list-style-type: none"> • Using the Enforcement Response Plan • Enforcement Case Scenarios • BMPs for Businesses • Controlling Pre-production Plastics 	3	75%
CWEA Annual Conference	April 2014	Stormwater Illicit Discharge, Facility Inspection, LID/New Development	1	25%
CWEA P3S Conference	February 2014	Stormwater Illicit Discharge, Facility Inspection, LID/New Development	1	25%
CASQA Annual Conference	September 2013	Stormwater Illicit Discharge, Facility Inspection, LID/New Development	2	50%

Section 5 – Provision C.5 Illicit Discharge Detection and Elimination

Program Highlights

Provide background information, highlights, trends, etc.

See Section C.5 – Illicit Discharge Detection and Elimination – of the ACCWP FY 13-14 Annual Report for a summary of Program activities. The City of Livermore has established a priority screening list of outfalls to routinely inspect for illicit discharge activities. Inspections are documented using the City’s “Storm System Screening Form”. The following is the priority list of Outfalls to survey for illicit discharge activity:

OUTFALL ID#	SIZE	LOCATION
OF2G01	48"	N. Vasco / Garaventa Ranch
OF2G02	36"	Broadmoore St.
OF3C01	66" x2	Collier Canyon Rd. / Heligan Ln.
OF3F01	42"	Redwood Rd. / Autumn Oak Rd.
OF3G01	36"	Hollyhock St. / Golf Course
OF3G02	42"	Bluebell Dr. / Golf Course
OF3G03	36"	Central Ave. / Lobelia Wy.
OF3G04	54"	Vasco Rd.
OF3G05	42"	Vasco Rd.
OF3H01	48"	Northfront Rd.
OF4C01	72" x2	Collier Canyon Rd. / Portola Ave.
OF4C02	48"	Constitution Dr.
OF4C03	36"	Airway Blvd.
OF4C04	48"	Airway Blvd. / Kitty Hawk Rd.
OF4C05	36"	Airway Blvd. / Kitty Hawk Rd.
OF4C06	30"	Airway Blvd. / Starbucks
OF4C07	36"	Off Ramp of Airway Blvd.
OF4C08	24"	Off Ramp of Airway Blvd. / Zone 7
OF4D01	60"	Shea Center
OF4D02	48"	East Airway Blvd.
OD4D03	60"	Paseo Laguna Seco
OF4E01	48"	N. Livermore
OF4E02	42"	Las Positas / Kaiser Buiding
OF4E03	27"	Las Positas / Post Office
OF4F01	60"	First St. / Las Positas

OUTFALL ID#	SIZE	LOCATION
OF4G01	48"	Arroyo Vista
OF4G02	36"	Arroyo Vista
OF5G01	54"	Charlotte Way / Lucille St.
OF5G02	42"	Patterson Pass / Arlene Way
OF5G03	42"	Patterson Pass / Joyce St.
OF5G04	84"	Las Positas / Contractors
OF5G05	60"	Patterson Pass / Maureen Cir.
OF5G06	30"	Patterson Pass / Shelly St.
OF5G07	30"	Contractors / Railroad Bridge
OF5H01	60"	Patterson Pass / Vasco
OF5H02	48"	Vasco overpass at Patterson Pass
OF6D10	12"	Summer Tree Ct.
OF6D11	12"	Summer Tree
OF6D13	12"	Summer Tree / Cottonwood Ct.
OF6D16	12"	Summer Tree / Eucalyptus Ct.
OF7D01	54"	El Padro/ Ontario Dr.
OF7E03	30"	Robertson Park Rd.
OF7F01	48"	Robertson Park Rd.
OF9D01	36"	Siena Rd.

C.5.c.iii ► Complaint and Spill Response Phone Number and Spill Contact List

List below or attach your complaint and spill response phone number and spill contact list.

Contact	Description	Phone Number
LWRP	Livermore Water Reclamation Plant	925-960-8100
LPFD/LPD	Emergency Services	911

C.5.d.iii ► Evaluation of Mobile Business Program

Describe implementation of minimum standards and BMPs for mobile businesses and your enforcement strategy. This may include participation in the BASMAA Mobile Surface Cleaners regional program or local activities.

Description:

See Section C.5 – Illicit Discharge Detection and Elimination – of the ACCWP FY 13-14 Annual Report for a summary of related Program and BASMAA activities.

The City of Livermore requires mobile cleaners to implement the BMPs recommended by the BASMAA Mobile Surface Cleaners Program. The City permits one local mobile washer through our Industrial Pretreatment Program.

C.5.e.iii ► Evaluation of Collection System Screening Program

Provide a summary or attach a summary of your collection screening program, a summary of problems found during collection system screening and any changes to the screening program this FY.

Description:

The City's collection screening program consist of (1) storm drain inlets, (2) channel sections and outfalls, and/or (3) an industrial/commercial area. Storm drain inlets throughout the city are routinely surveyed for illicit discharges by municipal maintenance staff through the course of their routine storm drain inlet maintenance activities. As a significant volume of our illicit discharges are identified by Source Control staff through routine inspections and surveys of industrial and commercial business parks, a decreased emphasis is placed on surveying belowground storm drain structures, channel sections, and outfalls. However, periodically these areas are surveyed for illicit discharges. As detailed in previous reports, the vast majority of illicit discharges are discovered to be occurring in industrial and commercial areas; as a result, the majority of staff time and resources for illicit discharge survey activities are concentrated in these areas. The City of Livermore documents all illicit discharges with the ACCWP Illicit Discharge Report form and track inspection data with the City's Illicit Discharge Report database

As noted in the previous annual Stormwater Reports, in November 2011, Maintenance staff preformed some "emergency work" at a creek outfall to prevent flooding in nearby neighborhoods. The affected neighborhoods had a history of flooding and its drainage outfall to the creek was obstructed due to the accumulation of vegetation and other debris. After performing the required maintenance to remove the obstruction and prevent upstream flooding, the RWQCB, Department of Fish and Game, and the U.S. Fish and Wildlife service informed the City that they did not believe the potential for flooding met their definition of "emergency", and therefore, in these agencies' opinion, the City was in violation for the work performed at the creek outfall without the appropriate permits and approvals. In response to this incident, the City began working on a "Stream Maintenance Plan" with the RWQCB, Department of Fish and Game, and U.S. Fish and Wildlife Services. Due to the enforcement actions resulting from this November 2011 incident, the City's Assistant Public Works Director and the City Engineer instructed staff not to enter or perform any activities within the creeks or creek outfalls until the "Stream Maintenance Plan" is approved by all the regulatory agencies involved. During this reporting period, City staff continued work on getting this plan approved. At the present time City staff is working on a mitigation plans and costs that are acceptable to all of the regulatory authorities involved. In August 2014, the City received approval to work one outfall project at Galaxy Court; however, the entire Stream Maintenance Plan has yet to be approved in its entirety. As final approval of the City's Stream Maintenance Plan has not been received, City staff did not perform Screening inspections during this reporting period and will not resume such inspections until this plan has received final approval from the RWQCB.

C.5.f.iii.(1), (2), (3) ► Spill and Discharge Complaint Tracking

Spill and Discharge Complaint Tracking (fill out the following table or include an attachment of the following information)

	Number	Percentage
Discharges reported (C.5.f.iii.(1))	39	
Discharges reaching storm drains and/or receiving waters (C.5.f.iii.(2))	38	97%
Discharges resolved in a timely manner (C.5.f.iii.(3))	39	100%

Comments:
The City issued 10 verbal notices, 7 warning notices, 10 Notices of Violation, and 2 Notices of Violation with an administrative citation. One facility was issued an administrative citation of \$100 and another facility received a \$100 citation plus cost recover in the amount of \$1,145.38.

C.5.f.iii.(4) ► Summary of major types of discharges and complaints

Provide a narrative or attach a table and/or graph.

Type of Discharge	Frequency	Percentage
Paint	2	8%
Concrete	0	
Construction Debris	0	
Sediment Mud	0	
Food Wastes	5	20%
Yard Waste	3	12%
Industrial Waste	0	
Concrete Cutting Slurry	5	20%
Vehicle Cleaning Washwater	2	8%
Bldg. Sidewalk Washwaters	0	
Other Washwaters	6	24%
Sewage	0	
Automotive Fluids	2	8%
Other	0	
Total	25	100%

Section 6 – Provision C.6 Construction Site Controls

C.6.e.iii.1.a, b, c ▶ Site/Inspection Totals		
Number of High Priority Sites (sites disturbing < 1 acre of soil requiring storm water runoff quality inspection) (C.6.e.iii.1.a)	Number of sites disturbing ≥ 1 acre of soil (C.6.e.iii.1.b)	Total number of storm water runoff quality inspections conducted (include only High Priority Site and sites disturbing 1 acre or more) (C.6.e.iii.1.c)
# 0	# 8	# 49
Comments: No additional comments.		

C.6.e.iii.1.d ▶ Construction Activities Storm Water Violations		
BMP Category	Number of Violations⁸⁰ excluding Verbal Warnings	% of Total Violations⁸¹
Erosion Control	5	45%
Run-on and Run-off Control	0	
Sediment Control	5	45%
Active Treatment Systems	0	
Good Site Management	1	10%
Non Stormwater Management	0	
Total⁸²		100%

⁸⁰ Count one violation in a category for each site and inspection regardless of how many violations/problems occurred in the BMP category. For example, if during one inspection at a site, there are 2 erosion control violations, only 1 violation would be counted for this table.

⁸¹ Percentage calculated as number of violations in each category divided by total number of violations in all six categories.

⁸² The total number of violations may count more than one violation per inspection, since some inspections may result in violations in more than one category. For example, during one inspection of a site, there may have been both an erosion control violation and a sediment control violation. For this reason, the total number of violations in this table may not match the total number of enforcement actions reported in Table C6.e.iii.1.e.

C.6.e.iii.1.e ► Construction Related Storm Water Enforcement Actions

	Enforcement Action (as listed in ERP) ⁸³	Number Enforcement Actions Issued	% Enforcement Actions Issued⁸⁴
Level 1 ⁸⁵	Verbal Warning		
Level 2	Notice to Comply	5	100%
Level 3			
Level 4			
Total			100%

C.6.e.iii.1.f, g ► Illicit Discharges

	Number
Number of illicit discharges, actual and those inferred through evidence at high priority sites and sites that disturb 1 acre or more of land (C.6.e.iii.1.f)	0
Number of sites with discharges, actual and those inferred through evidence at high priority sites and sites that disturb 1 acre or more of land (C.6.e.iii.1.g)	0

⁸³ Agencies should list the specific enforcement actions as defined in their ERPs.

⁸⁴ Percentage calculated as number of each type of enforcement action divided by the total number of enforcement actions.

⁸⁵ For example, Enforcement Level 1 may be Verbal Warning.

C.6.e.iii.1.h, i ► Violation Correction Times		
	Number	Percent
Violations (excluding verbal warnings) fully corrected within 10 business days after violations are discovered or otherwise considered corrected in a timely period (C.6.e.iii.1.h)	5	100% ⁸⁶
Violations (excluding verbal warnings) not fully corrected within 30 days after violations are discovered (C.6.e.iii.1.i)		0% ⁸⁷
Total number of violations (excluding verbal warnings) for the reporting year⁸⁸		100%
Comments: No additional comments.		

C.6.e.iii.(2) ► Evaluation of Inspection Data
Describe your evaluation of the tracking data and data summaries and provide information on the evaluation results (e.g., data trends, typical BMP performance issues, comparisons to previous years, etc.).
<p>Description:</p> <p>The City of Livermore utilizes the "Inspection Checklist for Construction Stormwater Control" to document the stormwater inspections conducted by Building and Engineering staff. Completed inspection forms are entered into an Excel Spreadsheet based data base which tracks inspections, violation types and frequencies. The City implemented an new Accela based software for its Permit Center in July 2014. This system will track all building and planning permits and will also track all future C.6 related inspections and enforcement actions.</p>

C.6.e.iii.(2) ► Evaluation of Inspection Program Effectiveness
Describe what appear to be your program's strengths and weaknesses, and identify needed improvements, including education and outreach.
<p>Description:</p> <p>The City continues to implement a C.6 Inspection program as prescribed by the MRP. In the next fiscal year, inspection staff will be trained on utilizing the City's new Permit Center data base system (Accela) to track, record, and schedule C.6 inspections. This new system will help ensure that all required projects are inspected and will help streamline data collection. This system will also improve reporting capabilities and maintain consistent compliance with MRP reporting requirements.</p>

⁸⁶ Calculated as number of violations fully corrected in a timely period after the violations are discovered divided by the total number of violations for the reporting year.

⁸⁷ Calculated as number of violations not fully corrected within 30 days after the violations are discovered divided by the total number of violations for the reporting year.

⁸⁸ The total number of violations reported in the table of Violation Correction Times equals the number of initial enforcement actions. I.e., This assumes one violation is issued for several problems during an inspection at a site. The total number of violations in the table of Violation Correction Times may not equal the total number of enforcement actions because one violation issued at a site may have a second enforcement action for the same violation at the next inspection if it is not corrected.

C.6.f ▶ Staff Training Summary				
Training Name	Training Dates	Topics Covered	No. of Inspectors in Attendance	Percent of Inspectors in Attendance
Training is required to be conducted every other year. ACCWP C.6 Training Workshop conducted in June 2013. Additional ACCWP C.6 Training planned for FY 14-15.	June 2013	C.6 Construction Inspections and Forms	2- Inspectors 1- Engineer	20%

Section 7 – Provision C.7. Public Information and Outreach

C.7.b.ii.1 ▶ Advertising Campaign

Summarize advertising efforts. Include details such as messages, creative developed, and outreach media used. The detailed advertising report may be included as an attachment. If advertising is being done by participation in a countywide or regional program, refer to the separate countywide or regional Annual Report.

Summary: See Section C.7 – Public Information and Outreach – of the ACCWP FY 13-14 Annual Report and the BASMAA FY 2013-2014 Regional Supplement for Training and Outreach for a summary of related Program and BASMAA activities

C.7.b.iii.1 ▶ Pre-Campaign Survey

(For the Annual Report following the pre-campaign survey) Summarize survey information such as sample size, type of survey (telephone survey, interviews etc.). Attach a survey report that includes the following information. If survey was done regionally, refer to a regional submittal that contains the following information:

Information on the pre-campaign surveys was included in previous annual reports.

Place an **X** in the appropriate box below: N/A

<input type="checkbox"/>	Survey report attached
<input type="checkbox"/>	Reference to regional submittal:

C.7.b.iii.2 ▶ Post-Campaign Survey

(For the Annual Report following the post-campaign survey) Discuss the campaigns and the measureable changes in awareness and behavior achieved. Provide an update of outreach strategies based on the survey results. If survey was done regionally, refer to a regional submittal that contains the following information:

Information on the post-campaign survey for the BASMAA Regional Youth Litter Campaign was provided in the BASMAA FY 13-14 Annual Report.

Place an **X** in the appropriate box below:

<input type="checkbox"/>	Survey report attached
<input checked="" type="checkbox"/>	Reference to regional submittal: Regional Youth Litter Campaign report in the BASMAA FY 2013-2014 Regional Supplement for Training and Outreach

C.7.c ► Media Relations

Summarize the media relations effort. Include the following details for each media pitch in the space below, AND/OR refer to a regional report that includes these details:

- Topic and content of pitch
- Medium (TV, radio, print, online)
- Date of publication/broadcast

Summary:

The following separate report developed by BASMAA summarizes media relations efforts conducted during FY 13-14: BASMAA FY 2013-2014 Regional Supplement for Training and Outreach.

Other media relations efforts conducted countywide are included within the C.7 Public Information and Outreach section of the ACCWP FY 13-14 Annual Report.

The City of Livermore Water Resources Division promotes pollution prevention messages on its web page www.cityoflivermore.net/citygov/pw/public_works_divisions/wrd/default.asp, and in its monthly, commercial and residential sewer and water bills. During FY 13-14, the Division's sewer bill messages reached 1,119 commercial customers and 210 residential customers, and its water bill messages reached 9,745 commercial and residential customers. The Division provided pollution prevention messages included information on: proper Fats, Oil and Grease (FOG) disposal; proper flushable wipe, drug and household hazardous waste disposal; proper vehicle, pool, spa and fountain maintenance; alternatives to washing vehicles and pavement; and alternatives to using pesticides and chemical fertilizers.

The Division also promotes pollution prevention messages on Livermore Sanitation's website www.livermoresanitation.com/residential-resources.html, and in its monthly, Residential Newsletter. During FY 13-14, Livermore Sanitation's Newsletter reached 24,000 residential garbage customers, and included information on litter prevention (July 2013 issue), proper FOG disposal (October 2013 issue), and storm drain pollution prevention (January 2014 issue).

C.7.d ► Stormwater Point of Contact

Summary of any changes made during FY 13-14:

No changes made during FY 13-14 to the City of Livermore Stormwater Point of Contact.

C.7.e ► Public Outreach Events		
Describe general approach to event selection. Provide a list of outreach materials and giveaways distributed. Use the following table for reporting and evaluating public outreach events		
Event Details	Description (messages, audience)	Evaluation of Effectiveness
Tri-Valley Pool Organization Member Presentation, 6/12/2014	<p>The Water Resources Division presentation was used to educate Tri-Valley Pool Organization members about proper pool, spa and fountain proper draining, maintenance and cleaning, etc.</p> <p>Informational materials distributed include: Proper Disposal of Wastewater: Don't Drain Pools, Spas and Fountains to Storm Drains; and Maintenance Tips For Pools, Spas and Fountains.</p>	<p>Positive interaction and feedback with approximately forty (40+) members at presentation.</p> <p>The Division hasn't participated in this presentation for a few years so trending data is unavailable.</p>
<p>Stormwater Exhibit at the Alameda County Fair: July 1 through July 7, 2013 and June 18 through June 30, 2014. Setting up the exhibit and producing the outreach materials are Countywide Program efforts. Staffing the exhibit is an effort conducted by individual Permittees.</p> <p>Alameda County Fair staffed by City of Livermore Source Control Inspectors on 6/20 and 6/21/2014.</p>	<p>The County Fair is attended by a wide range of residents from throughout the County. The primary message of the exhibit and outreach materials is to encourage residents to reduce their use of pesticides or when necessary use less-toxic pesticides. The exhibit also illustrates the basic watershed awareness/stormwater pollution message.</p>	<p>Several hundred thousand residents attend the fair each year. A more detailed description of the exhibit is included in Section C.7 Public Information and Outreach of the ACCWP FY 13/14 Annual Report.</p> <p>Positive interaction and feedback with approximately sixty (60+) residents on 6/20 and approximately thirty (30+) residents on 6/21.</p>

Event Details	Description (messages, audience)	Evaluation of Effectiveness
Livermore Farmer's Market, 7/18/2013	<p>The Water Resources Division booth at the Livermore Farmer's Market was used to educate residents about proper FOG, flushable wipe and medicine disposal, Integrated Pest Management, litter prevention and creek clean-up, stormwater pollution prevention, etc.</p> <p>Informational materials distributed include: Think Before You Flush Brochure, Control It! Guide, Grow It! Guide, Healthy Home and Garden Booklet, Pest Bugging You? Pocket Guide, The 10 Most Wanted Bugs in Your Garden Brochure, Don't Plant a Pest Brochure, A Kid's Guide to Backyard Bug Guide, Pest or Pal? Activity Guide, Stormwater Pollution Prevention Brochure, Detain the Rain Brochure, and Clean Water Activity Booklets.</p>	<p>Positive interaction and feedback with approximately thirty (30+) residents visiting the Water Resources Division booth. More than four-hundred (400+) residents participated in the event.</p> <p>This trend is not consistent with last year's event since approximately one-hundred (100+) residents visited last year's booth.</p>
Livermore Valley Joint Unified School District (LVJUSD) Science Odyssey, 2/20/2014	<p>The Water Resources Division/Adopt a Creek Spot Program booth at the LVJUSD Science Odyssey was used to educate faculty members, students and their families about non-point source pollution, reducing non-point source pollution to Livermore storm drains and arroyos, and improving and protecting water quality and aquatic habitat in the Tri-Valley Creek Watershed.</p> <p>Informational materials distributed include: Alameda Creek Watershed Map, Stormwater Pollution and Pollution and Prevention Brochures, Litter Prevention Brochure, and Clean Water Activity Booklet.</p>	<p>Positive interaction and feedback with approximately one-hundred (100+) residents and faculty members visiting the Water Resources Division/Adopt a Creek Spot Program booth. More than one-thousand (1000+) residents and faculty members participated in the event.</p> <p>This trend is not consistent with last year's event since approximately one-hundred and forty (140+) residents visited last year's booth.</p>

Event Details	Description (messages, audience)	Evaluation of Effectiveness
<p>Arbor Vista Apartment's Water Conservation and Pollution Prevention Presentation, 4/9/2014</p>	<p>The Water Resources Division presentation was used to educate Arbor Vista Apartment residents about proper FOG, flushable wipe and medicine disposal, etc.</p> <p>Informational materials distributed include: Think Before You Flush Brochure and Stormwater Pollution Prevention Brochure.</p>	<p>Positive interaction and feedback with approximately twenty (20+) residents at presentation.</p> <p>This event is new so trending data is unavailable.</p>
<p>Unified Grocer's Earth Day Event, 4/18/2014</p>	<p>The Water Resources Division booth at the Unified Grocer's Earth Day Event was used to educate employees about proper FOG, flushable wipe and medicine disposal, Integrated Pest Management, litter prevention and creek clean-up, stormwater pollution prevention, etc.</p> <p>Informational materials distributed include: Think Before You Flush Brochure, Control It! Guide, Grow It! Guide, Healthy Home and Garden Booklet, Pest Bugging You? Pocket Guide, The 10 Most Wanted Bugs in Your Garden Brochure, Don't Plant a Pest Brochure, A Kid's Guide to Backyard Bug Guide, Pest or Pal? Activity Guide, Stormwater Pollution Prevention Brochure, Detain the Rain Brochure, and Clean Water Activity Booklets.</p>	<p>Positive interaction and feedback with approximately forty-five (45+) employees visiting the Water Resources Division booth.</p> <p>This event is new so trending data is unavailable.</p>

Event Details	Description (messages, audience)	Evaluation of Effectiveness
Livermore Wine Festival, 5/3 – 5/4/2014	<p>The Water Resources Division booth at the Livermore Wine Festival was used to educate residents about proper FOG, flushable wipe and medicine disposal, Integrated Pest Management, litter prevention and creek clean-up, stormwater pollution prevention, etc.</p> <p>Informational materials distributed include: Think Before You Flush Brochure, Control It! Guide, Grow It! Guide, Healthy Home and Garden Booklet, Pest Bugging You? Pocket Guide, The 10 Most Wanted Bugs in Your Garden Brochure, Don't Plant a Pest Brochure, A Kid's Guide to Backyard Bug Guide, Pest or Pal? Activity Guide, Stormwater Pollution Prevention Brochure, Detain the Rain Brochure, and Clean Water Activity Booklets.</p>	<p>Positive interaction and feedback with approximately one-hundred and fifteen (115+) residents visiting the Water Resources Division booth. More than four-thousand (4000+) residents participated in the event.</p> <p>This trend is not consistent with last year's event since approximately three-hundred (300+) residents visited last year's booth.</p>
City of Livermore Health and Safety Fair, 6/4/2014	<p>The Water Resources Division booth at the City of Livermore Health and Safety Fair was used to educate employees (and their families) about proper FOG, flushable wipe and medicine disposal, Integrated Pest Management, litter prevention and creek clean-up, stormwater pollution prevention, etc.</p> <p>Informational materials distributed include: Think Before You Flush Brochure, Control It! Guide, Grow It! Guide, Healthy Home and Garden Booklet, Pest Bugging You? Pocket Guide, The 10 Most Wanted Bugs in Your Garden Brochure, Don't Plant a Pest Brochure, A Kid's Guide to Backyard Bug Guide, Pest or Pal? Activity Guide, Stormwater Pollution Prevention Brochure, Detain the Rain Brochure, and Clean Water Activity Booklets.</p>	<p>Positive interaction and feedback with approximately sixty (60+) employees visiting the Water Resources Division booth. More than one-hundred (100+) employees participated in the event.</p> <p>This trend is not consistent with last year's event since approximately fifty (50+) employees visited last year's booth.</p>

Event Details	Description (messages, audience)	Evaluation of Effectiveness
Tri-Valley Pool Organization Member Presentation, 6/12/2014	<p>The Water Resources Division presentation was used to educate Tri-Valley Pool Organization members about proper pool, spa and fountain proper draining, maintenance and cleaning, etc.</p> <p>Informational materials distributed include: Proper Disposal of Wastewater: Don't Drain Pools, Spas and Fountains to Storm Drains; and Maintenance Tips For Pools, Spas and Fountains.</p>	<p>Positive interaction and feedback with approximately forty (40+) members at presentation.</p> <p>The Division hasn't participated in this presentation for a few years so trending data is unavailable.</p>
LARPD Senior Center Source Control Presentation, 6/17/2014	<p>The Water Resources Division presentation was used to educate seniors about proper FOG, flushable wipe and medicine disposal, etc.</p> <p>Informational materials distributed include: Think Before You Flush Brochure and Stormwater Pollution Prevention Brochure.</p>	<p>Positive interaction and feedback with approximately sixteen (16+) seniors at presentation.</p> <p>The Division hasn't participated in this presentation for a few years so trending data is unavailable.</p>
800 Heritage Estates Pollution Senior Pollution Prevention Presentation, 6/18/2014	<p>The Water Resources Division presentation was used to educate Heritage Estates residents about proper FOG, flushable wipe and medicine disposal, etc.</p> <p>Informational materials distributed include: Think Before You Flush Brochure and Stormwater Pollution Prevention Brochure.</p>	<p>Positive interaction and feedback with approximately fourteen (14+) seniors at presentation.</p> <p>This event is new so trending data is unavailable. Property manager invited Water Resources Division back to present in 6-months.</p>
900 Heritage Estates Senior Pollution Prevention Presentation, 6/18/2014	<p>The Water Resources Division presentation was used to educate Heritage Estates residents about proper FOG, flushable wipe and medicine disposal, etc.</p> <p>Informational materials distributed include: Think Before You Flush Brochure and Stormwater Pollution Prevention Brochure.</p>	<p>Positive interaction and feedback with approximately eighty-three (83+) seniors at presentation.</p> <p>This event is new so trending data is unavailable. Property manager invited Water Resources Division back to present next year.</p>

Event Details	Description (messages, audience)	Evaluation of Effectiveness
<p>Sandia and Lawrence Livermore National Laboratories' Farmer's Market, 6/24/2014</p>	<p>The Water Resources Division booth at the Sandia and Lawrence Livermore National Laboratories' Farmer's Market was used to educate residents about proper FOG, flushable wipe and medicine disposal, Integrated Pest Management, litter prevention and creek clean-up, stormwater pollution prevention, etc.</p> <p>Informational materials distributed include: Think Before You Flush Brochure, Control It! Guide, Grow It! Guide, Healthy Home and Garden Booklet, Pest Bugging You? Pocket Guide, The 10 Most Wanted Bugs in Your Garden Brochure, Don't Plant a Pest Brochure, A Kid's Guide to Backyard Bug Guide, Pest or Pal? Activity Guide, Stormwater Pollution Prevention Brochure, Detain the Rain Brochure, and Clean Water Activity Booklets.</p>	<p>Positive interaction and feedback with approximately forty (40+) employees visiting the Water Resources Division booth.</p> <p>The Division hasn't participated in this event for a few years so trending data is unavailable.</p>

C.7.f. ► Watershed Stewardship Collaborative Efforts

Summarize watershed stewardship collaborative efforts and/or refer to a regional report that provides details. Describe the level of effort and support given (e.g., funding only, active participation etc.). State efforts undertaken and the results of these efforts. If this activity is done regionally refer to a regional report.

Evaluate effectiveness by describing the following:

- Efforts undertaken
- Major accomplishments

Summary: See Section C.7 (Public Outreach and Involvement) of the ACCWP FY 13-14 Annual Report for a summary of the *Bringing Back the Natives Garden Tours* that is sponsored by the Program.

The Water Resources Division coordinated with ACCWP's consultant, Gigantic Ideas, to help Granada High School Interact Club and Livermore Car Wash plan and advertise a green car wash fundraiser on Sunday, May 18, 12:00 – 3:00PM at Livermore Car Wash located at 2855 Old 1st Street.

C.7.g. ► Citizen Involvement Events

List the types of events conducted (e.g., creek clean up, storm drain inlet marking, native gardening etc.). Use the following table for reporting and evaluating citizen involvement events.

Event Details	Description	Evaluation of effectiveness
Community Stewardship Grants Program	The Countywide Program sponsors the Community Stewardship Grants (CSG) Program. The CSG Program provides approximately \$20,000 annually in \$1,000 to \$5,000 increments to individuals and community groups to support stormwater improvement/outreach projects throughout the County.	See Section C.7 of the ACCWP FY13/14 Annual Report for a summary.

Event Details	Description	Evaluation of effectiveness
<p>Tri-Valley Creeks to Bay Day, 9/14/2013 Creek Clean-up at eight Livermore Adopt a Creek Spots including:</p> <ol style="list-style-type: none"> 1. Arroyo Las Positas @ Northfront Road (Trash Hot Spot 4: Arroyo Las Positas-Northfront Trailhead Park, ALP-NTP #4) 2. Arroyo Las Positas @ N. Livermore Avenue Bridge (Trash Hot Spot 2: Arroyo Las Positas@ Livermore Avenue Bridge, ALP@Livermore Bridge #2) 3. Arroyo Seco @ First Street 4. Arroyo Mocho in Robertson Park 5. Arroyo Mocho @ Holmes Street (Trash Hot Spot 3: Arroyo Mocho-Holmes-Mocho Park, AM-H-MP #3) 6. Altamont Creek and Arroyo Las Positas @ Bluebell Drive (new spot) 7. Arroyo Las Positas @ Heather Lane (new spot) 8. Altamont Creek @ Altamont Creek Park (new site) <p>Creek Evaluations at two Livermore Adopt a Creek Spots including:</p> <ul style="list-style-type: none"> • Arroyo Mocho in Robertson Park • Altamont Creek @ Altamont Creek Park (new site) 	<p>Tri-Valley Creeks to Bay Day not only helped to commemorate Coastal Cleanup Day, but also served as a kickoff event for a year-round effort coordinated by the Adopt a Creek Spot Program.</p> <p>Sponsors providing supplies and refreshments for the event included Home Depot, Wal-Mart, Costco, Starbucks, Noah's Bagels and Livermore Sanitation.</p>	<p>Over one-hundred and eighty-four (184+) Tri-Valley residents helped collect and properly dispose of 1,736.5 gallons of trash and 235.6 gallons of recyclables from eight Livermore Creek Spots (approximately 6.3 miles) in approximately 920 volunteer hours. [Last year, over two-hundred (200+) volunteers collected and properly disposed of 1,037 pounds of trash and 288 pounds of recyclables from six Livermore Creek Spots (approximately 4.43 miles).]</p> <p>Approximately forty (40+) students from Altamont Creek Elementary, Livermore High School and Granada High School evaluated the health of two Livermore Creek Spots. (Last year, approximately forty (40+) students from Christensen Middle School, Livermore High School and Granada High School evaluated two Livermore Creek Spots.)</p> <p>A completed Tri-Valley Creeks to Bay Day Survey was received from seven Livermore residents/groups. (Last year, a Survey was received from six Livermore residents/groups.) Below is summary of their survey results as they pertain to stormwater pollution:</p> <ol style="list-style-type: none"> 1. Three of seven residents/groups feel that creek pollution is a significant problem in the Tri-Valley. (Last year, five of six residents/groups felt that creek pollution is a significant problem.) 2. Seven of seven residents/groups would participate in Tri-Valley Creeks to Bay Day next year. (Last year, six of six residents/groups felt that they would participate in next year's Creeks to Bay Day. Two of seven residents/groups participated in both events.) 5. Three of seven residents/groups are interested in adopting a Creek Spot. (One of nine spots was available for adoption before the event. All nine spots were adopted after The event.)

Event Details	Description	Evaluation of effectiveness
<p>Ninety-eight (98) Adopt a Creek Spot Program Adoptee/Volunteer Creek Clean-ups at nine Livermore Adopt a Creek Spots including:</p> <ol style="list-style-type: none"> 1. Arroyo Las Positas @ Northfront Road (Trash Hot Spot 4: Arroyo Las Positas-Northfront Trailhead Park, ALP-NTP #4) 2. Arroyo Las Positas @ N. Livermore Avenue Bridge (Trash Hot Spot 2: Arroyo Las Positas@ Livermore Avenue Bridge, ALP@Livermore Bridge #2) 3. Arroyo Seco @ First Street 4. Arroyo Mocho in Robertson Park 5. Arroyo Mocho @ Holmes Street (Trash Hot Spot 3: Arroyo Mocho-Holmes-Mocho Park, AM-H-MP #3) 6. Arroyo Mocho @ Granada Native Gardens 7. Arroyo Mocho @ Stanley Boulevard Bridge (Trash Hot Spot 1: Arroyo Mocho-Stanley Bridge-Pedestrian Bridge, AM-SB-PB #1) 8. Altamont Creek and Arroyo Las Positas @ Bluebell Drive 9. Arroyo Las Positas @ Heather Lane 	<p>The Adopt a Creek Spot Program is a partnership between the Water Resources Division, Zone 7 Water Agency, Livermore Area Recreation and Park District, Alameda County Resource Conservation District, Alameda Creek Watershed Council, Livermore Valley Joint Unified School District and Friends of the Arroyos. The Program's mission is to promote healthy Tri-Valley creeks through active community participation and education.</p> <p>Adoptees are asked to sign up for a one year commitment with at least one work day to the adopted spot. In addition, Adoptees are provided the opportunity to perform Ongoing and/or Additional activities as detailed below. (Additional activities require training and authorization from the Adopt a Creek Spot Coordinator.)</p> <p>Ongoing Activities include:</p> <ul style="list-style-type: none"> • Regularly picking up trash and other debris, and reporting total volume collected by June 1st • Photography and/or sketch mapping the adopted spot <p>Additional Activities include:</p> <ul style="list-style-type: none"> • Painting over graffiti • Marking storm drains • Removing weeds and other unwanted vegetation • Planting site-appropriate plants • Site monitoring • Special events <p>The Program Coordinator could provide Adoptees with the following supplies and/or services as appropriate, and recognize the Adoptees commitment and hard work with a recognition sign at the adopted creek spot:</p>	<p>Over two-hundred and eighty-eight (288+) Adopt a Creek Spot Program adoptees and volunteers helped collect and properly dispose of 2,601 gallons of trash from nine Livermore Creek Spots (approximately 5.72 miles) in approximately 1,152 volunteer hours.</p>

C.7.h. ► School-Age Children Outreach			
Summarize school-age children outreach programs implemented. A detailed report may be included as an attachment. Use the following table for reporting school-age children outreach efforts.			
Program Details	Focus & Short Description	Number of Students/Teachers reached	Evaluation of Effectiveness
See the Section C.7 of the ACCWP FY 13/14 Annual Report for a summary of the Program's School-Age Outreach Program			
<u>Trinity Baptist Daycare Stormwater Presentation-</u> 1. <u>10/28/2013</u> : eight 2 year-olds students 2. <u>10/28/2013</u> : eleven 3 year-old students 3. <u>10/28/2013</u> : eleven 4-year-old students	The Presentation includes information on the watershed and water cycle, the differences between storm drains and sewers, and non-point source pollutants and pollution prevention. This information is presented with a Sewer versus Storm Display Board, Mr. Ball Video and a Watershed Diorama Activity.	30 students (Provided Presentation to 38 students during last reporting period.)	Teacher Surveys are used to evaluate the effectiveness of outreach. Survey results have been submitted in previous FY reports for the same teachers. This year's "Great Program!" results are consistent with previous years.
<u>Livermore High School Sewer Science Lab (5 day Lab)-</u> 1. <u>10/14 – 10/18/2013</u> : Green Engineering class – twelve students 2. <u>10/21-10/25/2013</u> : Biology class – twenty-seven students 3. <u>5/12 – 5/16/2014</u> : Biology class – twenty students 4. <u>6/2 – 6/6/2014</u> : Biology class – twenty-four students	Although the Lab focuses on the wastewater process and what not to put down the sewer drain, it does provide information on the watershed and water cycle, the differences between storm drains and sewers, and non-point source pollutants and pollution prevention. The information is presented with a Where Does Our Water Go Poster and an Alameda County Watershed Map.	83 students (Provided Lab to 88 students during last reporting period.)	Student Pre-assessments and Post-tests are used to evaluate the effectiveness of outreach. Both Teacher Surveys and Student Assessments and Test results have been submitted in previous FY reports for the same teacher. This year's pre-assessment scores remain consistent with previous years, and post-tests scores have improved by a couple of percentage points.

Program Details	Focus & Short Description	Number of Students/Teachers reached	Evaluation of Effectiveness
<p><u>Livermore Water Reclamation Plant Tours-</u></p> <ol style="list-style-type: none"> 1. <u>8/2/2013</u>: Seneca Center School – ten 5th through 7th graders 2. <u>8/22/2013</u>: Resident – one Adult 3. <u>8/22/2013</u>: Yang Feng Academy Summer Camp – thirty-four 4th through 6th graders 4. <u>9/16/2013</u>: Resident – one Adult 5. <u>11/13/2013</u>: Home School Group – thirty Kindergarten through 8th graders 6. <u>11/18/2013</u>: Cub Scout Pack 942, Den 6 – seventeen 2nd graders 7. <u>12/11/2013</u>: Cub Scout Pack – eighteen 2nd graders 8. <u>1/14/2014</u>: Granada High School AP Environmental Science Class – eighteen 12th graders and two chaperones 9. <u>1/29/2014</u>: Livermore High School Engineering and Research Development Class – fifteen 12th graders and two chaperones 	<p>Although the Tour focuses on the wastewater treatment process and what not to put down the sewer drain, it does provide information on the differences between storm drains and sewers, and non-point source pollutants and pollution prevention.</p> <hr/> <p><u>Livermore Water Reclamation Plant Tours- (continued)</u></p> <ol style="list-style-type: none"> 10. <u>4/22/2014</u>: Valley Montessori School – nineteen 1st through 3rd graders and seven chaperones 11. <u>5/20/2014</u>: Girl Scout Troop – fifteen 2nd through 3rd graders and three chaperones 12. <u>6/27/2014</u>: Yan Feng Academy Summer Camp – twenty-five 2nd through 3rd graders and five chaperones 	<p>220 students, chaperones and residents (Provided Tour to 55 participants during last reporting period.)</p>	<p>Plant Tour Contact and Plant Tour Guide Surveys are used to evaluate the effectiveness of outreach. This year's "Great Program!" Tour Contact results are consistent with previous years, and Tour Guide results have improved overall.</p>

Section 8 - Provision C.8 Water Quality Monitoring

C.8 ► Water Quality Monitoring

State below if information is reported in a separate regional report. Municipalities can also describe below any Water Quality Monitoring activities in which they participate directly, e.g. participation in RMP workgroups, fieldwork within their jurisdictions, etc.

Summary

During FY 13-14, we contributed through ACCWP to the BASMAA Regional Monitoring Coalition (RMC). In addition, we contributed financially to the Regional Monitoring Program for Water Quality in the San Francisco Estuary (RMP) and were represented at RMP committees and work groups. Monitoring efforts and results are documented in a separate report submitted March 15 of each year, as required in Provision C.8. For additional information on monitoring activities conducted by the Program, BASMAA RMC and the RMP, see the C.8 Water Quality Monitoring section of the Program's FY 13-14 Annual Report and the Integrated Monitoring Report.

Section 9 – Provision C.9 Pesticides Toxicity Controls

C.9.b ► Implement IPM Policy or Ordinance					
Report implementation of IPM BMPs by showing trends in quantities and types of pesticides used, and suggest reasons for increases in use of pesticides that threaten water quality, specifically organophosphates, pyrethroids, carbaryl, and fipronil. A separate report can be attached as evidence of your implementation.					
Trends in Quantities and Types of Pesticides Used⁸⁹					
Pesticide Category and Specific Pesticide Used	Amount⁹⁰				
	FY 09-10	FY 10-11	FY 11-12	FY 12-13	FY 13-14
Organophosphates					
None Used					
Pyrethroids: Talstar Professional- 7.9% Bifenthrin	Refer to Comments	7.0 oz	38.75 oz	Refer to Comments	Refer to Comments
CyCick Aerosal- Cyfluthrin		1.5 oz	4.0 oz		
Cycick CS- 6% Cyfluthrin		3.0 oz	0.5 oz		
Talstar Granuals- 0.2% Bifenthrin		32.0 oz	16.0 oz		
Carbamates: Larvalur-2% Phenyl Methylcarbamate		19.5 oz	34.0 oz		
Fipronil: Maxforce Ant Bait Stations- 0.1% Fipronil		1 each	0		
Comments: The City of Livermore and its pest control contractor (Orkin) comply with the Department of Toxic Substance Control requirements with the submittal of "Pesticide Use Reports" for all pesticide applications at City owned facilities. In FY11/12, the City was able to obtain a summary spreadsheet from its pest control contractor (Orkin) which provided the data requested in this report for the FY 10/11 and FY 11/12. In FY12/13, the City requested this summary spreadsheet be provided once again by Orkin to facilitate completion of the MRP Annual Report. As indicated in the FY12/13 Annual Report, this summary spreadsheet was not provided by Orkin. As can be seen by the emails between City staff and Orkin representatives, the City made a good faith effort to obtain the data necessary to complete this report for the FY 13/14. In this email correspondence (see attachments C.9), Orkin indicated that they would provide the summary data as requested. Operating under this assumption, the City prioritized its staff time to comply with other MRP requirements. Primarily, the City focused the majority of its efforts on completing the tasks necessary to comply with section C.10 (trash) and the exhaustive reporting requirements contained in the trash provision.					

⁸⁹ Includes all municipal structural and landscape pesticide usage by employees and contractors.

⁹⁰ Weight or volume of the product or preferably its active ingredient, using same units for the product each year. The active ingredients in any pesticide are listed on the label. The list of active ingredients that need to be reported in the pyrethroids class includes: allethrin, bifenthrin, beta-cyfluthrin, bioallethrin, cyfluthrin, cypermethrin, cyphenothrin, deltamethrin, esfenvalerate, etofenprox, fenpropathrin, gamma-cyhalothrin, imiprothrin, lambda-cyhalothrin, metofluthrin, permethrin, phenothrin, prallethrin, resmethrin, sumithrin (d-phenothrin), tau-fluvalinate, tefluthrin, tetramethrin, tralomethrin, cis-permethrin, and zeta-cypermethrin.

Unfortunately, as of the date of this report, Orkin has failed to supply the data that they agreed to furnish. The City is therefore, unable to provide the data in the requested summarized format. The City has copies of the individual pesticide use reports for all applications at City owned facilities and can provide these upon request. Having been misinformed by its pest control contractor (Orkin) that the data necessary to complete table C.9.b would be provided in the summarized format requested, the City does not have the necessary staff time available to purge all of the individual pesticide use reports and summarize the data to complete table C.9.b. at this time. Additionally, the City is in the process of developing a new contract for professional services governing a pest control contractor for City facilities. Due to the poor customer service the City has received from Orkin on this issue, it is highly likely the City will contract with a new pest control contractor. The new contract will include the required IPM language as well as additional language/requirements governing data reporting that will serve to avoid these reporting issues in the future.

C.9.c ▶ Train Municipal Employees

Enter the number of employees that applied or used pesticides (including herbicides) within the scope of their duties this reporting year.	10
Enter the number of these employees who received training on your IPM policy and IPM standard operating procedures within the last 3 years.	14
Enter the percentage of municipal employees who apply pesticides who have received training in the IPM policy and IPM standard operating procedures within the last three years.	100%- Landscape 30%-Streets

C.9.d ▶ Require Contractors to Implement IPM

Did your municipality contract with any pesticide service provider in the reporting year?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
If yes, attach one of the following:		
<input type="checkbox"/>	Contract specifications that require adherence to your IPM policy and standard operating procedures, OR	
<input checked="" type="checkbox"/>	Copy(ies) of the contractors' IPM certification(s) or equivalent, OR	
<input checked="" type="checkbox"/>	Equivalent documentation.	
If Not attached , explain:		

C.9.e ▶ Track and Participate in Relevant Regulatory Processes

Summarize participation efforts, information submitted, and how regulatory actions were affected **OR** reference a regional report that summarizes regional participation efforts, information submitted, and how regulatory actions were affected.

Summary:
 During FY 13-14, we participated in regulatory processes related to pesticides through contributions to the countywide Program, BASMAA and CASQA. See the CASQA Pesticides Subcommittee Annual Report 2013-14: Preventing Urban Pesticide Pollution in Stormwater for a summary of CASQA activities.

C.9.f ▶ Interface with County Agricultural Commissioners

Did your municipal staff observe any improper pesticide usage or evidence of improper usage (e.g., pesticides in storm drain systems, along street curbs, or in receiving waters) during this fiscal year?		Yes	x	No
If yes, provide a summary of improper pesticide usage reported to the County Agricultural Commissioner and follow-up actions taken to correct any violations. A separate report can be attached as your summary.				

C.9.h.ii ▶ Public Outreach: Point of Purchase

Provide a summary of public outreach at point of purchase, and any measurable awareness and behavior changes resulting from outreach (here or in a separate report); OR reference a report of a regional effort for public outreach in which your agency participates.
Summary: See the C.9 Pesticides Toxicity Control section of the ACCWP FY 13-14 Annual Report and the BASMAA FY 2013-2014 Regional Supplement for Training and Outreach for information on point of purchase public outreach conducted countywide and regionally.

C.9.h.vi ▶ Public Outreach: Pest Control Operators

Provide a summary of public outreach to pest control operators and landscapers and reduced pesticide use (here or in a separate report); OR reference a report of a regional effort for outreach to pest control operators and landscapers in which your agency participates.
Summary: See the C.9 Pesticides Toxicity Control section of Program's FY 13-14 Annual Report for a summary of outreach to pest control operators and landscapers to reduce pesticide use.

Section 10 - Provision C.10 Trash Load Reduction

C.10.a.iii ► Minimum Full Trash Capture

Provide the following:

- 1) Descriptions of actions/tasks completed towards achieving the Minimum Full Trash Capture requirement in provision C.10.a.iii. Include the:
 - Total number and types of full capture devices (publicly and privately-owned) installed to-date;
 - Total land area (acres) and land areas within each trash generation category (i.e., very high, high, moderate and low) treated by full capture devices (or other types of devices for non-population based Permittees), in comparison to the MRP-required full capture requirements in Attachment J to the MRP; and,
 - Percentage of jurisdictional land areas with very high, high, moderate and low trash generation rates treated by full capture devices.
- 2) A narrative summary of maintenance activities implemented for each device, group of devices, or device type, including descriptions of typical maintenance frequencies and issues associated with maintaining these devices.

1) Descriptions of Actions/Tasks (Conducted):

Table below includes the total number and types of publicly-owned full capture devices installed to-date.

Total Number of Publicly-Owned Devices Installed by July 1, 2014	Connector Pipe Screens or Filters	Netting Devices	HDS Units	Gross Solid Removal Devices	LID Facilities	Other	TOTAL
	168	0	0	0	0	0	168

Refer to page A-6 of the attached Stormwater Trash Reduction Plan in C.10 attachments for existing, privately-owned device types by facility.

Table below includes the total land area, land areas within each trash generation category treated by publicly and privately-owned full trash capture devices in comparison to the MRP-required full capture requirements, and the percentage of jurisdictional land areas within each trash category treated by publicly and privately-owned full capture devices.

Publicly and Privately-Owned Device Full Capture Treatment Area	Low	Moderate	High	Very High	TOTAL	Minimum Treatment Area Required (Attachment J)
Acres (All TMAs)	196	323	53	0	573*	127
% (All TMAs)	2%	10%	10%	0%	3.8%**	

* Publicly-owned devices treat a total area of 437 acres while privately-owned devices treat a total area of 136 acres.

**Publicly-owned devices treat 3% of total land area while privately-owned devices treat 0.8% of total land area.

2.) Descriptions of Maintenance Activities:

During the last reporting period, TCD76 and TCD89 were removed from the Full Trash Capture Device Maintenance List because West Coast Storm, Inc. installed them backwards, and TCD174 was removed from the Maintenance List because West Coast Storm, Inc. never installed it. (TCD76 and TCD89 couldn't be re-installed because they were built in place and not set into the catch basins.)

During this reporting period, one-hundred and seventy-one TCDs were inspected and one-hundred and sixty-nine TCDs were cleaned in November 2013 and/or December 2013, and June 2014. TCD19 and TCD85 were removed from the Full Capture Device Maintenance List because they clogged with leaves and sediment, warped and collapsed. TCD37 will be removed from the Maintenance List because West Coast Storm, Inc. installed it incorrectly with a gap at the bottom. (TCD19, TCD85 and TCD37 won't be re-installed because they were built in place and not set into the catch basins.) TCD52, TCD54, TCD56 and TCD57 were cleaned three times because they clogged with dirt and leaves causing the Costco Gas Station to flood in November 2013.

The City of Livermore Collections Section will continue to assess one-hundred and sixty-four TCDs two times a year and four TCDs (near Costco) three times a year using the Trash Capture Device Maintenance Report Form. The updated Full Trash Capture Device Maintenance and the completed Trash Capture Device Maintenance Reports will be filed in the Full Trash Capture Device Maintenance Binder. The Full Trash Capture Device Maintenance Binder will be made available for review upon request.

C.10.b.iii ► Trash Hot Spot Assessment

Provide the volume of material removed during each **MRP-required Trash Hot Spot cleanup** during each fiscal year, and the dominant types of trash (e.g., glass, plastics, paper) removed and their sources in FY 2013-14 to the extent possible.

Trash Hot Spot	FY 13-14 Cleanup Date	Volume of Trash Removed (cubic yards)				Dominant Type(s) of Trash in FY 2013-14	Trash Sources in FY 2013-14 (where possible)
		FY 2010-11	FY 2011-12	FY 2012-13	FY 2013-14		
Arroyo Mocho-Stanley Bridge-Pedestrian Bridge AM-SB-PB #1	1/4/2014	1.25 Cubic Yards	2.5 Cubic Yards	0.76 Cubic Yards (9/15/2012 data)	1.6 Cubic Yards	Paper and Plastic bags, Plastic and Glass Beverage Bottles, Beverage Cans, Caps/Lids, Clothing/Shoes, Cups/Plates/Forks/Knives/Spoons/Napkins, Food Wrappers/Containers, Straws/Stirrers, Paper, Cigarette Filters and Lighters, Tobacco Packaging/Wrappers	Trail Pedestrians/Nearby Retail and Commercial Businesses/Moving Vehicles on Murrieta Blvd.

C.10.b.iii ► Trash Hot Spot Assessment

Provide the volume of material removed during each **MRP-required Trash Hot Spot cleanup** during each fiscal year, and the dominant types of trash (e.g., glass, plastics, paper) removed and their sources in FY 2013-14 to the extent possible.

Trash Hot Spot	FY 13-14 Cleanup Date	Volume of Trash Removed (cubic yards)				Dominant Type(s) of Trash in FY 2013-14	Trash Sources in FY 2013-14 (where possible)
		FY 2010-11	FY 2011-12	FY 2012-13	FY 2013-14		
Arroyo Las Positas @ Livermore Avenue Bridge ALP@Livermore Bridge #2	9/14/2013	3.25 Cubic Yards	0.25 Cubic Yards	0.28 Cubic Yards (9/15/2012 data)	2.78 Cubic Yards	Paper and Plastic bags, Plastic and Glass Beverage Bottles, Beverage Cans, Caps/Lids, Clothing/Shoes, Cups/Plates/ Forks/Knives/Spoons/Napkins, Food Wrappers/Containers, Straws/Stirrers, Paper, Plastic Sheeting/Tarps, Cigarette Filters and Lighters, Tobacco Packaging/Wrappers	Transients/Nearby Retail and Commercial Businesses/ Moving Vehicles on Highway 580

C.10.b.iii ► Trash Hot Spot Assessment

Provide the volume of material removed during each **MRP-required Trash Hot Spot cleanup** during each fiscal year, and the dominant types of trash (e.g., glass, plastics, paper) removed and their sources in FY 2013-14 to the extent possible.

Trash Hot Spot	FY 13-14 Cleanup Date	Volume of Trash Removed (cubic yards)				Dominant Type(s) of Trash in FY 2013-14	Trash Sources in FY 2013-14 (where possible)
		FY 2010-11	FY 2011-12	FY 2012-13	FY 2013-14		
Arroyo Mocho-Holmes-Mocho Park AM-H-MP #3	9/14/2013	0.25 Cubic Yards	0.25 Cubic Yards	1.57 Cubic Yards (9/15/2012 data)	3.76 Cubic Yards	Paper and Plastic Bags, Plastic and Glass Beverage Bottles, Beverage Cans, Caps/Lids, Clothing/Shoes, Cups/Plates/Forks/Knives/Spoons/Napkins, Food Wrappers/Containers, Straws/Stirrers, Paper, Cigarette Filters and Lighters, Tobacco Packaging/Wrappers	Trail Pedestrians/ Transients/Nearby Apartment Complexes

C.10.b.iii ► Trash Hot Spot Assessment

Provide the volume of material removed during each **MRP-required Trash Hot Spot cleanup** during each fiscal year, and the dominant types of trash (e.g., glass, plastics, paper) removed and their sources in FY 2013-14 to the extent possible.

Trash Hot Spot	FY 13-14 Cleanup Date	Volume of Trash Removed (cubic yards)				Dominant Type(s) of Trash in FY 2013-14	Trash Sources in FY 2013-14 (where possible)
		FY 2010-11	FY 2011-12	FY 2012-13	FY 2013-14		
Arroyo Las Positas-Northfront Trailhead Park ALP-NTP #4	9/14/2013	0.25 Cubic Yards	1.5 Cubic Yards	0.31 Cubic Yards (9/15/2012 data)	0.39 Cubic Yards	Paper and Plastic Bags, Plastic and Glass Beverage Bottles, Beverage Cans, Caps/Lids, Clothing/Shoes, Cups/Plates/Forks/Knives/Spoons/Napkins, Food Wrappers/Containers, Straws/Stirrers, Paper, Plastic Sheeting/Tarps, Cigarette Filters and Lighters, Tobacco Packaging/Wrappers	Trail Pedestrians/Nearby Retail and Commercial Businesses/ Moving Vehicles on Northfront Rd.

C.10.c ► Long-Term Trash Load Reduction Plan	
Provide descriptions of significant revisions made to your Long-term Trash Load Reduction Plan submitted to the Water Board in February 2014. Describe significant changes made to primary or secondary trash management areas (TMA), trash generation maps, control measures, or time schedules identified in your plan.	
Description of Significant Revision	Associated TMA
3.2 Current and Planned Control Measures; Corrected Trash Bin/Container Management text to state: <ul style="list-style-type: none"> ○ Existing waste hauler franchise agreement requires <i>generators</i> to increase the size and/or add a container if container is overflowing on a <i>regular basis</i>. 	All
Page 21, Figure 3-2. Trash Full Capture Device Map for the City of Livermore; Updated Map to include six less Connector Pipe Screen Devices that were never installed by West Coast Storm, Inc., improperly installed by West Coast Storm, Inc. and collapsed due to clogging	1, 2, 3, 4 & 17
Page 27, Corrected bullet to state: <ul style="list-style-type: none"> • Street Sweeping – Existing schedule is <i>1x/week for areas with secondary TMAs 4R and 4C, and 2x/month for areas without secondary TMAs 4R and 4C.</i> 	4
Page 37, Added bullet to state: <ul style="list-style-type: none"> ○ Planned City staff enforcement of high trash generating TMA#10R areas without existing full trash capture device. Enforcement includes inspection of areas' waste storage area, parking lot and any partial trash capture device (i.e., CD unit, vortex unit, large interceptor) on private property. Partial trash capture devices shall be maintained by property manager/owner twice a year. 	10
Page 38, Added bullet to state: <ul style="list-style-type: none"> ○ Planned City staff enforcement of high trash generating TMA#11R areas without existing full trash capture device. Enforcement includes inspection of areas' waste storage area, parking lot and any partial trash capture device (i.e., CD unit, vortex unit, large interceptor) on private property. Partial trash capture devices shall be maintained by property manager/owner twice a year. 	11
Page 40, Added bullet to state: <ul style="list-style-type: none"> ○ Planned City staff enforcement of high trash generating TMA#12R areas without existing full trash capture device. Enforcement includes inspection of areas' waste storage area, parking lot and any partial trash capture device (i.e., CD unit, vortex unit, large interceptor) on private property. Partial trash capture devices shall be maintained by property manager/owner twice a year. 	12
Page 68, Add sentence to Anti-littering and Illegal Dumping Enforcement Activities bullet to state: <i>Planned City staff enforcement of high trash generating retail areas without existing full capture device.</i>	10
Page 68, Add sentence to Anti-littering and Illegal Dumping Enforcement Activities bullet to state: <i>Planned City staff enforcement of high trash generating retail areas without existing full capture device.</i>	11

Description of Significant Revision	Associated TMA
<p>Page 69, Add sentence to Anti-littering and Illegal Dumping Enforcement Activities bullet to state: <i>Planned City staff enforcement of high trash generating retail areas without existing full capture device.</i></p>	12
<p>Page 87, 4.3 Additional Progress Assessments; Corrected 1st paragraph to state: <i>In fiscal year 2016-17, the City of Livermore will continue to evaluate the effectiveness of the City's Expanded Polystyrene Ban using ACCWP's assessment methodology for its full trash capture inlet devices included in BASMAA's baseline trash generation rate study.</i></p>	All
<p>Page 87, 4.3 Additional Progress Assessments; Corrected 3rd paragraph to state: <i>In fiscal year 2016-2017, the City of Livermore will continue to evaluate the effectiveness of the City's Multi-family Dwelling Litter Outreach Program using ACCWP's planned assessment mechanisms outlined in 4.1.3 Pilot Assessment Methods.</i></p>	6 & 8
<p>Schaaf & Wheeler's Stormwater Trash Reduction Plan provides detailed guidance on how the City may meet its 2017 and 2022 trash reduction goals through the installation of full capture devices. The Stormwater Trash Reduction Plan supplements the City's Long-term Trash Load Reduction Plan. The Long-term Trash Load Reduction Plan will be revised once the Stormwater Trash Reduction Plan is adopted by City officials. The revised Long-term Trash Reduction Plan will be submitted with next fiscal year's Annual Stormwater Report.</p>	All

C.10.d ► PART A - Trash Control Measure Implementation and Assessment (Jurisdictional-wide Actions)

Provide a description of each jurisdictional-wide trash control measure implemented to-date. Identify the dominant trash source(s) and dominant type(s) of trash addressed by each control measure. For each jurisdictional-wide measure, identify the trash assessment method(s) used to demonstrate on-going reductions, summarize the results of the assessment(s), and estimate the associated reduction of trash within your jurisdictional area.

Control Measure	Summary Description of Control Measure & Dominant Trash Sources and Types	Assessment Method(s)	Summary of Assessment Results To-date	Estimated % Trash Reduced
Single-use Plastic Bag Ordinance or Policy	The Alameda County Waste Management Authority adopted the Single-Use Bag Ban. As of January 1, 2013, all grocery stores, supermarkets, mini-marts, convenience stores, liquor stores, pharmacies, drug stores or other entities that sell milk, bread, soda and snack foods (all four items) and/or alcohol (Type 20 or 21 license) in Alameda County must comply with the Single-Use Bag Ban Ordinance. Affected stores may no longer provide customers with single-use bags at check-out. A copy of the Ordinance is available on the Alameda County Waste Management Authority's website: http://reusablebagsac.org/ordinancetext.html	See Section C.10 of the ACCWP FY 13-14 Annual Report.	See Section C.10 of the ACCWP FY 13-14 Annual Report.	4%

C.10.d ► PART A - Trash Control Measure Implementation and Assessment (Jurisdictional-wide Actions)

Provide a description of each jurisdictional-wide trash control measure implemented to-date. Identify the dominant trash source(s) and dominant type(s) of trash addressed by each control measure. For each jurisdictional-wide measure, identify the trash assessment method(s) used to demonstrate on-going reductions, summarize the results of the assessment(s), and estimate the associated reduction of trash within your jurisdictional area.

<p>Expanded Polystyrene Food Service Ware Ordinance or Policy</p>	<p>On July 1, 2011, the City of Livermore adopted an ordinance banning expanded polystyrene disposable foodservice ware by food vendors. The ordinance requires food vendors to use disposable service ware that is either recyclable or compostable. A copy of the ordinance is available on the City of Livermore's website: http://www.cityoflivermore.net/civicax/filebank/documents/6622/</p> <p>See page 48, Section 3.2.18, of the City's Trash Long-term Reduction Plan for similar information.</p>	<p>See Section C.10 of the ACCWP FY 13-14 Annual Report.</p> <p>Source Control Inspectors performed pretreatment and stormwater inspections at 251 Food Service Establishments during fiscal year 2013-14. During these inspections, Source Control Inspectors surveyed Food Service Establishments for leftover expanded polystyrene (Styrofoam) disposable foodservice ware supplies and/or litter. Source Control Inspectors educated noncompliant Food Service Facilities of the City's ordinance requirement to purchase recyclable or compostable, disposable foodservice ware instead of Styrofoam disposable foodservice ware.</p>	<p>See Section C.10 of the ACCWP FY 13-14 Annual Report.</p> <p>From 2012 to 2014, the number of Food Service Establishments with Styrofoam disposable foodservice ware decreased from 45 to five. During fiscal year 2014-15, the Recycling Specialist will follow-up with the Food Service Establishments using Styrofoam bowls, cups and/or clam shells:</p> <ol style="list-style-type: none"> 1. Hanabishi Japanese Cuisine, 979 E. Stanley Blvd. 2. Spanky's Dog House, 174 S. K St. 3. Granada Bowl, 1620 Railroad Ave. 4. Quizno's Subs, 2476 Las Positas Rd. 5. Ben's Burgers, 777 Rincon Ave. 	<p style="text-align: center;">4%</p>
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C.10.d ► PART A - Trash Control Measure Implementation and Assessment (Jurisdictional-wide Actions)		Estimated % Trash Reduced
Control Measure		
Public Education and Outreach Programs Targeted at Trash Reduction and Implemented post-MRP Adoption	<p><u>Adopt a Creek Spot Program Outreach Efforts:</u></p> <p>The Adopt a Creek Spot Program is a partnership between the Water Resources Division, Zone 7 Water Agency, Livermore Area Recreation and Park District, Alameda County Resource Conservation District, Alameda Creek Watershed Council, Livermore Valley Joint Unified School District and Friends of the Arroyos. The Program's mission is to promote healthy Tri-Valley creeks through active community participation and education.</p> <p>The City of Livermore Water Resources Division and Adopt a Creek Spot (AACS) Program developed the City of Livermore's anti-litter message which specifically defined the City's trash problem, explained how long litter lasts, provided 12 easy ways to prevent litter, and described the City's efforts to keep litter out of waterways. The City's anti-litter message was presented in a City and AACS Program display at public events (i.e., Tri-Valley Creeks to Bay Day) and school presentations (i.e., LVJUSD Science Odyssey), in a City and AACS Program Power Point presentation at group meetings (i.e., California Water Environment Association's Pretreatment, Pollution Prevention and Stormwater (P3S) Meeting) and conferences, (i.e., Alameda County Watershed Annual Conference), and on the City of Livermore Water Resources Division's web page http://www.cityoflivermore.net/citygov/pw/wrd/pollution/keeping_litter_out_of_waterways/default.asp and AACS Programs's website (www.trivalleycreeks.org). The City's general anti-litter outreach message about keeping litter out of storm drains and creeks is still provided in the City of Livermore Water Resources Division's monthly, sewer bill once a year.</p> <p>Also, the City and AACS Program developed the Program's Creek Assessment Activity Form and Creek Assessment Activity Pre and Post-test for middle and high school students. The Creek Assessment Activity helps science students assess creek health by measuring the pollution vulnerability, and the physical, biological and chemical properties of the AACS Spots. The Creek Assessment Pre and Post-test helps science teachers evaluate middle and high school students' knowledge of the City's anti-litter message, etc. The Creek Assessment and Pre and Post-test meet California Department of Education's Common Core State Standards for grades 6 through 12.</p> <p>Dominate trash sources include transients, trail pedestrians, nearby retail and commercial businesses, nearby apartment complexes and moving vehicles.</p> <p>Also, see Public and School Education and Outreach Program, pages 49 through 51, Section 3.2.18, of the City's Trash Long-term Reduction Plan for similar information.</p>	

C.10.d ► PART A - Trash Control Measure Implementation and Assessment (Jurisdictional-wide Actions)		
Control Measure		Estimated % Trash Reduced
<p>Public Education and Outreach Programs Targeted at Trash Reduction and Implemented post-MRP Adoption</p>	<p><u>Livermore Police Department's Litter Bug Hotline Implementation Efforts:</u></p> <p>Individuals can report incidents of littering and illegal dumping using the Livermore Police Department's "Litter-Bug Hotline". Violators in question receive a letter providing the time/location of the violation and what was observed, clean-up cost information, and a warning stating that a citation would be issued for a second violation.</p> <p>The City of Livermore Water Resources Division started promoting the Livermore Police Department's Litter Bug Hotline on its web page.</p> <p>Dominate trash sources are parked and moving vehicles. Dominate trash types include cigarette filters, lighters and packaging/wrappers, tobacco packaging/wrappers, beverage bottles, beverage cans, caps, cups, lids, straws, stirrers, food wrappers and containers, plates, forks, knives, spoons and napkins.</p> <p>See Cigarette Butts, page 49, Section 3.2.18, of the City's Trash Long-term Reduction Plan for more information.</p> <p><u>Livermore Police Department's Litter Bug Hotline Assessment:</u></p> <p>The Livermore Police Department tracks the total number of Litter-Bug Hotline calls received and litter types thrown out of vehicle windows, etc.</p> <p>Fiscal year 2013-14, four Litter-Bug Hotline letters were sent to violators for throwing cigarette butts, drink cup/lid, Kleenex and trash out their car window.</p> <p><u>Cal Trans and CHP's Litter Enforcement Event Outreach Efforts:</u></p> <p>The City of Livermore Police Department promoted covered load and anti-litter messages on its message board located on Vasco Road from June 22, 2014 to June 28, 2014 in lieu of Cal Trans and CHP's Litter Enforcement Event on June 26, 2014.</p>	

C.10.d ► PART B - Trash Control Measure Implementation and Assessment (TMA Specific Actions)

Complete the following trash control measure implementation and assessment summary for each primary trash management area (TMA) identified in your Long-term Plan. Include the following information:

- Identify the total jurisdictional area and the % of that area that generates very high (VH), high (H), moderate (M), or low (L) levels of trash;
- Identify the dominant trash source(s) and dominant type(s) of trash addressed or to-be addressed in the TMA;
- Include the area currently treated by full capture devices, the quantity and type of devices installed to-date, and the % of jurisdictional area that generates very high (VH), high (H), moderate (M), and low (L) levels of trash after accounting for reductions via full capture devices;
- Summarize control measures other than full capture devices implemented to-date, distinguishing between implementation that began pre- and post-MRP effective date. If not implemented in the entire TMA, describe generation category targeted and % of TMA addressed;
- Provide the % of the jurisdictional area that generates very VH, H, M or L levels of trash after accounting for all control measures implemented to-date;
- Describe the methods used to evaluate the effectiveness of control measures other than full capture devices, and any assessment results to-date. If the method was not implemented in the entire TMA, describe generation category targeted and %of TMA addressed; and
- Provide an estimate of the % of trash reduced in the TMA and jurisdiction-wide.

C.10.d ► PART B - Trash Control Measure Implementation and Assessment (TMA Specific Actions)									
TMA ID	TMA Area (Acres)	Dominant Sources	Dominant Types		% TMA in Each Trash Generation Category				
					VH	H	M	L	
1	328	People (Pedestrians and Vehicles)	All Trash Types*	Baseline Generation (Pre-MRP)	0	1	99	0	
Trash Full Capture Devices		Summary Descriptions of Full Trash Capture Devices (Quantity and Type)			After taking into account Full Capture Devices	0	1	53	46
Total Area (Acres)	150	66 Publicly-owned Connector Pipe Screen Devices installed by West Coast Storm, Inc.							
% of TMA	46								
% of VH/H/M	46								
Summary Descriptions of Control Measures Implemented Since MRP Adoption, Other than Full Capture Devices					After taking into account all New or Enhanced (post-MRP) Control Measures	0	1	53	46
<u>Anti-littering and Illegal Dumping Enforcement Activities</u> – <ul style="list-style-type: none"> Perform enforcement of high trash generating retail areas (TMA 1R) without existing full trash capture devices. Enforcement includes inspection of retail areas' waste storage area, parking lot and any partial trash capture device (i.e., CDs unit, vortex unit, large interceptor) located on private property. Participate on Highway Patrol Litter Enforcement Committee to ensure clover leaves off of Interstate Highway 580 in Livermore are cleaned and litter bugs are cited during quarterly Enforcement Days. 									
<u>Activities to Reduce Uncovered Loads</u> – Participate on Highway Patrol Litter Enforcement Committee to ensure uncovered loads on Interstate Highway 580 are cited during quarterly Enforcement Days.									
Assessment Methods for Control Measures Other than Full Capture Devices									
On June 30, 2014, Source Control Section staff performed an On-land Visual Assessment of N. Canyons Parkway near the intersection of N. Canyons Parkway and Constitution Drive using EOA's On-land Visual Assessment Protocol and Data Collection Form.									
Summary of Assessment Results To-date									
The trash condition category of N. Canyons Parkway near the intersection of N. Canyons Parkway and Constitution Drive was "Low" during the On-land Visual Assessment performed on June 30, 2014.									
					Estimated % Trash Reduction in TMA due to New or Enhanced Post-MRP actions		45		
					Estimated % Trash Reduction Jurisdiction-wide due to New or Enhanced Post-MRP actions		3		

C.10.d ► PART B - Trash Control Measure Implementation and Assessment (TMA Specific Actions)									
TMA ID	TMA Area (Acres)	Dominant Sources	Dominant Types		% TMA in Each Trash Generation Category				
					VH	H	M	L	
2	105	People (Pedestrians and Vehicles)	All Trash Types	Baseline Generation (Pre-MRP)	0	53	47	0	
Trash Full Capture Devices		Summary Descriptions of Full Trash Capture Devices (Quantity and Type)			After taking into account Full Capture Devices	0	38	34	28
Total Area (Acres)	29	20 publicly-owned Connector Pipe Screen Devices installed by West Coast Storm, Inc.							
% of TMA	28								
% of VH/H/M	28								
Summary Descriptions of Control Measures Implemented Since MRP Adoption, Other than Full Capture Devices					After taking into account all New or Enhanced (post-MRP) Control Measures	0	38	34	28
<p><u>Anti-littering and Illegal Dumping Enforcement Activities –</u></p> <ul style="list-style-type: none"> Perform enforcement of high trash generating retail areas (TMA 2R) without existing full trash capture devices. Enforcement includes inspection of areas' waste storage area, parking lot and any partial trash capture device (i.e., CDs unit, vortex unit, large interceptor) located on private property. Participate on Highway Patrol Litter Enforcement Committee to ensure clover leaves off of Interstate Highway 580 in Livermore are cleaned and litter bugs are cited during quarterly Enforcement Days. <p><u>Activities to Reduce Uncovered Loads –</u></p> <ul style="list-style-type: none"> Participate on Highway Patrol Litter Enforcement Committee to ensure uncovered loads on Interstate Highway 580 are cited during quarterly Enforcement Days. 									
Assessment Methods for Control Measures Other than Full Capture Devices									
On June 30, 2014, Source Control Section staff performed an On-land Visual Assessment of Las Positas Road near the intersection of Las Positas Road and N. Livermore Avenue using EOA's On-land Visual Assessment Protocol and Data Collection Form									
Summary of Assessment Results To-date									
The trash condition category of Las Positas Road near the intersection of Las Positas Road and N. Livermore Avenue was "Low" during the On-land Visual Assessment performed on June 30, 2014. The last monthly street sweeping event of this "High" trash generating retail and commercial area was performed on June 27, 2014.									
					Estimated % Trash Reduction in TMA due to New or Enhanced Post-MRP actions		28		
					Estimated % Trash Reduction Jurisdiction-wide due to New or Enhanced Post-MRP actions		1		

C.10.d ► PART B - Trash Control Measure Implementation and Assessment (TMA Specific Actions)									
TMA ID	TMA Area (Acres)	Dominant Sources	Dominant Types		% TMA in Each Trash Generation Category				
					VH	H	M	L	
3	79	People (Pedestrians and Vehicles)	All Trash Types	Baseline Generation (Pre-MRP)	0	98	2	0	
Trash Full Capture Devices		Summary Descriptions of Full Trash Capture Devices (Quantity and Type)			After taking into account Full Capture Devices	0	52	1	47
Total Area (Acres)	37	20 publicly-owned, Connector Pipe Screen Devices installed by West Coast Storm, Inc.							
% of TMA	47								
% of VH/H/M	47								
Summary Descriptions of Control Measures Implemented Since MRP Adoption, Other than Full Capture Devices					After taking into account all New or Enhanced (post-MRP) Control Measures	0	52	1	47
<p><u>Anti-littering and Illegal Dumping Enforcement Activities –</u></p> <ul style="list-style-type: none"> Perform enforcement of high trash generating retail areas (TMA 2R) without existing full trash capture devices. Enforcement includes inspection of areas' waste storage area, parking lot and any partial trash capture device (i.e., CDs unit, vortex unit, large interceptor) located on private property. Participate on Highway Patrol Litter Enforcement Committee to ensure clover leaves off of Interstate Highway 580 in Livermore are cleaned and litter bugs are cited during quarterly Enforcement Days. <p><u>Activities to Reduce Uncovered Loads –</u></p> <ul style="list-style-type: none"> Participate on Highway Patrol Litter Enforcement Committee to ensure uncovered loads on Interstate Highway 580 are cited during quarterly Enforcement Days. 									
Assessment Methods for Control Measures Other than Full Capture Devices									
On June 30, 2014, Source Control Section staff performed an On-land Visual Assessment of Las Positas Road near the intersection of Las Positas Road and First Street using EOA's On-land Visual Assessment Protocol and Data Collection Form.									
Summary of Assessment Results To-date									
The trash condition category of Las Positas Road near the intersection of Las Positas Road and First Street was "Medium" during the On-land Visual Assessment performed on June 30, 2014.									
					Estimated % Trash Reduction in TMA due to New or Enhanced Post-MRP actions		47		
					Estimated % Trash Reduction Jurisdiction-wide due to New or Enhanced Post-MRP actions		3		

C.10.d ► PART B - Trash Control Measure Implementation and Assessment (TMA Specific Actions)									
TMA ID	TMA Area (Acres)	Dominant Sources	Dominant Types		% TMA in Each Trash Generation Category				
					VH	H	M	L	
4	1,541	People (Pedestrians and Vehicles)	All Trash Types	Baseline Generation (Pre-MRP)	0	0	84	15	
Trash Full Capture Devices		Summary Descriptions of Full Trash Capture Devices (Quantity and Type)			After taking into account Full Capture Devices	0	0	76	24
Total Area (Acres)	137	13 publicly-owned, Connector Pipe Screen Devices installed by West Coast Storm, Inc.							
% of TMA	9								
% of VH/H/M	10								
Summary Descriptions of Control Measures Implemented Since MRP Adoption, Other than Full Capture Devices					After taking into account all New or Enhanced (post-MRP) Control Measures	0	0	76	24
<u>Anti-littering and Illegal Dumping Enforcement Activities –</u> <ul style="list-style-type: none"> Perform enforcement of high trash generating retail areas (TMA 2R) without existing full trash capture devices. Enforcement includes inspection of areas' waste storage area, parking lot and any partial trash capture device (i.e., CDs unit, vortex unit, large interceptor) located on private property. Participate on Highway Patrol Litter Enforcement Committee to ensure clover leaves off of Interstate Highway 580 in Livermore are cleaned and litter bugs are cited during quarterly Enforcement Days. 									
<u>Activities to Reduce Uncovered Loads –</u> <ul style="list-style-type: none"> Participate on Highway Patrol Litter Enforcement 									
Assessment Methods for Control Measures Other than Full Capture Devices									
On June 30, 2014, Source Control Section staff performed an On-land Visual Assessment of Las Positas Road near the intersection of Las Positas Road and First Street using EOA's On-land Visual Assessment Protocol and Data Collection Form.									
Summary of Assessment Results To-date					Estimated % Trash Reduction in <u>TMA</u> due to New or Enhanced Post-MRP actions	10			
The trash condition category of Las Positas Road near the intersection of Las Positas Road and First Street was "Medium" during the On-land Visual Assessment performed on June 30, 2014.									

C.10.d ► PART B - Trash Control Measure Implementation and Assessment (TMA Specific Actions)									
TMA ID	TMA Area (Acres)	Dominant Sources	Dominant Types		% TMA in Each Trash Generation Category				
					VH	H	M	L	
5	51	People (Pedestrians and Vehicles)	All Trash Types	Baseline Generation (Pre-MRP)	0	100	0	0	
Trash Full Capture Devices		Summary Descriptions of Full Trash Capture Devices (Quantity and Type)			After taking into account Full Capture Devices	0	100	0	0
Total Area (Acres)	0	No devices located in TMA#5							
% of TMA	0								
% of VH/H/M	0								
Summary Descriptions of Control Measures Implemented Since MRP Adoption, Other than Full Capture Devices					After taking into account all New or Enhanced (post-MRP) Control Measures	0	100	0	0
<p><u>On-land Trash Clean-up (of Detention Basin)</u> – In June 2014, contractor removed abated weeds and removed “very little” trash from Southern Diversion Channel for \$5,580.00 and HMP Basin #1 for \$1,675.00.</p> <p><u>Anti-littering and Illegal Dumping Enforcement Activities</u> – Perform enforcement of high trash generating retail areas (TMA 5R) without existing full trash capture devices. Enforcement includes inspection of areas’ waste storage area, parking lot and any partial trash capture device (i.e., CDs unit, vortex unit, large interceptor) located on private property. Participate on Highway Patrol Litter Enforcement Committee to ensure clover leaves off of Interstate Highway 580 in Livermore are cleaned and litter bugs are cited during quarterly Enforcement Days. Participate on Highway Patrol Litter Enforcement Committee to ensure uncovered loads on Interstate Highway 580 are cited during quarterly Enforcement Days.</p>									
Assessment Methods for Control Measures Other than Full Capture Devices									
On June 30, 2014, Source Control Section staff performed an On-land Visual Assessment of W. Jack London Boulevard near the intersection of W. Jack London Boulevard and El Charro Road using EOA’s On-land Visual Assessment Protocol and Data Collection Form.									
Summary of Assessment Results To-date									
The trash condition category of W. Jack London Boulevard near the intersection of W. Jack London Boulevard and El Charro Road was “Medium” during the On-land Visual Assessment performed on June 30, 2014. The next weekly street sweeping event of this “High” trash generating retail area will be performed on June 30, 2014.									
Estimated % Trash Reduction in TMA due to New or Enhanced Post-MRP actions					0				
Estimated % Trash Reduction Jurisdiction-wide due to New or Enhanced Post-MRP actions					0				

C.10.d ► PART B - Trash Control Measure Implementation and Assessment (TMA Specific Actions)									
TMA ID	TMA Area (Acres)	Dominant Sources	Dominant Types		% TMA in Each Trash Generation Category				
					VH	H	M	L	
6	41	People (Pedestrians and Vehicles)	All Trash Types	Baseline Generation (Pre-MRP)	0	100	0	0	
Trash Full Capture Devices		Summary Descriptions of Full Trash Capture Devices (Quantity and Type)		After taking into account Full Capture Devices	0	100	0	0	
Total Area (Acres)	0	No devices located in TMA#6							
% of TMA	0								
% of VH/H/M	0								
Summary Descriptions of Control Measures Implemented Since MRP Adoption, Other than Full Capture Devices					After taking into account all New or Enhanced (post-MRP) Control Measures	0	100	0	0
<p><u>Multi-family Dwelling Litter Reduction Pilot -</u> City worked with ACCWP to develop a litter reduction pilot targeting multi-family (condominium and apartment) complexes known to be sites with significant litter issues. City chose Livermore Garden Apartments (located at 5720 East Avenue) as the "Control Site" for this Pilot. This successful Pilot will be replicated at neighboring multi-family complexes located throughout the TMA pending property manager/owner support. See attached <u>Project Report from Gigantic Ideas to ACCWP Project Manager</u>, Jim Scanlin, regarding "Synthesis of MFD Litter Pilot Results & Recommendations" for more detailed information under C.10 Attachments.</p>									
Assessment Methods for Control Measures Other than Full Capture Devices									
<p>On June 30, 2014, Source Control Section staff performed an On-land Visual Assessment of East Avenue near the intersection of East Avenue and Charlotte Way using EOA's On-land Visual Assessment Protocol and Data Collection Form.</p>									
Summary of Assessment Results To-date									
<p>The trash condition category of East Avenue near the intersection of East Avenue and Charlotte Way was "Low" during the On-land Visual Assessment performed on June 30, 2014. The last monthly street sweeping event of this "High" trash generating multi-family dwelling area was performed on June 4, 2014.</p>									
					Estimated % Trash Reduction in TMA due to New or Enhanced Post-MRP actions		0		
					Estimated % Trash Reduction Jurisdiction-wide due to New or Enhanced Post-MRP actions		0		

C.10.d ► PART B - Trash Control Measure Implementation and Assessment (TMA Specific Actions)									
TMA ID	TMA Area (Acres)	Dominant Sources	Dominant Types		% TMA in Each Trash Generation Category				
					VH	H	M	L	
7	240	People (Pedestrians and Vehicles)	All Trash Types	Baseline Generation (Pre-MRP)	0	45	55	0	
Trash Full Capture Devices		Summary Descriptions of Full Trash Capture Devices (Quantity and Type)			After taking into account Full Capture Devices	0	45	55	0
Total Area (Acres)	0	No devices located in TMA#7							
% of TMA	0								
% of VH/H/M	0								
Summary Descriptions of Control Measures Implemented Since MRP Adoption, Other than Full Capture Devices					After taking into account all New or Enhanced (post-MRP) Control Measures				
Anti-littering and Illegal Dumping Enforcement Activities – • Perform enforcement of high trash generating retail areas (TMA 7R) without existing full trash capture devices. Enforcement includes inspection of areas' waste storage area, parking lot and any partial trash capture device (i.e., CDs unit, vortex unit, large interceptor) located on private property.									
Assessment Methods for Control Measures Other than Full Capture Devices									
On June 30, 2014, Source Control Section staff performed an On-land Visual Assessment of Pacific Avenue near the intersection of Pacific Avenue and S. Livermore Avenue using EOA's On-land Visual Assessment Protocol and Data Collection Form.									
Summary of Assessment Results To-date									
The trash condition category of Pacific Avenue near the intersection of Pacific Avenue and S. Livermore Avenue was "High" during the On-land Visual Assessment performed on June 30, 2014. The next monthly street sweeping event of this "High" trash generating retail area will be performed on July 9, 2014. Source Control Section staff confirmed that trash bin/container (waste storage) areas from nearby shopping center businesses were being maintained on July 10, 2014.									
					Estimated % Trash Reduction in TMA due to New or Enhanced Post-MRP actions		0		
					Estimated % Trash Reduction Jurisdiction-wide due to New or Enhanced Post-MRP actions		0		

C.10.d ► PART B - Trash Control Measure Implementation and Assessment (TMA Specific Actions)									
TMA ID	TMA Area (Acres)	Dominant Sources	Dominant Types		% TMA in Each Trash Generation Category				
					VH	H	M	L	
8	300	People (Pedestrians and Vehicles)	All Trash Types	Baseline Generation (Pre-MRP)	0	42	53	5	
Trash Full Capture Devices		Summary Descriptions of Full Trash Capture Devices (Quantity and Type)			After taking into account Full Capture Devices	0	42	49	9
Total Area (Acres)	13	No publicly-owned full capture devices located in TMA#8.							
% of TMA	4								
% of VH/H/M	4								
Summary Descriptions of Control Measures Implemented Since MRP Adoption, Other than Full Capture Devices					After taking into account all New or Enhanced (post-MRP) Control Measures	0	42	49	9
<p><u>Anti-littering and Illegal Dumping Enforcement Activities</u> – Perform enforcement of high trash generating retail areas (TMA 8R) without existing full trash capture devices. Enforcement includes inspection of areas' waste storage area, parking lot and any partial trash capture device (i.e., CDs unit, vortex unit, large interceptor) located on private property.</p> <p><u>Multi-family Dwelling Litter Reduction Pilot</u>: City worked with ACCWP to develop a litter reduction pilot targeting multi-family (condominium and apartment) complexes known to be sites with significant litter issues. City chose Castilleja del Arroyo Condos (located at 1001 & 1009 Murrieta Boulevard) as the "Outreach Site", and La Castilleja Condominiums (located at 975 Murrieta Boulevard) as the "Norming Site" for this Pilot. This successful Pilot will be replicated at neighboring multi-family complexes located throughout the TMA pending property manager/owner support. See attached <u>Project Report from Gigantic Ideas to ACCWP Project Manager</u>, Jim Scanlin, regarding "Synthesis of MFD Litter Pilot Results & Recommendations" for more detailed information under C.10 Attachments.</p>									
Assessment Methods for Control Measures Other than Full Capture Devices									
On June 30, 2014, Source Control Section staff performed an On-land Visual Assessment of First Street near the intersection of First Street and Holmes Street on June 30, 2014 using EOA's On-land Visual Assessment Protocol and Data Collection Form.									
Summary of Assessment Results To-date									
The trash condition category of First Street near the intersection of First Street and Holmes Street was "Low" during the On-land Visual Assessment performed on June 30, 2014. The last weekly street sweeping event of this "High" trash generating retail and commercial area was performed on June 25, 2014.									
					Estimated % Trash Reduction in TMA due to New or Enhanced Post-MRP actions		2		
					Estimated % Trash Reduction Jurisdiction-wide due to New or Enhanced Post-MRP actions		0		

C.10.d ► PART B - Trash Control Measure Implementation and Assessment (TMA Specific Actions)								
TMA ID	TMA Area (Acres)	Dominant Sources	Dominant Types		% TMA in Each Trash Generation Category			
					VH	H	M	L
9	254	People (Pedestrians and Vehicles)	All Trash Types	Baseline Generation (Pre-MRP)	0	5	94	1
Trash Full Capture Devices		Summary Descriptions of Full Trash Capture Devices (Quantity and Type)		After taking into account Full Capture Devices	0	5	94	1
Total Area (Acres)	0	No publicly-owned full capture devices located in TMA#9.						
% of TMA	0							
% of VH/H/M	0							
Summary Descriptions of Control Measures Implemented Since MRP Adoption, Other than Full Capture Devices				After taking into account all New or Enhanced (post-MRP) Control Measures	0	5	94	1
Anti-littering and Illegal Dumping Enforcement Activities – <ul style="list-style-type: none"> Perform enforcement of high trash generating retail areas (TMA 9R) without existing full trash capture devices. Enforcement includes inspection of areas' waste storage area, parking lot and any partial trash capture device (i.e., CDs unit, vortex unit, large interceptor) located on private property. 								
Assessment Methods for Control Measures Other than Full Capture Devices								
On June 30, 2014, Source Control Section staff performed an On-land Visual Assessment of N. Murrieta Boulevard near the intersection of N. Murrieta Boulevard and Portola Avenue using EOA's On-land Visual Assessment Protocol and Data Collection Form.								
Summary of Assessment Results To-date								
The trash condition category of N. Murrieta Boulevard near the intersection of N. Murrieta Boulevard and Portola Avenue was "Low" during the On-land Visual Assessment performed on June 30, 2014.								
Estimated % Trash Reduction in TMA due to New or Enhanced Post-MRP actions					0			
Estimated % Trash Reduction Jurisdiction-wide due to New or Enhanced Post-MRP actions					0			

C.10.d ► PART B - Trash Control Measure Implementation and Assessment (TMA Specific Actions)									
TMA ID	TMA Area (Acres)	Dominant Sources	Dominant Types		% TMA in Each Trash Generation Category				
					VH	H	M	L	
10	121	People (Pedestrians and Vehicles)	All Trash Types	Baseline Generation (Pre-MRP)	0	11	89	0	
Trash Full Capture Devices		Summary Descriptions of Full Trash Capture Devices (Quantity and Type)			After taking into account Full Capture Devices	0	11	89	0
Total Area (Acres)	0	No publicly-owned full capture devices located in TMA#10.							
% of TMA	0								
% of VH/H/M	0								
Summary Descriptions of Control Measures Implemented Since MRP Adoption, Other than Full Capture Devices					After taking into account all New or Enhanced (post-MRP) Control Measures	0	11	89	0
Anti-littering and Illegal Dumping Enforcement Activities – <ul style="list-style-type: none"> Perform enforcement of high trash generating retail areas (TMA 10R) without existing full trash capture devices. Enforcement includes inspection of areas' waste storage area, parking lot and any partial trash capture device (i.e., CDs unit, vortex unit, large interceptor) located on private property. 									
Assessment Methods for Control Measures Other than Full Capture Devices									
On June 30, 2014, Source Control Section staff performed an On-land Visual Assessment of Junction Avenue near the intersection of Junction Avenue and Chestnut Street using EOA's On-land Visual Assessment Protocol and Data Collection Form.									
Summary of Assessment Results To-date									
The trash condition category of Junction Avenue near the intersection of Junction Avenue and Chestnut Street was "Medium" during the On-land Visual Assessment performed on June 30, 2014.					Estimated % Trash Reduction in <u>TMA</u> due to New or Enhanced Post-MRP actions	0			
						Estimated % Trash Reduction <u>Jurisdiction-wide</u> due to New or Enhanced Post-MRP actions	0		

C.10.d ► PART B - Trash Control Measure Implementation and Assessment (TMA Specific Actions)									
TMA ID	TMA Area (Acres)	Dominant Sources	Dominant Types		% TMA in Each Trash Generation Category				
					VH	H	M	L	
11	184	People (Pedestrians and Vehicles)	All Trash Types	Baseline Generation (Pre-MRP)	0	7	93	0	
Trash Full Capture Devices		Summary Descriptions of Full Trash Capture Devices (Quantity and Type)			After taking into account Full Capture Devices	0	7	93	0
Total Area (Acres)	0	No publicly-owned full capture devices located in TMA#11.							
% of TMA	0								
% of VH/H/M	0								
Summary Descriptions of Control Measures Implemented Since MRP Adoption, Other than Full Capture Devices					After taking into account all New or Enhanced (post-MRP) Control Measures	0	7	93	0
Anti-littering and Illegal Dumping Enforcement Activities – <ul style="list-style-type: none"> Perform enforcement of high trash generating retail areas (TMA 11R) without existing full trash capture devices. Enforcement includes inspection of areas' waste storage area, parking lot and any partial trash capture device (i.e., CDs unit, vortex unit, large interceptor) located on private property. 									
Assessment Methods for Control Measures Other than Full Capture Devices									
On June 30, 2014, Source Control Section staff performed an On-land Visual Assessment of Rickenbacker Circle near the intersection of Rickenbacker Circle and Kitty Hawk Road using EOA's On-land Visual Assessment Protocol and Data Collection Form.									
Summary of Assessment Results To-date									
The trash condition category of Rickenbacker Circle near the intersection of Rickenbacker Circle and Kitty Hawk Road was "Low" during the On-land Visual Assessment performed on June 30, 2014.									
					Estimated % Trash Reduction in TMA due to New or Enhanced Post-MRP actions		0		
					Estimated % Trash Reduction Jurisdiction-wide due to New or Enhanced Post-MRP actions		0		

C.10.d ► PART B - Trash Control Measure Implementation and Assessment (TMA Specific Actions)									
TMA ID	TMA Area (Acres)	Dominant Sources	Dominant Types		% TMA in Each Trash Generation Category				
					VH	H	M	L	
12	113	People (Pedestrians and Vehicles)	All Trash Types	Baseline Generation (Pre-MRP)	0	28	72	0	
Trash Full Capture Devices		Summary Descriptions of Full Trash Capture Devices (Quantity and Type)			After taking into account Full Capture Devices	0	27	72	1
Total Area (Acres)	1	No publicly-owned full capture devices located in TMA# 12.							
% of TMA	1								
% of VH/H/M	1								
Summary Descriptions of Control Measures Implemented Since MRP Adoption, Other than Full Capture Devices					After taking into account all New or Enhanced (post-MRP) Control Measures	0	27	72	1
Anti-littering and Illegal Dumping Enforcement Activities – <ul style="list-style-type: none"> Perform enforcement of high trash generating retail areas (TMA 12R) without existing full trash capture devices. Enforcement includes inspection of areas' waste storage area, parking lot and any partial trash capture device (i.e., CDs unit, vortex unit, large interceptor) located on private property. 									
Assessment Methods for Control Measures Other than Full Capture Devices									
On June 30 2014, Source Control Section staff performed an On-land Visual Assessment of Scenic Avenue near the intersection of Scenic Avenue and N. Vasco Road using EOA's On-land Visual Assessment Protocol and Data Collection Form.									
Summary of Assessment Results To-date									
The trash condition category of Scenic Avenue near the intersection of Scenic Avenue and N. Vasco Road Way was "Low" during the On-land Visual Assessment performed on June 30, 2014. The last monthly street sweeping event of this "High" trash generating retail area was performed on June 2, 2014.									
					Estimated % Trash Reduction in TMA due to New or Enhanced Post-MRP actions		2		
					Estimated % Trash Reduction Jurisdiction-wide due to New or Enhanced Post-MRP actions		0		

C.10.d ► PART B - Trash Control Measure Implementation and Assessment (TMA Specific Actions)									
TMA ID	TMA Area (Acres)	Dominant Sources	Dominant Types		% TMA in Each Trash Generation Category				
					VH	H	M	L	
13	50	People (Pedestrians and Vehicles)	All Trash Types	Baseline Generation (Pre-MRP)	0	0	100	0	
Trash Full Capture Devices		Summary Descriptions of Full Trash Capture Devices (Quantity and Type)			After taking into account Full Capture Devices	0	0	100	0
Total Area (Acres)	0	No publicly-owned full capture devices located in TMA# 13.							
% of TMA	0								
% of VH/H/M	0								
Summary Descriptions of Control Measures Implemented Since MRP Adoption, Other than Full Capture Devices					After taking into account all New or Enhanced (post-MRP) Control Measures	0	0	100	0
No control measures implemented in TMA since MRP adoption.									
Assessment Methods for Control Measures Other than Full Capture Devices									
On June 30, 2014, Source Control Section staff performed an On-land Visual Assessment of Research Drive near the intersection of Research Drive and East Avenue using EOA's On-land Visual Assessment Protocol and Data Collection Form.									
Summary of Assessment Results To-date					Estimated % Trash Reduction in TMA due to New or Enhanced Post-MRP actions	0			
The trash condition category of Research Drive near the intersection of Research Drive and East Avenue was "High" during the On-land Visual Assessment performed on June 30, 2014. There was evidence of construction workers and HBW Building workers depositing beverage bottles/cans, food packaging wrappers/containers, and a plastic spoon near 2011 Research Drive. Source Control Section staff provided outreach to Southwhite Road Church of Christ construction site manager to provide to his workers and HBW Building property manager on July 7, 2014 to provide to his tenants. The next monthly street sweeping event of this "Medium" trash generating industrial area will be performed on July 2, 2014.						Estimated % Trash Reduction Jurisdiction-wide due to New or Enhanced Post-MRP actions			
					0				

C.10.d ► PART B - Trash Control Measure Implementation and Assessment (TMA Specific Actions)									
TMA ID	TMA Area (Acres)	Dominant Sources	Dominant Types		% TMA in Each Trash Generation Category				
					VH	H	M	L	
14	80	People (Pedestrians and Vehicles)	All Trash Types	Baseline Generation (Pre-MRP)	0	0	100	0	
Trash Full Capture Devices		Summary Descriptions of Full Trash Capture Devices (Quantity and Type)			After taking into account Full Capture Devices	0	0	90	10
Total Area (Acres)	8	No publicly-owned full capture devices located in TMA# 14.							
% of TMA	10								
% of VH/H/M	10								
Summary Descriptions of Control Measures Implemented Since MRP Adoption, Other than Full Capture Devices					After taking into account all New or Enhanced (post-MRP) Control Measures	0	0	90	10
No control measures implemented in TMA since MRP adoption.									
Assessment Methods for Control Measures Other than Full Capture Devices									
On June 30, 2014, Source Control Section staff performed an On-land Visual Assessment of Concannon Boulevard near the intersection of Concannon Boulevard and Holmes Street using EOA's On-land Visual Assessment Protocol and Data Collection Form.									
Summary of Assessment Results To-date									
The trash condition category of Concannon Boulevard near the intersection of Concannon Boulevard and Holmes Street was "Low" during the On-land Visual Assessment performed on June 30, 2014.									
					Estimated % Trash Reduction in TMA due to New or Enhanced Post-MRP actions		10		
					Estimated % Trash Reduction Jurisdiction-wide due to New or Enhanced Post-MRP actions		0		

C.10.d ► PART B - Trash Control Measure Implementation and Assessment (TMA Specific Actions)									
TMA ID	TMA Area (Acres)	Dominant Sources	Dominant Types		% TMA in Each Trash Generation Category				
					VH	H	M	L	
15	287	People (Pedestrians and Vehicles)	All Trash Types	Baseline Generation (Pre-MRP)	0	0	100	0	
Trash Full Capture Devices		Summary Descriptions of Full Trash Capture Devices (Quantity and Type)			After taking into account Full Capture Devices	0	0	98	2
Total Area (Acres)	6	No publicly-owned full capture devices located in TMA# 15.							
% of TMA	2								
% of VH/H/M	2								
Summary Descriptions of Control Measures Implemented Since MRP Adoption, Other than Full Capture Devices					After taking into account all New or Enhanced (post-MRP) Control Measures	0	0	98	2
No control measures implemented in TMA since MRP adoption.									
Assessment Methods for Control Measures Other than Full Capture Devices									
On June 30, 2014, Source Control Section staff performed an On-land Visual Assessment of Maple Street located in front of Livermore High School parking lot using EOA's On-land Visual Assessment Protocol and Data Collection Form.									
Summary of Assessment Results To-date									
The trash condition category of Maple Street near the Livermore High School parking lot was "Low" during the On-land Visual Assessment performed on June 30, 2014.									
					Estimated % Trash Reduction in TMA due to New or Enhanced Post-MRP actions		2		
					Estimated % Trash Reduction Jurisdiction-wide due to New or Enhanced Post-MRP actions		0		

C.10.d ► PART B - Trash Control Measure Implementation and Assessment (TMA Specific Actions)									
TMA ID	TMA Area (Acres)	Dominant Sources	Dominant Types		% TMA in Each Trash Generation Category				
					VH	H	M	L	
16	344	People (Pedestrians and Vehicles)	All Trash Types	Baseline Generation (Pre-MRP)	0	0	100	0	
Trash Full Capture Devices		Summary Descriptions of Full Trash Capture Devices (Quantity and Type)			After taking into account Full Capture Devices	0	0	100	0
Total Area (Acres)	1	No publicly-owned full capture devices located in TMA# 16.							
% of TMA	0								
% of VH/H/M	0								
Summary Descriptions of Control Measures Implemented Since MRP Adoption, Other than Full Capture Devices					After taking into account all New or Enhanced (post-MRP) Control Measures	0	0	100	0
No control measures implemented in TMA since MRP adoption.									
Assessment Methods for Control Measures Other than Full Capture Devices									
On June 30, 2014, Source Control Section staff performed an On-land Visual Assessment of Wetmore Road located in front of Sycamore Grove Park parking lot using EOA's On-land Visual Assessment Protocol and Data Collection Form.									
Summary of Assessment Results To-date									
The trash condition category of Wetmore Road near the Sycamore Grove Park parking lot was "Low" during the On-land Visual Assessment performed on June 30, 2014.									
					Estimated % Trash Reduction in TMA due to New or Enhanced Post-MRP actions		0		
					Estimated % Trash Reduction Jurisdiction-wide due to New or Enhanced Post-MRP actions		0		

C.10.d ► PART B - Trash Control Measure Implementation and Assessment (TMA Specific Actions)									
TMA ID	TMA Area (Acres)	Dominant Sources	Dominant Types		% TMA in Each Trash Generation Category				
					VH	H	M	L	
17	11,096	People (Pedestrians and Vehicles)	All Trash Types	Baseline Generation (Pre-MRP)	0	0	0	100	
Trash Full Capture Devices		Summary Descriptions of Full Trash Capture Devices (Quantity and Type)			After taking into account Full Capture Devices	0	0	0	100
Total Area (Acres)	189	49 publicly-owned, Connector Pipe Screen Devices installed by West Coast Storm, Inc.							
% of TMA									
% of VH/H/M	2								
Summary Descriptions of Control Measures Implemented Since MRP Adoption, Other than Full Capture Devices					After taking into account all New or Enhanced (post-MRP) Control Measures	0	0	0	100
No control measures implemented in TMA besides Full Capture Devices since MRP adoption.									
Assessment Methods for Control Measures Other than Full Capture Devices									
On June 30, 2014, Source Control Section staff performed an On-land Visual Assessment of Concannon Boulevard near the intersection of Concannon Boulevard and Isabel Avenue using EOA's On-land Visual Assessment Protocol and Data Collection Form.									
Summary of Assessment Results To-date					Estimated % Trash Reduction in TMA due to New or Enhanced Post-MRP actions	<1			
The trash condition category of Concannon Boulevard near the intersection of Concannon Boulevard and Isabel Avenue was "Low".									
					Estimated % Trash Reduction Jurisdiction-wide due to New or Enhanced Post-MRP actions	0			

C.10.d ► PART B - Trash Control Measure Implementation and Assessment (TMA Specific Actions)

Dominant Types	
<p>All Trash Types* include the following: Paper and Plastic Bags, Plastic and Glass Beverage Bottles, Beverage Cans, Caps/Lids, Straws/Stirrers, Cups/Plates/Forks/Knives/Spoons/Napkins, Food Wrappers/Containers, Paper, Plastic Film/Sheeting/Tarps, Cigarette Filters and Lighters, Tobacco Packaging/Wrappers, Clothing/Shoes, Batteries, Building Materials, Styrofoam Packaging Materials, Oil/Lube Bottles, Tires, Car Parts, Toys, Bicycles, Home Appliances, Furniture, Shopping Carts</p>	

C.10.d ► PART C – Estimated Overall Trash Load Reduction

For Population-based Permittees, provide an estimate of the overall trash reduction percentage achieved to-date within the jurisdictional area of your municipality that generates problematic trash levels (i.e., Very High, High or Moderate trash generation). Base the estimate on the information presented in C.10.d – Parts A and B and creek/shoreline cleanups not reported in C.10.b.iii. Provide a statement regarding the confidence in the estimate and challenges and/or successes in measuring progress towards the 40% trash reduction target described in provision C.10.

Discussion of Trash Reduction Estimate:

- Estimated % Trash Reduction due to Jurisdictional-wide Actions -
 See Section C.10 of the ACCWP FY 13-14 Annual Report for the discussion of the confidence and uncertainty associated with the estimate.
- Estimated % Trash Reduction due to Creek/Shoreline Clean-ups -
 The City of Livermore is confident with the estimated % trash reduction of 7% due to Creek/Shoreline Clean-ups since 2,846 gallons of trash was collected from nine Livermore Creek Spots.

Estimated % Trash Reduction due to Jurisdictional-wide Actions	8%
Estimated % Trash Reduction due to Trash Full Capture Devices (All TMAs)	10%
Estimated % Trash Reduction due to Other Control Measures (All TMAs)	0
SubTotal for Above Actions	18%
Estimated % Trash Reduction due to Creek/Shoreline Cleanups (All TMAs)	7%
Total Estimated % Trash Reduction in FY 13-14	25%

C.10 Additional Comments:

City of Livermore staff continues to have serious concerns over the trash management approach being required by Regional Board staff in the C.10 provision of the MRP. Staff believes that the C.10 provisions, as currently written, fail to incorporate some of the key concepts and lessons learned by the Bay Area Stormwater programs over the last 20 years. Moreover, not only do the requirements fail to incorporate key lessons learned by years of experience implementing stormwater regulations; they actually directly contradict those hard-fought lessons. In the early 1990's, the Alameda County Clean Water Program conducted a great deal of pollutant monitoring in local creeks and streams to characterize stormwater pollutants. One of the outcomes of this early creek monitoring work was a data evaluation to determine the efficacy of routine stream monitoring. One of the outcomes of this monitoring and data evaluation was an analysis by Woodward Clyde Consultants that showed that pollutant monitoring in local receiving waters was ineffective in determining the "progress" or "success" of pollutant control or removal efforts due to the variability in pollutant levels. The data analysis found that even if the stormwater programs were capable of reducing the level of a particular pollutant by 50%, we might only be able to identify that reduction 20% of the time based on pollutant sampling due to the variability of stormwater sampling, flow and antecedent dry period. The same concepts will hold true with a physical pollutant such as trash. Therefore, the goals of reducing trash by 40, 70, or 100 percent by a given date certain is not reasonable given the nature of stormwater pollutant sampling, or in this case, a period visual evaluation of trash management areas. It is simply not possible to use this type of period measurement to quantify trash management efforts, since one or several pieces of trash deposited on the day an assessment is done might skew weeks or months with "no" visible trash. Basically, the approach is overly-simplistic and unlikely to yield useful results.

Also, the C.10 provisions in the MRP ignores the concept of "starting at the source", which has been a key to addressing numerous stormwater pollution sources. The focus on "full-trash capture" in the MRP requirements ignores the "start at the source concept", or the idea of preventing litter in the first place, and instead focuses on "end of pipe capture" which is likely to be much less effective and contradicts years of stormwater regulatory experience. A better approach would be to focus on source reduction, education or outreach rather than on end-of-pipe treatment. The lack of emphasis on source control in the C.10 requirements is likely to doom the programs to failure, or worse, might actually *increase* the amount of litter once the public realize that cities have installed a "trash-can" in every catch basin or at the end of every storm drain pipe. There is little incentive for residents to NOT litter if the City is installing devices to remove and dispose of it later.

The City of Livermore originally submitted its "Short Term Trash Plan" as required on February 1, 2012. This plan was based on the methodology created by BASMAA and the Clean Water Programs at that time. Under this methodology, a Preliminary Trash Baseline Load of 26,359 gallons for Livermore was identified. Livermore's planned trash actions under this version resulted in 54.8% calculated trash reduction. Subsequently,

this methodology and its assumptions were changed after discussions amongst BASMAA, the Cleanwater Programs, and NGOs. At that time, the RWQCB staff advised the Cleanwater Programs to focus their efforts on developing their “Long Term Trash Reduction Plan”. The substantial changes adopted with this revised methodology resulted in a new higher Preliminary Trash Baseline Load and decrease in the percentage of trash reduction given for implementing specific trash reducing measures. For example, under the 2012 established methodology, a Single-Use Carryout Bag Policy resulted in 10% load reduction, a Polystyrene Foam Food Service Ware Policy resulted in and 8% load reduction, and a Public Education and Outreach Program resulted in and 8% reduction. However, after these changes were made, Livermore’s new Preliminary Trash Baseline Load increased from 26,359 gallons to 40,968 gallons and the reduction for a Single-Use Carryout Bag policy and a Polystyrene Foam Food Service Ware Policy were reduced to 4% respectively.

As can be seen from Table 10.D Part C of this report, Livermore has an “estimated” 25% trash reduction based on the evaluation of its current efforts using the current calculation methodology provided by BASMAA. This falls short of the required “reduction” of “40%” by 2014, however, Livermore is focusing its efforts on developing a “Long Term Trash Reduction Plan” to meet the long-term trash reduction requirements as advised by RWQCB staff. During this reporting period, Livermore contracted with Schaaf & Wheeler” to develop a long term trash plan to meet the MRP section C.10 requirements. The City of Livermore is currently evaluating the two options identified in this report that will enable Livermore to meet the 70% trash reduction requirement. Option #1 identifies key areas to install a variety of full trash capture devices within the City of Livermore’s publicly owned storm drain system that will enable Livermore to calculate/demonstrate a 70% trash reduction under the current established methodology. Option #2 identifies a program in which owners of private property in Commercial, Retail and Industrial areas would be required to install full trash capture devices on their private storm sewer systems prior to connection to the City owned storm sewer system. Option #2 also enables Livermore to calculate/demonstrate a 70% reduction under the current established methodology. Please refer to **“Stormwater Trash Reduction Plan (Schaaf and Wheeler, September 2014)”** contained under C.10 attachments for complete details. Once the City selects an option to pursue, the City shall revise its “Long Term Trash Plan” accordingly and provide an update to the RWQCB.

Once the City has firmly identified its long term plan and establishes an implementation plan, it is very likely that the City will cease or greatly reduce its efforts for all other trash related measures that do not result in recognizable or “calculated reductions” under the current assessment methodology. Given the structure that is set up under the MRP and the methodology to quantify trash reductions with a “real” numerical value adopted by BASMAA, one should question, “Why would any municipality engage in an activity that does not result in a recognizable or “calculated reduction” for trash reduction? For example, no reduction is identified for Public Education and Outreach unless the municipality can come up with a defensible, “calculated” value. As it is almost impossible to quantify the effectiveness of public education and outreach in terms of “gallons of trash” reduced or a “trash reduction percentage” in real meaningful numbers, a municipality that is taking a conservative

approach in calculating its trash reduction cannot obtain any “credit” for these efforts. Livermore has taken a conservative approach in quantifying its trash reductions reported in this Annual Report. If pressed, the City could certainly identify a number, provide some supportive dialogue on how this number was established, but in reality any such number is just a “number” that is, at best, an educated guess. Regrettably for these reasons, the City will reduce its efforts on public outreach. Programs such as the “Adopt A Creek Spot Program” which actively engages the community in our litter efforts will be greatly scaled back. For years, many Cleanwater Programs operated under the primary guiding principle of “Start at the Source”. The most effective long term solution to stormwater pollution was to educate and change behavior. The source of litter is the result of a behavioral issue. Product bans will not stop litter. They may change the nature of the items littered; however, they will not reduce or stop litter. The installation of trash capture devices will retain and catch some of the litter, but littering will still persist. The only way to effect, real, long term, and measurable change is educating the populous and changing behavior. The MRP, however, places a greater emphasis on end of pipe solutions and treating the resulting “symptoms” of the litter issue. While we still believe Public Outreach and Education is important and is actually more important and effective than installing trash capture devices, we most focus out time, money, and efforts on those measures that equate to permit compliance.

The City of Livermore has made a good faith effort with the development of this “Long Term Trash Reduction” plan to meet the MRP requirements; however, if the methodologies and the goals continue to change, the City of Livermore cannot guarantee meeting compliance with regulations/requirements that seem to be a moving target.

Section 11 - Provision C.11 Mercury Controls

C.11.a.i ► Mercury Recycling Efforts

List below or attach lists of efforts to promote, facilitate, and/or participate in collection and recycling of mercury containing devices and equipment at the consumer level (e.g., thermometers, thermostats, switches, bulbs).

See Section C.11 of the ACCWP FY 13-14 Annual Report for a summary of countywide recycling efforts.

The City of Livermore continues to operate a thermometer exchange program in which residents can drop off mercury thermometers at the Livermore Water Reclamation Plant. The mercury thermometers collected from this program are disposed of through the Alameda County Household Hazardous Waste Facility. When this program was initially started several years ago, participation rate were high. Over the last couple of years, participation in this program has significantly decreased.

C.11.a.ii ► Mercury Collection

Provide an estimate of the mass of mercury collected through these efforts, or provide a reference to a report containing this estimate.

Please refer to the ACCWP FY 13-14 Annual Report for an estimate of the mass of mercury collected through collection and recycling efforts in the Countywide Program area.

Mercury Containing Device/Equipment	Total Amount of Devices Collected	Estimated Mass of Mercury Collected
Fluorescent Lamps ⁹¹ (linear feet)		
CFLs ⁹² (each)		
Thermostats ⁹³ (each)		
Thermostats (lbs)		
Thermometers (each)		
Switches (lbs)		
Total Mass of Mercury Collected During FY 2013-2014:		

⁹¹ Only linear fluorescent lamps should be included

⁹² Only compact fluorescent lamps should be included

⁹³ Thermostats can be reported by quantity or by pounds. Whichever unit is used, please avoid double-counting.

- C.11.b ▶ Monitor Methylmercury**
- C.11.c ▶ Pilot Projects to Investigate and Abate Mercury Sources in Drainages**
- C.11.d ▶ Pilot Projects to Evaluate and Enhance Municipal Sediment Removal and Management Practices**
- C.11.e ▶ Conduct Pilot Projects to Evaluate On-Site Stormwater Treatment via Retrofit**
- C.11.f ▶ Diversion of Dry Weather and First Flush Flows to POTWs**
- C.11.g ▶ Monitor Stormwater Mercury Pollutant Loads and Loads Reduced**
- C.11.h ▶ Fate and Transport Study of Mercury In Urban Runoff**
- C.11.i ▶ Development of a Risk Reduction Program Implemented Throughout the Region**
- C.11.j ▶ Develop Allocation Sharing Scheme with Caltrans**

State below if information is reported in a separate regional report. Municipalities that participate directly in regional activities to can provide descriptions below.

Summary

A summary of ACCWP and regional accomplishments for these sub-provisions are included within the C.11 Mercury Controls section of Program's FY 13-14 Annual Report, and the March 2014 Integrated Monitoring Report.

Section 12 - Provision C.12 PCBs Controls

C.12.a.ii,iii ▶ Ongoing Training

(For FY 10-11 Annual Report and Each Annual Report Thereafter) List below or attach description of ongoing training development and inspections for PCB identification, including documentation and referral to appropriate regulatory agencies (e.g. county health departments, Department of Toxic Substances Control, California Department of Public Health, and the Water Board) as necessary.

Description:

See the FY 13-14 ACCWP Annual Report for a description of PCB related training.

The City of Livermore participates on the ACCWP's "PCB Reduction Strategy Work Group". Geosyntec has been hired as a consultant to work with ACCWP member to develop a PCB inspection and reduction plan. Currently, the city is evaluating 28 parcels that were identified as "old industrial" parcels according to the Alameda County Source Property Database as part of ACCWP's "Hunting for PCB Hotspots: Screening for Potential PCB Source Properties (Geosyntec, July 22, 2014)". Many of these sites have been eliminated as potential sites for further PCB investigation as they have been redeveloped after 1980. A final report on this evaluation of potential PCB sites will be submitted via the ACCWP prior to the end of the 2014 calendar year.

C.12.b ▶ Conduct Pilot Projects to Evaluate Managing PCB-Containing Materials and Wastes during Building Demolition and Renovation Activities

C.12.c ▶ Pilot Projects to Investigate and Abate On-land Locations with Elevated PCB Concentrations

C.12.d ▶ Conduct Pilot Projects to Evaluate and Enhance Municipal Sediment Removal and Management Practices

C.12.e ▶ Conduct Pilot Projects to Evaluate On-Site Stormwater Treatment via Retrofit

C.12.f ▶ Diversion of Dry Weather and First Flush Flows to POTWs

C.12.g ▶ Monitor Stormwater PCB Pollutant Loads and Loads Reduced

C.12.h ▶ Fate and Transport Study of PCBs In Urban Runoff

C.12.i ▶ Development of a Risk Reduction Program Implemented Throughout the Region

State below if information is reported in a separate regional report. Municipalities that participate directly in regional activities to can provide descriptions below.

A summary of countywide Program and regional accomplishments for these sub-provisions are included within the C.12 PCB Controls section of Program's FY 13-14 Annual Report, and the March 2014 Integrated Monitoring Report.

Section 13 - Provision C.13 Copper Controls

C.13.a.iii.(2) ▶ Training, Permitting and Enforcement Activities

(FY 11-12 Annual Report and each Annual Report thereafter) Provide summaries of activities implemented to manage waste generated from cleaning and treating of copper architectural features, including copper roofs, during construction and post-construction including. :

- Development of BMPs on how to manage the water during and post construction
- Requiring the use of appropriate BMPs when issuing building permits
- Educating installers and operators on appropriate BMPs
- Enforcement actions taken again noncompliance

See the FY13-14 Countywide Annual Report for a description of training/efforts provide throughout the county.

C.13.c ▶ Vehicle Brake Pads

Based upon inspection activities conducted under Provision C.4, highlight copper reduction results achieved among the facilities identified as potential users or sources of copper, facilities inspected, and BMPs addressed.

Summary

During FY 13-14, we participated in implementation of the California Brake Friction Material Law through contributions to the countywide Program, BASMAA and CASQA. For additional information, see the C.13 Copper Controls section of Program's FY 13-14 Annual Report.

C.13.d.iii ▶ Industrial Sources Copper Reduction Results

Based upon inspection activities conducted under Provision C.4, highlight copper reduction results achieved among the facilities identified as potential users or sources of copper, facilities inspected, and BMPs addressed.

The City of Livermore routinely conducts pretreatment (sanitary sewer) and stormwater inspection of facilities that are identified as a potential copper source. Additionally, Water Resources Division staff provided outreach to approximately 40 members of the Tri-Valley Pool Organization on 6/12/2014. The Water Resources Division presentation was used to educate Tri-Valley Pool Organization members about proper pool, spa and fountain proper draining, maintenance and cleaning, etc. Informational materials distributed at this event included: Proper Disposal of Wastewater: Don't Drain Pools, Spas and Fountains to Storm Drains; and Maintenance Tips For Pools, Spas and Fountains.

Section 14 - Provision C.14 PBDE, Legacy Pesticides and Selenium Controls

Note: There are no reporting requirements in the FY 13-14 Annual Report for Section C.14.

Section 15 - Provision C.15 Exempted and Conditionally Exempted Discharges

C.15.b.iii.(1), C.15.b.iii.(2) ► Planned and Unplanned Discharges of Potable Water

Is your agency a water purveyor?	<input checked="" type="checkbox"/>	Yes	<input type="checkbox"/>	No
If No , skip to C.15.b.vi.(2):				
If Yes , Complete the attached reporting tables or attach your own table with the same information. Provide any clarifying comments below.				
Comments: Due to the severe drought that is occurring, the City of Livermore significantly reduce the routine flushing (maintenance) of its potable water system this reporting period.				

C.15.b.vi.(2) ► Irrigation Water, Landscape Irrigation, and Lawn or Garden Watering

<p>Provide implementation summaries of the required BMPs to promote measures that minimize runoff and pollutant loading from excess irrigation. Generally the categories are:</p> <ul style="list-style-type: none"> • Promote conservation programs • Promote outreach for less toxic pest control and landscape management • Promote use of drought tolerant and native vegetation • Promote outreach messages to encourage appropriate watering/irrigation practices • Implement Illicit Discharge Enforcement Response Plan for ongoing, large volume landscape irrigation runoff.
<p>Summary: Refer to the C.3 New Development and Redevelopment, C.7. Public Information and Outreach and C.9. Pesticide Toxicity Control sections of Program's FY 13-14 Annual Report.</p> <p>Additionally, the City's requirements for new development projects include the following requirements: All new development projects are required to address the following, and implement when feasible, the following:</p> <p>Landscaping shall be designed to both minimize irrigation and the runoff of irrigation waters. It shall also be designed to promote surface infiltration where appropriate. Landscaping plans should also consider measures and/or planting selections, which serve to minimize the use of fertilizers and pesticides that can contribute to stormwater pollution.</p> <p>If a landscaping plan is required as part of a development project application, the plan shall meet the following conditions related to reduction of pesticide use on the project site:</p>

Permittee Name: City of Livermore

Where feasible, landscaping shall be designed and operated to treat stormwater runoff by incorporating elements that collect, detain, and infiltrate runoff. In areas that provide detention of water, plants that are tolerant of saturated soil conditions and prolonged exposure to water shall be specified.

Plant materials selected shall be appropriate to site specific characteristics such as soil type, topography, climate, amount and timing of sunlight, prevailing winds, rainfall, air movement, patterns of land use, ecological consistency and plant interactions to ensure successful establishment.

Existing native trees, shrubs, and ground cover shall be retained and incorporated into the landscape plan to the maximum extent practicable.

Unless otherwise specified, proper maintenance of landscaping shall be the responsibility of the property owner.

Integrated pest management (IPM) principles and techniques shall be encouraged as part of the landscaping design. Some examples of IPM principles and techniques include the following:

Select plants that are well adapted to soil conditions at the site.

Select plants that are well adapted to sun and shade conditions at the site. Consider future conditions when plants reach maturity. Consider seasonal changes and time of day.

Provide irrigation appropriate to the water requirements of the selected plants.

Select pest and disease resistant plants.

Plant a diversity of species to prevent a potential pest infestation from affecting the entire landscaping plan.

Use "insectary" plants in the landscaping to attract and keep beneficial insects.

Landscaping shall also comply with City of Livermore's "Water Efficient Landscape Ordinance". However, areas of a site used for bioswales or other landscaped areas that function as a stormwater treatment measure shall be exempt from the Water Efficient Landscaping requirements.

The City as part of its Public Outreach events provides and promotes the following information to the public:

Promotional items and informational materials described IPM and its controls mechanisms, the benefits of using IPM products, and the OWOW Program. The product included labels that identified the control mechanism, active ingredient(s), and the OWOW local store of purchase Stormwater Pollution Brochure, Bay Begins Brochure, Home Maintenance Tips for a Cleaner Bay Brochure, Grow It! Guides, Control It! Guides, Healthy Home and Garden Booklet, Pest Bugging You? Pocket Guides, The 10 Most Wanted Bugs in Your Garden Brochure, A Kid's Guide to Backyard Bug Guides, and Pest or Pal? Activity Guides.

The information detailed below summarizes The City of Livermore's Water Conservation efforts:

Conservation Program	Description	Implemented	Terminated
ULF/HET Rebates	Current program offers a rebate of up to \$100 for replacement of 3.5 gpf toilet with a HET. This program replaced ULF program. Rebates for high-efficiency urinals also are available.	1994(updated 2008)	On-going
HEW Rebates	Rebate program in conjunction with Z7 & PG&E. Rebate amounts have ranged from \$50-\$200 for water portion of rebate. Rebate is dependent on many factors, including model and water efficiency level.	1999	On-going
Conservation Pricing	The City currently has in place an inverted tiered rate structure to encourage water conservation.	1991	On-going
School Education-COL	Educational programs are offered to the schools in the Livermore Municipal Water service area. This includes support of the Z7 School program and classroom presentations provided by City of Livermore Water Resources Division (WRD) staff.	2005-06	On-going
Conservation Coordinator	The City has designated one or more staff to meet the function of Conservation Coordinator since 1988. Currently three staff members play key roles in the City's conservation efforts.	1988	On-going
Water Waste Prohibition/Water Shortage Contingency Plan	The plan includes water conservation stages of action in response to shortages up to 50%, estimates of minimum 3-year available water supply, preparations for water during catastrophic supply interruptions, mandatory prohibitions and consumption reduction methods, penalties and charges for excessive use, analysis of potential revenue impacts from Plan implementation, and mechanisms for determining water use reductions. A comprehensive revision of the Plan was included as part of the 2010 UWMP.	1992	On-going
Water Use Reduction Plan	Part of the 1990 UWMP. Enacted water conservation measures to address the 20 percent reduction in per capita water use required by the Water Conservation Bill of 2009. Also establishes voluntary and mandatory water conservation practices to address water supply shortages and required demand reductions.	1990	On-going

Conservation Program	Description	Implemented	Terminated
Public Outreach	Methods include, but are not limited to, Earth Day, Livermore Wine Country Festival, Plant tours, Farmer's Market, Safety Fair, advertising, bill inserts, brochures, presentations, notices, social media, and dedicated web pages on City website. During the current drought advertising methods also included solar message boards, cable, radio, social media and print ads.	1989 2014	On-going
WELO	Establishes standards and specifications for all landscaping and landscape irrigation to encourage conservation and limit water use.	1992 Updated in 2012.	On-going
Water leak audits	Water resources staff monitors monthly water purchases and monthly water sales in order to quickly detect any system irregularities or excessive water loss. The Water Resources Division contracts with outside vendors for emergency repairs, including leaks, with a 24 hour response time. Smaller leaks are assessed on a case by case basis and repaired by Water Resource Division staff.	1990's	On-going
Large Landscape Irrigation Survey	The highest 20% of non-residential water users are identified and offered a free irrigation survey on their existing landscape. A list of recommended improvements is provided to the customer along with an offer of up to \$5,000 in matching funds as an incentive to implement the recommendations.	2009	On-going
Calif. Youth Energy Svcs.(CYES)	Residents are offered a free CYES house call providing renters and homeowners with a free energy and water conservation assessment, education and mini-retrofit. WRD provides kitchen and bathroom aerators and low flow shower heads for Livermore Municipal Water customers.	2009	2012
Water Efficient Lawn Rebates	Offering up to \$750 in rebates to replace lawn with water-wise alternatives.	2012	On-going
Schools Program-Indoor Outdoor	Provides funding for large landscape surveys, irrigation hardware replacement, indoor water use surveys, and plumbing fixture replacement for schools in the Tri-Valley water retailers' service area.	2010	On-going
Eco Blue Cube	This program is offered to qualifying CII customers to implement this water conservation strategy by converting their water-using urinals to waterless using the Ecoblue Cube microbial technology.	2009	On-going

Conservation Program	Description	Implemented	Terminated
Direct Install Toilet	This program is offered to residential, commercial and industrial customers. The program includes the direct installation and replacement of older high volume toilets with a HET and/or HEU.	2012	2013
Civic Bay Friendly Landscape Ordinance	This ordinance requires civic projects to incorporate guidelines to achieve the benefits of a Bay-Friendly landscaping including the promotion of water and resource efficiency.	2009	On-going
Recycled water for irrigation	The City has been producing and distributing recycled water and since 1963 and has a relatively well-developed recycled water program that currently distributes an average of about 2 million gallons of recycled water per day. During current drought free recycled water is being made available to City of Livermore residents. Permits are issued and the term of this offer is subject to change.	1963 2014	On-going Temporary
Tri-Valley Water Conservation Group	City staff actively participates in this group that provides planning and direction for a variety of regional public outreach efforts.	1980's	On-going
Water Supplier Nursery Council	This committee was created by Stopwaste.org with the goal to encourage residential water conservation by expanding point-of-purchase awareness of comprehensive Bay-Friendly practices and related products and to expand recycled content supply channels for compost and mulch.	2010	On-going
Monthly billings	Monthly bills provide another method for the City to reach out to its water customers with information about their water use and to promote water conservation. The monthly bills include a graph comparing current to previous year consumption and water conservation related notices.	1991	On-going
Water-Wise Gardening Website	Website to promote and encourage water-wise landscaping practices.	2005-06	On-going

Conservation Program	Description	Implemented	Terminated
Weather Based Irrigation	<p>Rebates of \$75 for single-family homes, \$100 for multi-family and \$3,000 for CII properties to replace standard clock-type controllers with qualifying, self-adjusting weather based “smart” controllers.</p> <p>During the drought these rebates are only offered to commercial, industrial and institutional customers.</p>	<p>2011</p> <p>2014</p>	On-going
Centralized Computer Irrigation System	WRD encourages water-efficient landscape irrigation by utilizing a centralized computer irrigation system.	1998	On-going
Residential Water Audits	WRD staff is utilizing a self-water audit residential program. This program includes a water survey and customizable water-saving kit.	2014	On-going
Green Business	Working with the Alameda Green Business program on the water conservation audit portion of the program.	Est. 2002	On-going

C.15.b.iii.(1) ► Planned Discharges of the Potable Water System

Site/ Location	Discharge Type	Receiving Waterbody(ies)	Date of Discharge	Duration of Discharge (minutes)	Estimated Volume (gallons)	Estimated Flow Rate (gallons/day)	Chlorine Residual (mg/L)	pH (standard units)	Discharge Turbidity ⁹⁴ (NTU)	Implemented BMPs & Corrective Actions
Altamont Tank	Tank Repair	Altamont Creek	10/2/2013	480 minutes	162,717	162,707	0	7.8	Not feasible	Dechlorination/Inlet protection
Altamont Tank	Tank Repair	Altamont Creek	10/1/2013	480 minutes	152,619	152,619	0	7.2	Not feasible	Dechlorination/Inlet protection
4H-6G4	Flushing	Arroyo Seco	1/22/2014	270 minutes	238,010	238,010	0	7.84	Not feasible	Dechlorination/Inlet protection
H2F4-7H1	Flushing	Arroyo Seco	1/23/2014	182 minutes	95,962	95,962	0	7.34	Not feasible	Dechlorination/Inlet protection

⁹⁴ Monitor the receiving water for turbidity if necessary and feasible. Include data in this column if available.

C.15.b.iii.(2) ► Unplanned Discharges of the Potable Water System⁹⁵														
Site/ Location	Discharge Type	Receiving Waterbody(ies)	Date of Discharge	Discharge Duration (military time)	Estimated Volume (gallons)	Estimated Flow Rate (gallons/day)	Chlorine Residual (mg/L) ⁹⁶	pH (standard units) ⁵²	Discharge Turbidity (Visual) ⁵²	Implemented BMPs & Corrective Actions	Time of discharge discovery	Regulatory Agency Notification Time ⁹⁷	Inspector arrival time	Responding crew arrival time
Kittyhawk & I-580	Water Line Leak	Arroyo Las Positas	03/04/2014	Unknown	150,000	Unknown	>0.05	Unknown	Unknown	Turned water off/made repairs	0652 on 03/04/14	RWQCB via fax 3/4/14 5-Day follow up on 3/10/14	0655 on 03/04/14	Leak isolated at 0755
2772 Constitution Drive	Hydrant Shear	Arroyo Las Positas	03/29/2014	Unknown	Unknown / >50,000	Unknown	>0.05	Unknown	Unknown	Emergency Responders shut off hydrant upon arrival	1938 on 03/29/14	RWQCB via fax on 03/29/14 5-Day follow up on 04/02/14	2020 on 03/29/14	Water shut off/ hydrant replaced
7600 Patterson Pass Road	Hydrant Shear	Arroyo Las Positas	03/19/2014	Unknown	Unknown / >50,000	Unknown	>0.05	Unknown	Unknown	Emergency Responders shut off hydrant upon arrival	1540 on 03/19/14	RWQCB via fax on 03/19/14 5-Day follow up on 03/21/2014	1555 on 03/19/14	Water shut off/ hydrant replaced
8756 Patterson Pass Road	Tank Overflow	Most of water discharged was to the ground surrounding tank	04/22/2014	75 minutes	180,000	2,400 GPM	>0.05	Unknown	Unknown	Maintenance crews turned off pumps to stop flow to tank	1745 on 04/22/14	RWQCB via fax on 04/22/14 5-Day follow up on 04/24/2014	1830 on 04/22/14	Turned on pressure transducer and turned off pumps.

⁹⁵ This table contains all of the unplanned discharges that occurred in this FY.

⁹⁶ Monitoring data is only required for 10% of the unplanned discharges. If you monitored more than 10% of your unplanned discharges, report all of the data collected.

⁹⁷ Notification to Water Board staff is required for unplanned discharges where the chlorine residual is >0.05 mg/L and total volume is ≥ 50,000 gallons. Notification to State Office of Emergency Services is required after becoming aware of aquatic impacts as a result of unplanned discharge or when the discharge might endanger or compromise public health and safety.

Stormwater Industrial and Commercial Inspection Plan

I. On an annual basis, the City shall performs stormwater inspections of all NOI facilities, Categorical Industrial Users permitted under the City's Pretreatment Program (CIU), General Industrial/Commercial Users permitted under the City's Pretreatment Program (GEN), Photo Processor Users permitted under the City's Pretreatment Program (PHOTO), and Wash Rack User permitted under the City's Pretreatment Program. The following table provides a specific list of these facilities:

Table 1.0

Facility Name	Type	Frequency
Harris Salinas Rebar	NOI/CIU	Annually
Inphenix	NOI/CIU	Annually
Packaging Innovators	NOI/CIU	Annually
Livermore Dublin Disposal	NOI/CIU	Annually
Livermore Municipal Airport	NOI/WR	Annually
Livermore Transit Authority	NOI/WR	Annually
Fenestra Winery	NOI	Annually
FormFactor	NOI/CIU	Annually
FormFactor	NOI/CIU	Annually
Wente Vineyards Estate Winery	NOI	Annually
Fabco Automotive Corporation	NOI	Annually
Schiffenhaus CA	NOI/GEN	Annually
U.S. Foods Service	NOI/WR	Annually
USP Structural Connectors	NOI	Annually
Integrated Manufacturing Group	NOI	Annually
Sanmina SCI	NOI	Annually

Facility Name	Type	Frequency
Ames Taping Tool Systems	GEN	Annually
Astro Pak	GEN	Annually
Culligan Water	GEN	Annually
Arrowhead Mountain Springs	GEN	Annually
Heritage Paper	GEN	Annually
National Food Laboratory	GEN	Annually
Packaging Innovators	GEN	Annually
Protein Research	GEN	Annually
E. Turman & Company	GEN	Annually
Golden Bear Packaging	GEN	Annually
Schiffenhaus	GEN	Annually
Costco	PHOTO	Annually
Rite Aid-1350 N. Vasco Rd.	PHOTO	Annually
SAVE Mart	PHOTO	Annually
Budget Car and Truck Rental	WR	Annually
California Landscape Dimensions, Inc.	WR	Annually
Clark Pest Control	WR	Annually
Cresco Equipment	WR	Annually
Enterprise Rent-A-Car	WR	Annually
Lassiter Excavating	WR	Annually
LAVTA	WR	Annually

Facility Name	Type	Frequency
Las Positas Golf Course	WR	Annually
Les Schwab Tire Center #647	WR	Annually
Livermore Chevron	WR	Annually
Livermore Municipal Airport	WR	Annually
MidCoast Transportation	WR	Annually
Penske Truck Leasing	WR	Annually
Power Washing Services	WR	Annually
Top Grade Construction	WR	Annually
Wal-Mart Tire & Lube Express	WR	Annually
Yamaha Golf Cars of CA	WR	Annually
Zone 7 Water Agency	WR	Annually
B & S Hacienda	WR	Annually
Bernard's Mini Mart	WR	Annually
Cactus Car Wash	WR	Annually
Cal Trans	WR	Annually
First Street-Henderlong	WR	Annually
Groth Brothers	WR	Annually
Harris Salinas Reinforcing	WR	Annually
Hawthorne LLC	WR	Annually
LPPFD Fire Station 6	WR	Annually
LPPFD Fire Station 7	WR	Annually

Facility Name	Type	Frequency
LPFD Fire Station 8	WR	Annually
LPFD Fire Station 10	WR	Annually
L Street Car Wash	WR	Annually
Las Positas Shell	WR	Annually
Livermore Audi	WR	Annually
Livermore Car Wash	WR	Annually
Livermore Dublin Disposal	WR	Annually
Livermore Honda	WR	Annually
Livermore Jaguar	WR	Annually
Livermore Porsche	WR	Annually
Livermore Subaru	WR	Annually
Livermore Police Department	WR	Annually
Mathew's Machinery	WR	Annually
Boat Masters	WR	Annually
City of Livermore, MSC	WR	Annually
Dun-Rite	WR	Annually
Hertz Equipment Rental	WR	Annually
Interstate Storage	WR	Annually
JCs RVs	WR	Annually
Livermore Auto Group-2232 Kitty Hawk	WR	Annually
Livermore Auto Group-2266 Kitty Hawk	WR	Annually

Facility Name	Type	Frequency
Livermore Auto Group-2304 Kitty Hawk	WR	Annually
Mountain Cascade	WR	Annually
Olympic Boat Centers	WR	Annually
Quentin Bammer/Moeller Bros.	WR	Annually
R. Lance & Sons	WR	Annually
SAB Stanley Shell	WR	Annually
SpeeDee Wash	WR	Annually
Sunbelt Rentals	WR	Annually
U.S. Foodservice	WR	Annually
Vasco 76	WR	Annually
Vasco Road Chevron	WR	Annually
White Oak Landscaping	WR	Annually

II. The 5-Year inspection plan detailed below outlines how the City of Livermore will prioritize it's inspection to adequately address the requirements of Provision C.4.b.:

Fiscal Year 2009/2010: All Pretreatment and NOI Facilities identified in Table 1.0 (91 Facilities)

All Facilities Listed under SIC 3599, Industrial and Commercial Machinery and Equipment (19 Facilities)

All Facilities Listed under SIC 3679, Electronic Components Manufacturing (5 Facilities)

All Facilities Listed under SIC 3089, Plastic Products (3 Facilities)

FY 2009/2010: Goal-99 Facility Inspections

Fiscal Year 2010/2011: All Pretreatment and NOI Facilities identified in Table 1.0 (91 Facilities)

All Facilities Listed under SIC 7532, Automotive Body Shops, and

All Facilities Listed under SIC 7538, Automotive Repair Shops (47 Facilities)

All Facilities Listed under SIC 5541, Gasoline Service Stations (27 Facilities)

FY 2010/2011- 165 Facility Inspections

Fiscal Year 2011/2012: All Pretreatment and NOI Facilities identified in Table 1.0 (91 Facilities)

All Facilities Listed under SIC 5812, (149 Facilities)

FY 2011/2012- 240 Facility Inspections

Fiscal Year 2012/2013: All Pretreatment and NOI Facilities identified in Table 1.0 (91 Facilities)

All Facilities Listed under SIC 8711, Engineering Services (17 Facilities)

All Facilities Listed under SIC 8731, R&D Labs-Commercial (5 Facilities)

All Facilities Listed under SIC 8734, Testing Labs (2 Facilities)

All Facilities Listed under SIC 5093, Scrap & Waste Materials (2 Facilities)

All Facilities Listed under SIC 4212, Local Trucking (5 Facilities)

All Facilities Listed under SIC 5261, Retail Nurseries (4 Facilities)

All Facilities Listed under SIC 5211, Lumber and Other Building
Material Dealers (7 Facilities)

FY 2012/2013- 133 Facility Inspections

Fiscal Year 2013/2014: All Pretreatment and NOI Facilities identified in Table 1.0 (91 Facilities)

All Facilities Listed under SIC, Restaurant with a Grease Trap or No
Grease Removal Device (102 Facilities)

FY 2013/2014- 193 Facility Inspections

The "number" of facilities listed under each SIC in this 5-Year Inspection plan is based upon a query of the City's Business License Database performed in January 2010. Prior to each fiscal year, a new query of the database shall be performed to get the most updated figure for that year's facility type scheduled to be inspected.

C.9 Attachments



Orkin Integrated Pest Management Program

Orkin Commercial Services understands your strict need for highly effective *and* environmentally responsible pest control. While other pest control companies may only respond to problems, we take a proactive approach to help keep pests out. Here's a summary of our proposed program, which can help you achieve pest management excellence:

Service: Interior and exterior¹ pest management in accordance with the principles of Integrated Pest Management (IPM). IPM is an environmentally responsible approach to pest management that relies on a combination of practices. By taking advantage of all pest management options, starting with non-chemical techniques, IPM programs proactively manage pests and help minimize any hazard to people, property or the environment.

Service Frequency: An Orkin Commercial Pest Specialist will service your location (checked):
 1 time 2 times 3 times 4 times per day week **monthly service for 12 months**

Pest Coverage: Rats, mice, cockroaches, ants and occasional invaders (e.g., beetles, centipedes, slugs). Coverage excludes: flies, fire ants, pharaoh ants, carpenter ants, birds, bed bugs, termites and fumigation treatments. (Excluded pests can be serviced under separate contracts with unique guarantees and service protocols.)

Documentation: Written reports and recommendations will be provided and reviewed with the designated facility representative following each regular service visit. Additional copies will be filed at your local Orkin branch office.

Quality Assurance: Orkin's IPM program is backed by our Quality Assurance program, which guarantees the service you receive meets Orkin's high quality standards – and your own. A follow-up visit by your Orkin Account Manager will be scheduled within 60 days of your initial service. In addition, Orkin's independent Pest and Termite Control Quality Assurance Department regularly audits the services provided by our branch locations to ensure they meet the Orkin standard.

Emergency Service: Included at no extra charge and guaranteed within 24 hours of your call to Orkin, 365 days per year.

Materials: All forms of monitor boards and product formulations, as required, are included.

Insurance: Orkin Commercial Services is fully insured with personal liability and property damage to a limit of \$10,000,000.

Triple Guarantee:

- **24-Hour Response Guarantee** – Your request will be responded to within 24 hours, 365 days per year.
- **Satisfaction Guarantee** – Total satisfaction or you don't pay. We'll pay the reasonable cost of initial service by another provider if you're still not satisfied after 60 days of service.
- **Reimbursement Guarantee²** – Should your company be fined by a regulatory agency due solely to a pest infestation, Orkin will reimburse you for any fines paid, up to \$50,000.

¹ Exterior coverage extends to property boundaries unless otherwise indicated.

² Your account must be current, under contract over 60 days, and your business must be compliant with sanitation and structural requests as noted on Orkin Service Reports.



GREENPRO

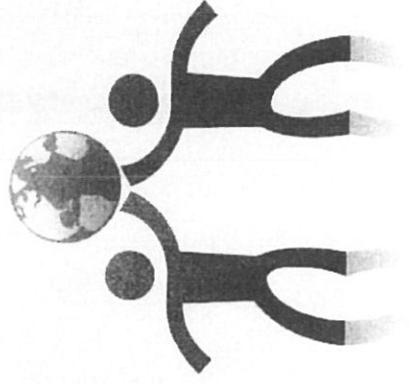
Eco-Effective Pest Control

Presenting this certificate of excellence to

Orkin Pest Control

in acknowledgment of your continuing efforts toward professional excellence and environmental awareness in the pest management industry. You have met the GreenPro testing requirements for eco-effective pest control.

official signature



C.10 Attachments



Stormwater Trash Reduction Plan

September 2014



Schaaf & Wheeler
CONSULTING CIVIL ENGINEERS



City of Livermore
Department of Public Works

FINAL

Stormwater Trash Reduction Plan

for

City of Livermore, California



September 2, 2014

Schaaf & Wheeler
CONSULTING CIVIL ENGINEERS

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1. Introduction

This report is to provide a multi-year plan to reduce trash entering channels within the City of Livermore from the municipal separate stormwater system (MS4), with the goal of meeting trash reduction requirements as outlined in the Regional Water Quality Control Board (RWQCB) NPDES Municipal Permit section C.10.

The NPDES permit includes the following deadlines for trash reduction milestones (items in grey have been completed):

- Progress report detailing whether baseline trash load and trash load reduction tracking method are being determined individually or collaboratively due by February 1, 2011. Compliance obtained by BASMAA letter entitled *Progress Report: Trash Baseline Loads and Load Reduction Tracking – MRP Provision C.10.a(ii)*.
- Short-term trash reduction load plan due by February 1, 2012. Compliance obtained by City of Livermore *Baseline Trash Load and Short-Term Trash Load Reduction Plan*.
- Establish baseline trash load and trash load reduction tracking method by February 1, 2012. Compliance obtained by BASMAA reports: *Trash Load Reduction Tracking Method Technical Report* and *Preliminary Baseline Trash Generation Rated for San Francisco Bay Area MS4s Technical Memorandum*.
- Installation of full trash capture devices (meeting NPDES criteria for mesh screen and capacity) treating a minimum of 20 acres runoff area by July 1, 2014. Compliance obtained through inlet filters.
- Long-Term Trash Load Reduction Plan due by February 1, 2014. Compliance obtained by the City of Livermore *Trash Long-Term Reduction Plan and Progress Assessment Strategy*.
- 40% reduction in baseline trash load by July 1, 2014. Short term trash reduction compliance has been obtained as described in the *Baseline Trash Load and Short-Term Trash Load Reduction Plan* by City of Livermore dated 2/1/2012.
- 70% reduction in baseline trash load by Jul 1, 2017.
- 100% reduction in baseline trash load by July 1, 2022 (long term trash reduction).

This Stormwater Trash Reduction Plan (Plan) has been designed to guide compliance with both the 2017 and 2022 trash reduction deadlines. The Plan includes a schedule for implementation, a description of proposed control measures and proposed best management practices (BMPs). This Plan supplements the Trash Long-Term Reduction Plan and Progress Assessment Strategy developed by the City to meet the NPDES deadline of February 2, 2014. This Stormwater Trash Reduction Plan is intended to provide detailed guidance on how the reduction goals will be obtained through the installation of full trash capture devices. The Plan provides the City with a 'road map' to follow between now and 2022 to meet the NPDES trash reduction requirements.

2. Trash Generation and Management Areas

2.1 Trash Generation

Trash generation rates are based on land use, income level and visual assessment. The City of Livermore, with Bay Area Stormwater Management Agencies Association (BASMAA), has developed trash generation rates and categories for all land within the City limits. Trash generation rates and categories (very high, high, medium, low) are explained in detail in the Long-Term Trash Load Reduction Plan, and summarized herein.

2.1.1 BASMAA Baseline Trash Generation Rates

Generation rates published by BASMAA in the February 1, 2012 technical memorandum *Preliminary Baseline Trash Generation Rates for San Francisco Bay Area MS4s* were used to develop a range based on land use and are summarized in Table 1.

Table 1: San Francisco Bay Area Trash Generation Rates by Land Use

Land Use	Rate (gallons/acre/year)
Commercial & Services	6.2
Industrial	8.4
Residential	0.5 - 87.1
Retail	1.8 - 150.0
K-12 Schools	6.2
Urban Parks	5.0

2.1.2 Livermore Trash Generation Rates

The City of Livermore developed a Preliminary Generation Trash Load based on the generation rates in Table 1, land-use and effective loading area. Activities already undergone by the City to reduce trash in the Municipal Separate Storm Sewer System (MS4) were tabulated and used to create the Preliminary Baseline Trash Load.

Table 2: Baseline Trash Load for the City of Livermore

Category	Annual Load (gallons)
Preliminary Generation Trash Load	40,968
Load Removed via Baseline Street Sweeping	10,954
Load Removed via Baseline Storm Drain Inlet Maintenance (5% of generation)	2,048
Load Removed via Baseline Stormwater Pump Station Maintenance	0
Preliminary Trash Baseline Load	27,966

2.3 Trash Management

The City is tasked with removing trash which can make its way to the creeks and ultimately to the San Francisco Bay via the City’s MS4. BASMAA has developed a number of means by which to track the reduction in trash load, both quantitatively and qualitatively.

2.3.1 Implemented Enhanced Trash Management

The City has created ordinances and enhanced control measures to reduce the volume of trash making it into the waterways annually. Estimated reduction percentages for the ordinance bans on plastic bags and polystyrene foam are based on guidance provided by BASMAA. 168 West Coast Storm connector pipe screen inlet filters were installed by the City in 2012 capturing over 450 acres to meet the 2014 40% trash baseline reduction goal. The calculated trash load reduction is based on generation rates from Table 1 and watershed delineations for each of the existing inlet filter. See Figures 1-3 for existing treatment device watersheds and trash generation levels. Media filters, inlet filters and hydrodynamic separators installed on private properties to meet the MRP Section C.3 for post-construction stormwater quality also meet the requirements of full trash capture. The reduction in trash provided by these devices is tabulated below.

The City has also implemented currently non-quantifiable trash reduction measures. These include public education and outreach, activities to reduce trash from uncovered loads and anti-littering and illegal dumping enforcement activities.

Table 3 is a summary of the quantifiable trash management measures implemented at the time of this Plan.

Table 3: Implemented Enhanced Trash Control Measures

Trash Control Measure	Estimated Reduction %	Trash Load Reduced (gal/year)	Cumulative Estimated Reduction % (Compared to Baseline)
Single-Use Carryout Plastic Bag Ordinance	4	1,119	4
Polystyrene Foam Food Service Ware ban	4	1,119	8
City Owned Full-Capture Treatment Devices (168 inlet filters)*	-	2,573	17.2
Private Full-Capture Treatment Devices**	-	1,065	21.0
Creek/Channel/Shoreline Cleanups***	-	2,846	31.2
Total		8,721	31.2%

*Value differs from the Baseline Trash Load and Short-Term Trash Load Reduction Plan due to detailed device catchment analysis completed by Schaaf & Wheeler.

**Devices installed on private property to meet C.3 Water Quality Treatment requirements which also meet full-trash capture.

***Based on updated cleanup reduction values from the Adopt A Creek Spot Program implementation in 2012.

In order to reach the 2017 goal of 70% reduction, the City must capture an additional 10,855 gallons of trash per year over the baseline in Table 3. To obtain 100% reduction in baseline, Livermore must capture an additional 19,244 gallons per year over the baseline in Table 3.

2.3.2 Existing Full Trash Capture Devices

Trash management areas (TMA) are defined in the City's *Trash Long-Term Reduction Plan and Progress Assessment Strategy* based on geographical distribution of trash generating areas, types of trash sources, and current or planned control measure locations. Refer to the City's Long-Term Reduction Plan for detailed explanation and delineation.

The City has installed 168 West Coast Storm Connector Pipe Screen Inlet Filters. Below is a summary of the existing City owned full trash capture device locations and capture rate within the trash management areas.

Table 4: Existing City Owned Full Trash Capture Devices

TMA	Trash Load Reduction (gal/year)	Number of Existing Inlet Filters			
		Very High	High	Medium	Low
1	20			1	
1C	528			30	
1I	468	6		18	
1R	97			10	
2C	22			9	1
2I	8			2	
2R	195		8		
3R	472		19		
4	377			13	
17	386	4			47
Total	2,573	10	27	83	48

The City has required private developments to install water quality treatment measures to meet section C.3 of the MRP. Some of those devices also meet the requirements of section C.10 full trash capture. These devices include media filters, hydrodynamic separators and inlet filters. The private properties cover approximately 136 acres of the City and capture 1,065 gallons of trash per year in addition to the volume captured by the City owned devices. The capture volumes are based on the generation rates developed by the City for each parcel based on land use. Details regarding these private parcels are included in the Appendix.



Figure 1: Existing City Owned Trash Capture Device Watersheds – City Northwest

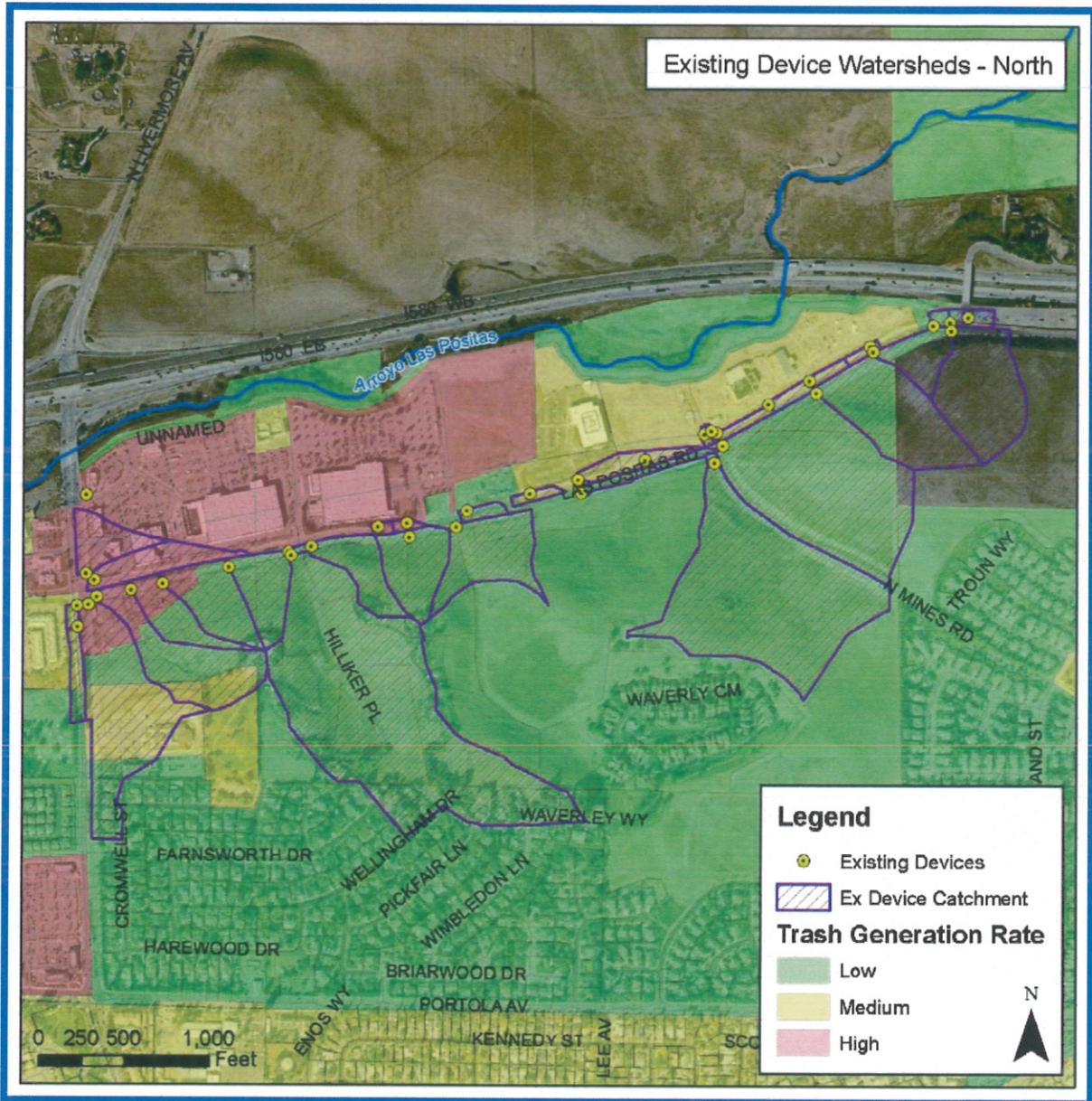


Figure 2: Existing City Owned Trash Capture Device Watersheds – City North

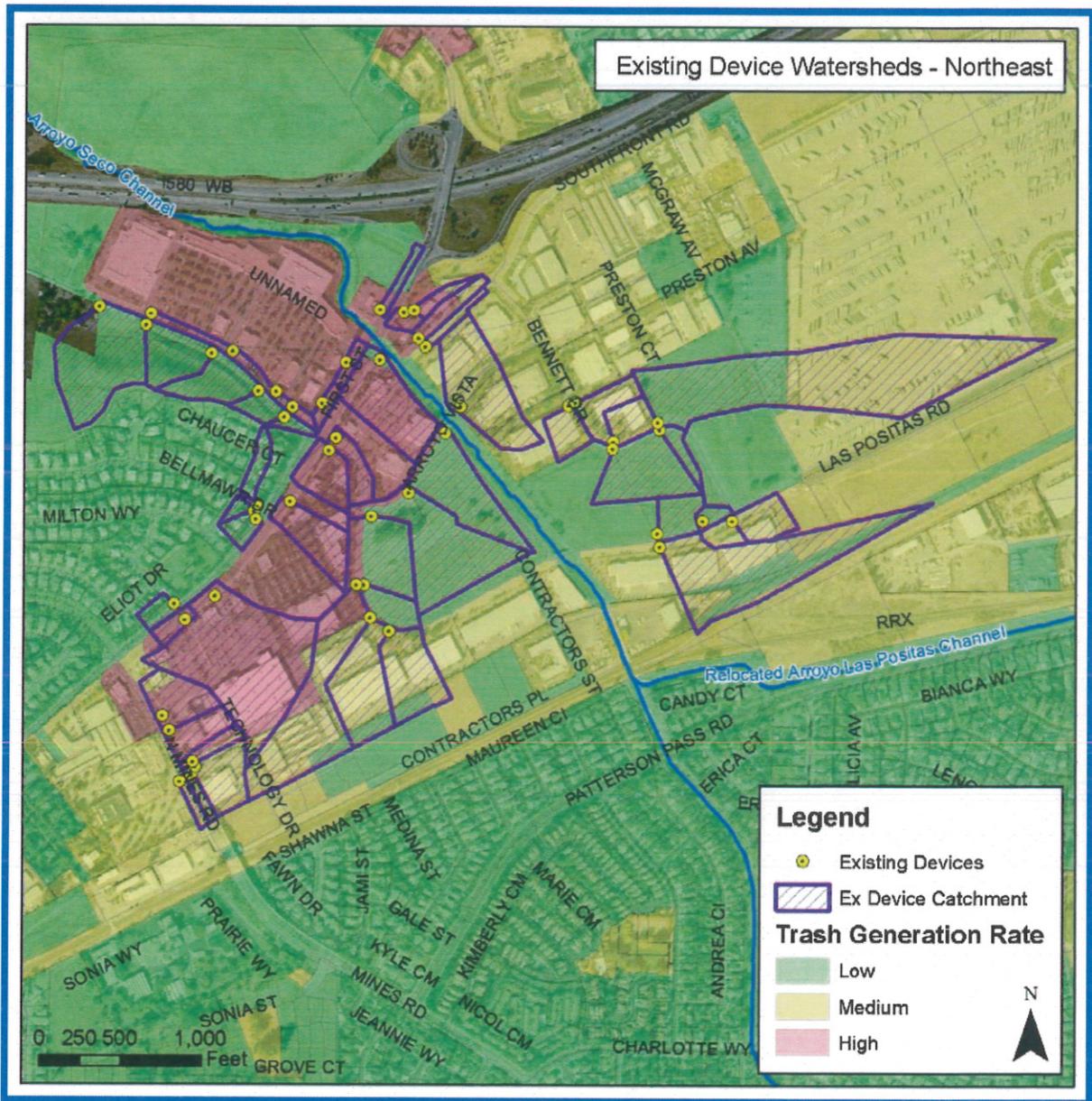


Figure 3: Existing City Owned Trash Capture Device Watersheds – City Northeast

3. Trash Capture Plan – No Additional Ordinances

3.1 Capital Improvement Projects

In order to meet the 2017 and 2022 reduction goals, the City may install additional full trash capture devices. There are a variety of devices available to meet these goals:

1. Catch basin inlet filters
2. End of pipe netting or structures serving an entire drainage network
3. Inline netting or structures on a storm drain trunk line

When selecting a device it is important to consider drainage area, hydraulic losses across the system when full, permitting requirements in open channels, device maintenance and access, property rights and utility clearance. All of these factors should be weighed against the device, installation and maintenance costs to ensure maximum capture volume per dollar spent.

It is important to recognize that much of the City of Livermore drains directly into the creeks, without first entering the MS4. This includes some industrial, commercial and high density residential properties. These areas could be managed through privately owned and maintained full trash capture devices. Continued creek cleanups and educational outreach to the public may also reduce the trash from entering the waterways from these Sites.

3.1.1 Device Locations

The following procedure was used to determine optimal treatment device types and locations:

1. Identify high generation areas based on Livermore's *Baseline Trash Load*.
2. Define the inlets that intercept the high generation areas and delineate catchments. Where there are many inlets which drain to a common outfall consider a large treatment device along the trunk line. Large system scale devices were not considered in drainage basins which have existing City owned inlet filters.
3. Calculate treatment rate of each device. Consider only devices which obtain a capture rate of at least 20 gallons/year.
4. "Ground Truth": Only consider devices which treat a real development (i.e. do not treat open space, vacant parcels, etc.)
5. To the greatest extent practicable, do not consider devices in areas heavily impacted by flooding based on the SDMP. If necessary, consider off-line treatment.
6. Group devices based on location to streamline maintenance.

In order to meet the 70% reduction goal by the year 2017, the City may install two (2) new off-line large scale trash capture devices to treat the downtown area and seventy (70) new inlet filters. These devices will capture the trash flowing through the existing pipe network from the dense commercial and retail areas downtown before it is conveyed to Arroyo Mocho and will result in 10,900 gallons captured per year.

Table 5: 70% Goal Planned Full Trash Capture Devices

TMA	Trash Load Reduction (gal/year)	Area Treated (acres)	Number of Planned Inlet Filters	Number of Planned Large Trash Capture Devices
1	47	4	1	
4	308	42	5	
6	300	27	2	
8	3422	273	5	1
9	1368	177	22	
10	781	139	13	
11	238	46	12	
15	35	6	2	
16	200	66	6	
17	4202	880	2	1
Sum	10,900	1,638	70	2

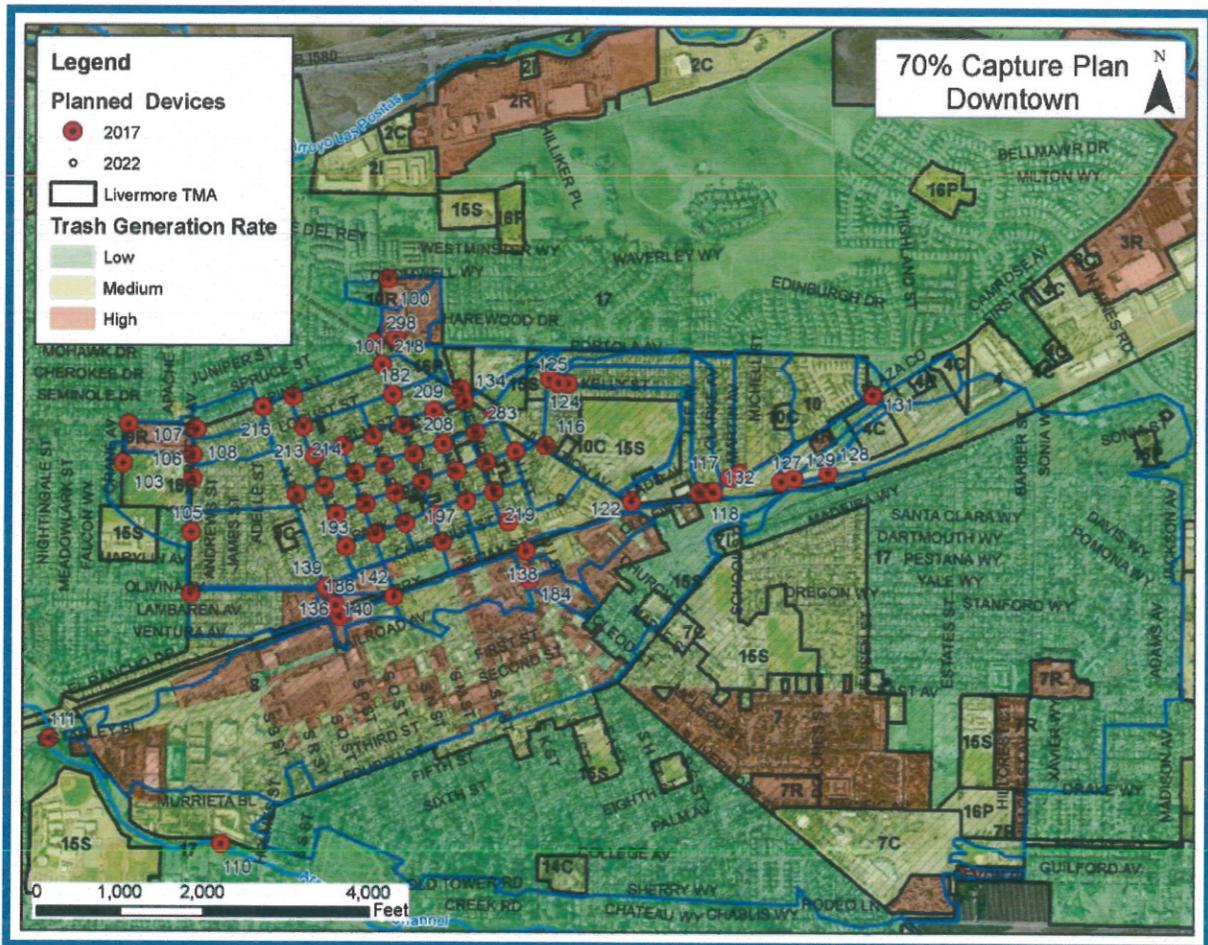


Figure 4: 70% Goal Proposed Full Capture Device Locations - Downtown

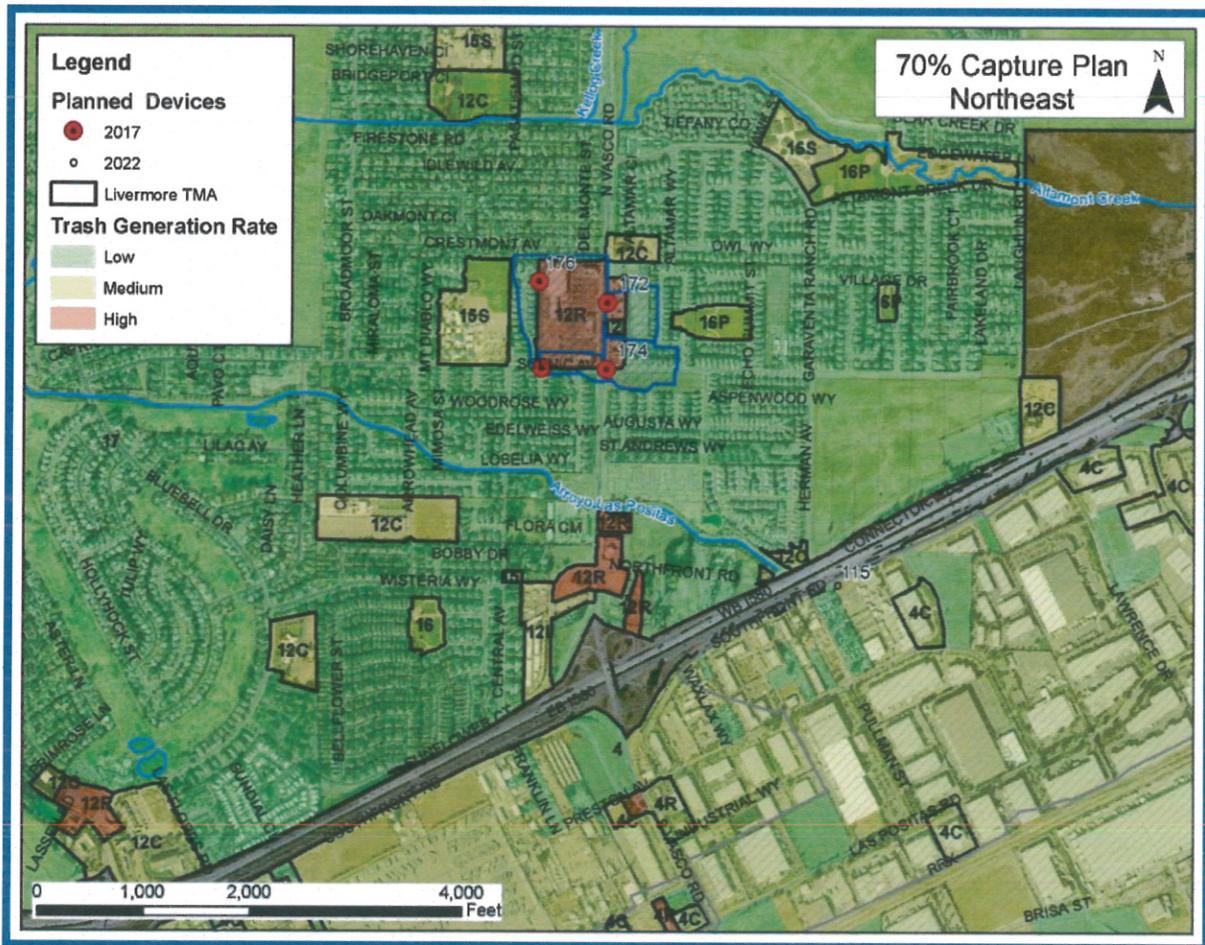


Figure 5: 70% Goal Proposed Full Capture Device Locations - Northeast

To reduce trash in the waterways a minimum additional 8,344 gallons per year over the proposed 70% devices to achieve 100% reduction in the baseline, a combination of new inlet filters and large scale in-line and off-line systems may be installed.

Table 6: 100% Goal Planned Full Trash Capture Devices

TMA	Trash Load Reduction (gal/year)	Area Treated (acres)	Number of Planned Inlet Filters	Number of Planned Large Trash Capture Devices
4	3389	468		1
6	80	3	1	
9	4212	604	7	2
11	496	57		1
12	34	4	1	
16	166	9	4	
Sum	8,377	1,144	13	4

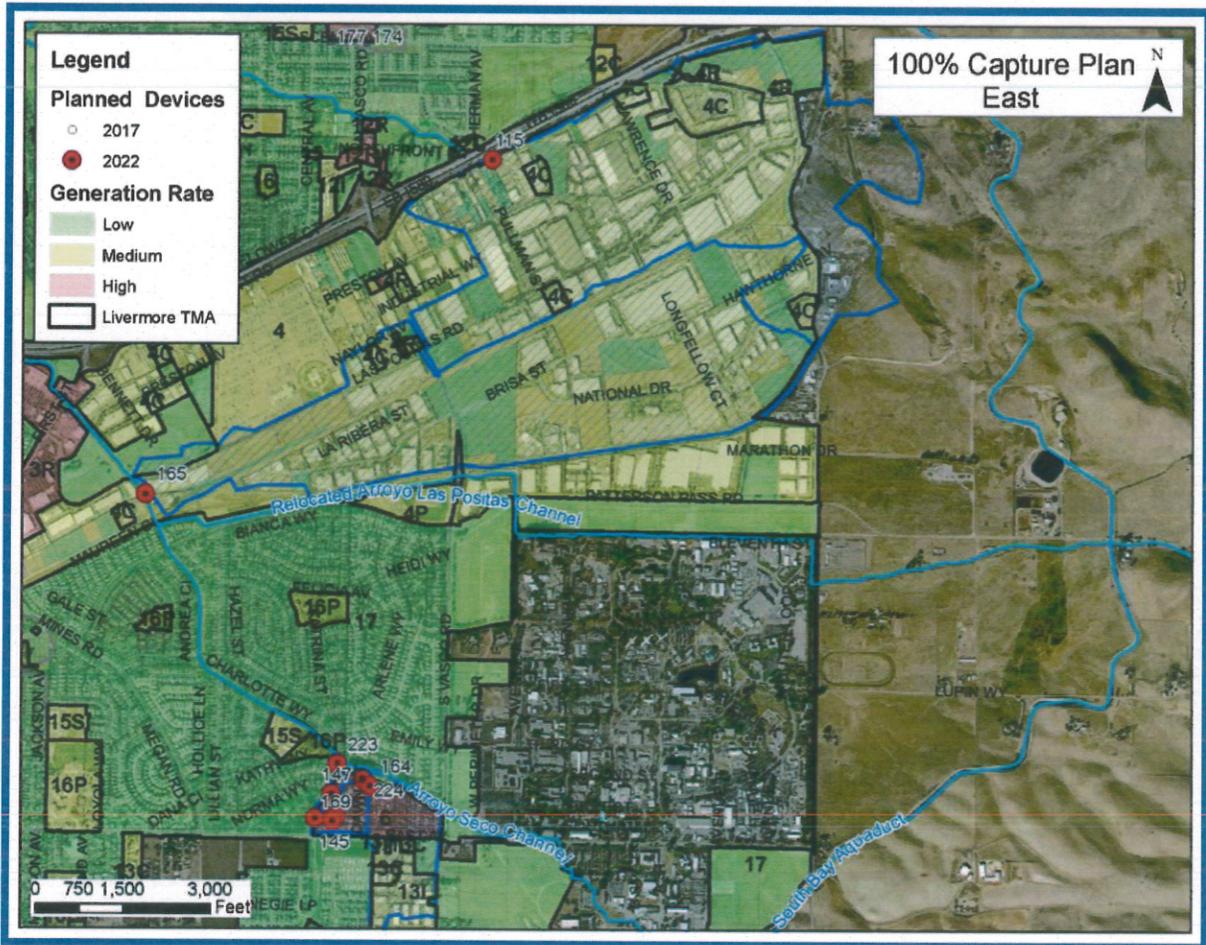


Figure 6: 100% Goal Proposed Full Capture Device Locations – East

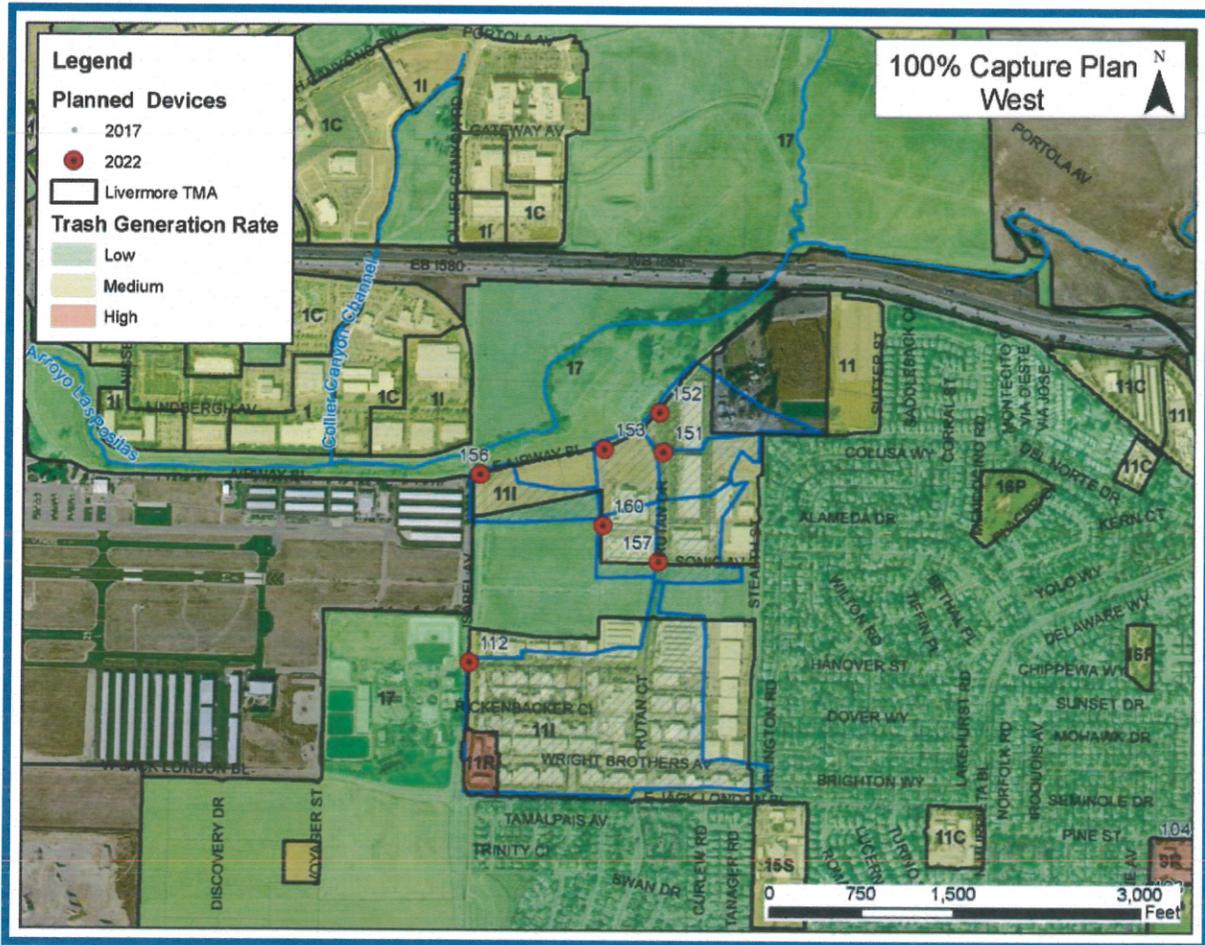


Figure 7: 100% Goal Proposed Full Capture Device Locations – West

3.1.2 System Hydraulics

Due to flooding as indicated in the City’s Storm Drain Master Plan, it is imperative that the installation of the new in-line and outfall trash capture devices consider the potential loss in head across the structure when full or partially full with trash. It will be necessary to install the large scale devices off-line from the main trunk with a diversion structure to re-direct the treatment flow rate. This also has the advantage of optimizing the treatment devices since they will not have to have the overflow capacity equal to the capacity of the existing storm drain line.

Catch basin inlet filters capture trash before it enters the City system thereby not significantly impacting the hydraulics of the system as a whole. However, localized ponding can occur at individual inlets during rain events if the inserts are not routinely maintained. All capture devices must be cleaned and maintained two times a year based on manufacturer’s recommendations and frequency of storm events.

3.1.3 Device Options

The Regional Water Quality Control Board has produced a list of approved full trash capture devices (updated May 2014) which may be used to comply with the NPDES permit. Full trash capture devices must trap all particles retained by a 5 mm mesh screen and have a design treatment capacity of not less than the peak flow rate resulting from a one-year, one-hour storm event per the MRP Section C.10.a.iii.

The Regional Water Quality Control Board has been utilizing a storm intensity of 0.5 inches per hour for smaller drainage basins and 0.2 inches per hour for larger basins where there are tailwater and flooding constraints to determine the treatment rate. A storm intensity of 0.5 inches per hour will be utilized in this study. Rational method runoff coefficients were taken from the City of Livermore Facilities Planning Guidelines dated August 1995 Table 3-3 based on land use.

Table 7: Runoff Coefficients for Device Sizing

Land Use	Runoff Coefficient (C)
Commercial/Retail	0.95
Light Industrial	0.80
Residential - Rural	0.40
Residential – Low Density	0.50
Residential – Medium Density	0.60
Residential – High Density	0.70
Residential/Commercial Mixed Use	0.75
K-12 Schools	0.60
Urban Parks	0.35
Agriculture/Rangeland/Urban Open	0.30
State Facilities/Utilities/Transportation	0.90

3.2 Cost Estimates

The following assumptions were made in determining construction costs for each proposed device:

- For large scale full capture devices, the device cost would be \$2000 for each cubic feet per second treated. Based on an average of device-only costs for large devices (treatment rates greater than 40 cfs) provided by Fresh Creek Technologies and Contech;
- Catch basin inlet filters were assumed to be 24" x 36" and cost \$500 each;
- Installation costs for full-scale devices are assumed to be 2 times the cost of the device plus any diversion structures;
- Installation costs for inlet filters are assumed to be 1 times the cost of the device;
- The devices are located in areas which do not require major utility relocation, property or easement acquisition or environmental permitting;
- The 50% contingency includes 20% design costs and administration and 30% construction contingencies;
- Large scale devices were assumed to have a lifetime of 50-years while inlet filters were assumed to be replaced every 25 years;
- Estimates include an inflation rate of 2.54% and a discount rate of 6.25%;
- Total Base Cost is presented in the construction year dollars and includes installation, diversion structure and the device. It does not include maintenance or device replacement.

For cleaning, replacement and maintenance, the following assumptions were made:

- Large scale devices are cleaned twice a year, requiring 1 hour of a team of two maintenance workers at \$105/hour and a vacuum truck at \$230/hour;
- Inlet filters are cleaned two times a year, requiring 15 minutes of a team of two maintenance workers and vacuum truck;

For more detailed costs estimates, including lifetime costs at present value, refer to Appendix B.

3.3 Schedule for Implementation

In order to meet the 2017 goal, 2 large scale and 70 inlet filter devices should be installed in the dry season of 2016, allowing for design and product ordering in 2015. Devices must be constructed before July 1, 2017.

To meet the 2022 goal, 13 trash inlet filters and 4 large scale devices should be installed. For estimating purposes, the devices were phased over the course of four years from 2018 to 2020. Device installation can vary based on available funds, provided that all are in place by July 1, 2022.

Table 8: 2017 70% Reduction Goal Cost Estimate

ID	Device Type	Acres	Load Reduction (gal/yr)	Treatment Q (cfs)	Device Cost (2014)	Diversion Structure Cost (2014)	Installation Cost (2014)	Yearly Maintenance Cost (Const Year)	Construction Year	Total Base Cost (Constr. Year)
100	Inlet Filter	6.5	95	2.8	\$500		\$500	\$220	2016	\$1,050
101	Inlet Filter	8.4	171	3.9	\$500		\$500	\$220	2016	\$1,050
103	Inlet Filter	21.0	98	4.5	\$500		\$500	\$220	2016	\$1,050
104	Inlet Filter	6.3	144	3.0	\$500		\$500	\$220	2016	\$1,050
105	Inlet Filter	31.1	161	8.5	\$500		\$500	\$220	2016	\$1,050
106	Inlet Filter	16.4	85	4.5	\$500		\$500	\$220	2016	\$1,050
107	Inlet Filter	7.2	39	2.0	\$500		\$500	\$220	2016	\$1,050
108	Inlet Filter	8.4	23	1.2	\$500		\$500	\$220	2016	\$1,050
110	Off-Line	864.3	4109	243	\$486,000	\$20,000	\$1,012,000	\$880	2016	\$1,595,100
111	Off-Line	243.1	3062	98	\$196,000	\$13,000	\$418,000	\$880	2016	\$658,900
116	Inlet Filter	38.6	43	2.2	\$500		\$500	\$220	2016	\$1,050
117	Inlet Filter	9.1	51	2.3	\$500		\$500	\$220	2016	\$1,050
118	Inlet Filter	9.2	53	2.7	\$500		\$500	\$220	2016	\$1,050
119	Inlet Filter	21.5	120	6.0	\$500		\$500	\$220	2016	\$1,050
122	Inlet Filter	10.4	68	3.3	\$500		\$500	\$220	2016	\$1,050
123	Inlet Filter	8.8	49	2.2	\$500		\$500	\$220	2016	\$1,050
124	Inlet Filter	3.8	17	0.7	\$500		\$500	\$220	2016	\$1,050
125	Inlet Filter	5.3	29	1.3	\$500		\$500	\$220	2016	\$1,050
127	Inlet Filter	6.9	57	2.8	\$500		\$500	\$220	2016	\$1,050
128	Inlet Filter	22.0	158	8.8	\$500		\$500	\$220	2016	\$1,050
129	Inlet Filter	4.4	34	1.9	\$500		\$500	\$220	2016	\$1,050
131	Inlet Filter	11.1	70	4.3	\$500		\$500	\$220	2016	\$1,050
132	Inlet Filter	5.0	42	2.0	\$500		\$500	\$220	2016	\$1,050
133	Inlet Filter	10.7	48	2.9	\$500		\$500	\$220	2016	\$1,050
134	Inlet Filter	5.3	31	1.7	\$500		\$500	\$220	2016	\$1,050
136	Inlet Filter	3.9	59	2	\$500		\$500	\$220	2016	\$1,050
137	Inlet Filter	1.5	29	0.7	\$500		\$500	\$220	2016	\$1,050
138	Inlet Filter	11.9	207	6.3	\$500		\$500	\$220	2016	\$1,050
139	Inlet Filter	4.5	98	2.0	\$500		\$500	\$220	2016	\$1,050
140	Inlet Filter	1.0	21	0.5	\$500		\$500	\$220	2016	\$1,050
142	Inlet Filter	17.3	257	7.3	\$500		\$500	\$220	2016	\$1,050
172	Inlet Filter	5.3	24	2.0	\$500		\$500	\$220	2016	\$1,050
174	Inlet Filter	6.4	22	2.2	\$500		\$500	\$220	2016	\$1,050
176	Inlet Filter	17.3	175	7.2	\$500		\$500	\$220	2016	\$1,050
177	Inlet Filter	3.1	31	1.3	\$500		\$500	\$220	2016	\$1,050
181	Inlet Filter	4.7	27	1.5	\$500		\$500	\$220	2016	\$1,050
182	Inlet Filter	6.7	34	1.9	\$500		\$500	\$220	2016	\$1,050
184	Inlet Filter	5.3	105	2.4	\$500		\$500	\$220	2016	\$1,050
186	Inlet Filter	2.4	35	1.0	\$500		\$500	\$220	2016	\$1,050
191	Inlet Filter	3.9	47	1.4	\$500		\$500	\$220	2016	\$1,050
193	Inlet Filter	3.1	17	1.0	\$500		\$500	\$220	2016	\$1,050
194	Inlet Filter	3.3	17	1.0	\$500		\$500	\$220	2016	\$1,050
195	Inlet Filter	3.0	15	0.9	\$500		\$500	\$220	2016	\$1,050
196	Inlet Filter	3.5	18	1.1	\$500		\$500	\$220	2016	\$1,050
197	Inlet Filter	3.1	16	0.9	\$500		\$500	\$220	2016	\$1,050
198	Inlet Filter	3.1	16	0.8	\$500		\$500	\$220	2016	\$1,050
199	Inlet Filter	3.3	17	1.0	\$500		\$500	\$220	2016	\$1,050
200	Inlet Filter	3.2	17	1.0	\$500		\$500	\$220	2016	\$1,050
201	Inlet Filter	3.4	17	1.0	\$500		\$500	\$220	2016	\$1,050
202	Inlet Filter	3.5	18	1.1	\$500		\$500	\$220	2016	\$1,050
203	Inlet Filter	10.1	51	2.8	\$500		\$500	\$220	2016	\$1,050
204	Inlet Filter	3.7	19	1.0	\$500		\$500	\$220	2016	\$1,050

ID	Device Type	Acres	Load Reduction (gal/yr)	Treatment Q (cfs)	Device Cost (2014)	Diversion Structure Cost (2014)	Installation Cost (2014)	Yearly Maintenance Cost (Const Year)	Construction Year	Total Base Cost (Constr. Year)
205	Inlet Filter	3.3	17	0.9	\$500		\$500	\$220	2016	\$1,050
206	Inlet Filter	3.2	17	1.1	\$500		\$500	\$220	2016	\$1,050
207	Inlet Filter	3.1	17	1.0	\$500		\$500	\$220	2016	\$1,050
208	Inlet Filter	3.1	18	1.3	\$500		\$500	\$220	2016	\$1,050
209	Inlet Filter	3.6	19	1.1	\$500		\$500	\$220	2016	\$1,050
210	Inlet Filter	3.3	18	1.1	\$500		\$500	\$220	2016	\$1,050
211	Inlet Filter	3.4	18	0.9	\$500		\$500	\$220	2016	\$1,050
212	Inlet Filter	3.2	16	0.8	\$500		\$500	\$220	2016	\$1,050
213	Inlet Filter	3.3	17	0.8	\$500		\$500	\$220	2016	\$1,050
214	Inlet Filter	6.7	33	1.7	\$500		\$500	\$220	2016	\$1,050
215	Inlet Filter	10.5	53	2.7	\$500		\$500	\$220	2016	\$1,050
216	Inlet Filter	9.5	49	2.7	\$500		\$500	\$220	2016	\$1,050
218	Inlet Filter	4.0	20	1.1	\$500		\$500	\$220	2016	\$1,050
219	Inlet Filter	3.8	19	1.3	\$500		\$500	\$220	2016	\$1,050
220	Inlet Filter	3.3	18	1.3	\$500		\$500	\$220	2016	\$1,050
283	Inlet Filter	3.8	20	1.3	\$500		\$500	\$220	2016	\$1,050
284	Inlet Filter	9.0	27	1.4	\$500		\$500	\$220	2016	\$1,050
285	Inlet Filter	9.6	43	2.7	\$500		\$500	\$220	2016	\$1,050
298	Inlet Filter	4.3	23	0.9	\$500		\$500	\$220	2016	\$1,050
489	Inlet Filter	18.1	172	5.9	\$500		\$500	\$220	2016	\$1,050
Subtotal										\$2,328,000
50% Contingency										\$1,164,000
Total										\$3,491,000

Table 9: 2022 100% Reduction Goal Cost Estimate

ID	Device Type	Acres	Load Reduction (gal/yr)	Treatment Q (cfs)	Device Cost (2014)	Diversion Structure Cost (2014)	Installation Cost (2014)	Yearly Maintenance Cost (Const Year)	Construction Year	Total Base Cost (Constr. Year)
112	In-Line	56.7	496	23	\$45,162		\$90,323	\$925	2018	\$149,300
115	Off-Line	468	3389	180	\$359,700	\$20,000	\$719,400	\$925	2018	\$1,210,800
145	Inlet	2.7	80	1.50	\$500		\$500	\$237	2019	\$1,130
147	Inlet	4.5	34	0.59	\$500		\$500	\$237	2019	\$1,130
151	Inlet	6.4	28	1.33	\$500		\$500	\$237	2019	\$1,130
152	Inlet	11.1	52	2.54	\$500		\$500	\$237	2019	\$1,130
153	Inlet	6.8	53	2.59	\$500		\$500	\$237	2019	\$1,130
156	Inlet	7.8	37	2.31	\$500		\$500	\$237	2019	\$1,130
157	Inlet	9.4	58	3.14	\$500		\$500	\$237	2019	\$1,130
160	Inlet	6.1	24	1.18	\$500		\$500	\$237	2019	\$1,130
164	In-Line	60.9	530	18	\$35,997		\$71,995	\$998	2021	\$127,200
165	Off-Line	484.1	3293	191	\$382,021	\$20,000	\$764,043	\$998	2021	\$1,373,400
169	Inlet	11.5	136	1.85	\$500		\$500	\$243	2020	\$1,150
221	Inlet	2.2	46	0.5	\$500		\$500	\$243	2020	\$1,150
222	Inlet	2.9	62	0.7	\$500		\$500	\$243	2020	\$1,150
223	Inlet	2.4	37	0.6	\$500		\$500	\$243	2020	\$1,150
224	Inlet	1.1	21	0.3	\$500		\$500	\$243	2020	\$1,150
Subtotal										\$2,876,000
50% Contingency										\$1,438,000
Total										\$4,313,000

4. Trash Capture Plan – With Ordinance

4.1 Capital Improvement Projects

Based on the trash management areas defined in the Long Term Trash Reduction Plan by the City, the Commercial, Retail and Industrial properties generate a cumulative 23,964 gallons of trash per year. If you exclude the areas which are currently being captured by the existing City owned and private treatment devices, there is a remaining 20,943 gallons of trash generated on these private properties. If the City were to require these property owners to install trash capture devices on their site, the 70% and 100% trash capture goals of 10,855 and 19,244 gallons per year would be met and exceeded.

Table 10: Commercial, Retail and Industrial Trash Capture

Land Use	Trash Load Generation (gal/year)	Existing Load Reduction (gal/year)	Trash Load Remaining (gal/year)
Commercial	3,867	680	3,187
Retail	7,209	824	6,385
Industrial	12,888	1517	11,371
Total	23,964	3,021	20,943

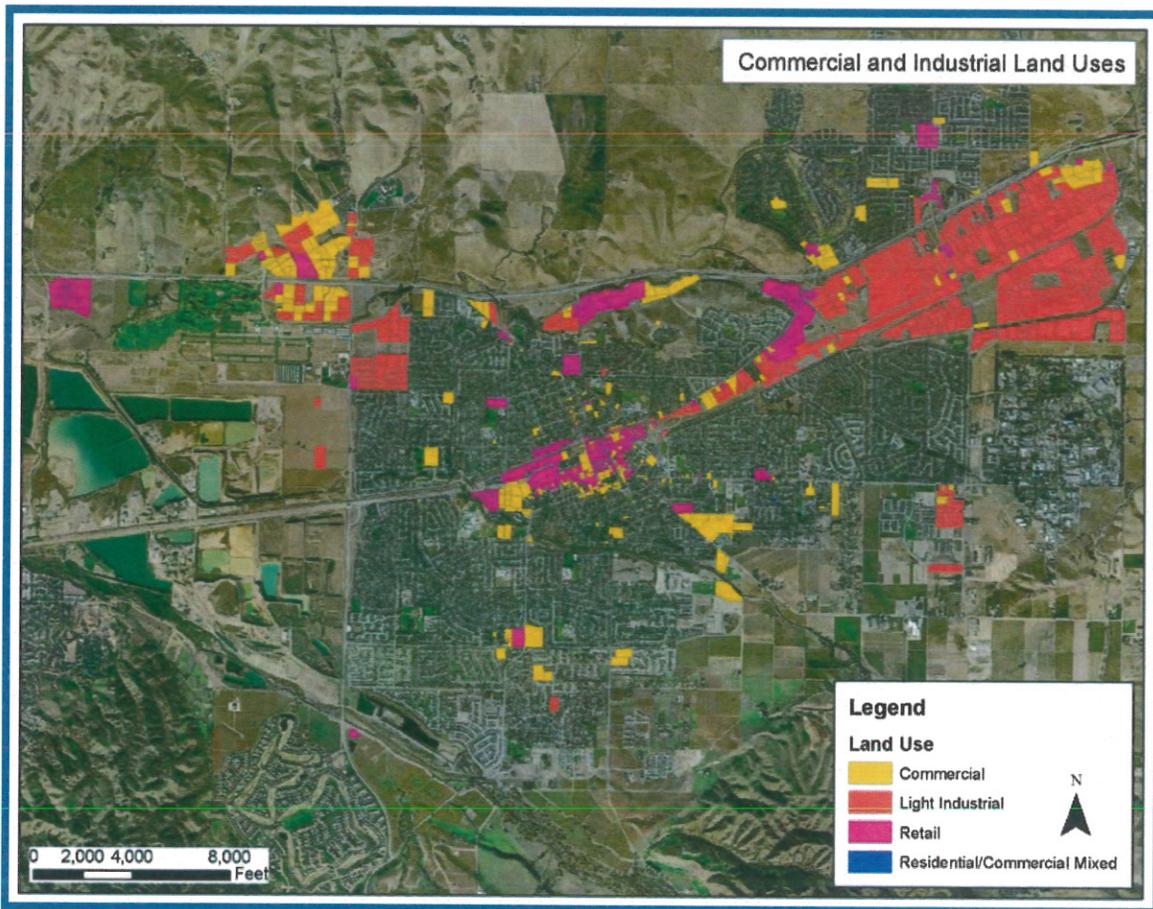


Figure 8: Commercial, Retail and Industrial Properties

4.1.1 Device Locations

The devices would be located on commercial, retail and industrial properties to be owned and maintained privately. For properties with an onsite storm drainage system this may be in the form of inlet filters or in-line devices on the private storm system prior to connection to the City drainage pipe.

For properties without an on-site storm drainage system, on-site full trash capture devices may not be feasible. Additional measures will need to be taken to prevent the sheet flow of trash from the Site into the City right-of-way. It may be necessary for the property owners to work with the City to install inlet filters on nearby City owned inlets.

4.1.2 System Hydraulics

Since the devices would be located on private property the flow would be treated before connecting to the City storm drainage system. The existing public system will not be adversely impacted by the installation of the full trash capture devices on private property. It will be important for the City to implement detailed operation and maintenance agreements with the property owners to ensure that the devices do not fail and cause overland release of trash and stormwater. If devices do fail, this may increase surface flow until the flow re-enters the City system via a downstream catch basin.

4.2 Cost Estimates

The cost for implementing the trash capture would be born by the individual property owners. The City will experience an increase in inspection required to ensure the devices are properly installed and maintained. There are 1,321 parcels which will require trash capture devices (147 parcels are already being captured by the existing inlet filters). The City building inspector would inspect the device after installation. After initial inspection it is recommended that the devices be inspected every two years by a qualified staff member, for an estimated average duration of 1 hour per parcel. At ultimate build-out it is assumed that the City will require 660 hours/year of additional inspection time, which equates to 0.3 additional staff members. At a rate of \$105/hour, the yearly cost will be \$69,300.

4.3 Schedule for Implementation

The City would need to enforce a volume reduction of at least 10,855 gallons per year by 2017 and 19,244 gallons per year by 2022. It may be practicable to allow for exemptions for certain properties whose activities can be proven to produce little or no trash. Presuming that property owners are allowed 2 years to implement the design, installation and maintenance agreements; the City must have the Ordinance in place by July 1, 2015.

Appendix A: Treatment Tables

A-1: Proposed Device Treatment Calculations

Device ID	Device Type	TMA	Catchment Area (ac)	Trash Capture Rate (gal/yr)	Weighted C Value	Treatment Intensity (in/hr)	Treatment Flow Rate (cfs)
100	Inlet	10R	6.5	95	0.85	0.50	2.75
101	Inlet	10R	8.4	171	0.94	0.50	3.94
103	Inlet	16P	21.0	98	0.43	0.50	4.53
104	Inlet	9R	6.3	144	0.94	0.50	2.97
105	Inlet	9	31.1	161	0.55	0.50	8.50
106	Inlet	9	16.4	85	0.55	0.50	4.49
107	Inlet	9	7.2	39	0.54	0.50	1.95
108	Inlet	9	8.4	23	0.28	0.50	1.18
110	Off-line	17	864	4109	0.56	0.50	243
111	Off-line	8	243	3062	0.79	0.50	98.2
112	In-line	11I	56.7	496	0.80	0.50	22.6
115	Off-line	4	468	3389	0.77	0.50	180
116	Inlet	10	38.6	43	0.12	0.50	2.22
117	Inlet	10	9.1	51	0.52	0.50	2.33
118	Inlet	10	9.2	53	0.59	0.50	2.70
119	Inlet	10	21.5	120	0.56	0.50	6.03
122	Inlet	10	10.4	68	0.63	0.50	3.28
123	Inlet	10	8.8	49	0.50	0.50	2.20
124	Inlet	10	3.8	17	0.40	0.50	0.75
125	Inlet	10	5.3	29	0.50	0.50	1.31
127	Inlet	4	6.9	57	0.82	0.50	2.83
128	Inlet	4	22.0	158	0.81	0.50	8.85
129	Inlet	4	4.4	34	0.85	0.50	1.88
131	Inlet	17	11.1	70	0.77	0.50	4.25
132	Inlet	4	5.0	42	0.82	0.50	2.03
133	Inlet	10	10.7	48	0.55	0.50	2.94
134	Inlet	9	5.3	31	0.65	0.50	1.74
136	Inlet	8	3.9	59	0.89	0.50	1.74
137	Inlet	8	1.5	29	0.92	0.50	0.69
138	Inlet	8	11.9	207	0.91	0.50	6.28
139	Inlet	9	4.5	98	0.87	0.50	1.98
140	Inlet	9	1.0	21	0.93	0.50	0.48
142	Inlet	6	17.3	257	0.84	0.50	7.29
145	Inlet	6	2.7	80	1.10	0.50	1.50
147	Inlet	12R	4.5	34	0.26	0.50	0.59
151	Inlet	9	6.4	28	0.42	0.50	1.33
152	Inlet	9	11.1	52	0.46	0.50	2.54
153	Inlet	9	6.8	53	0.76	0.50	2.59
156	Inlet	9	7.8	37	0.59	0.50	2.31
157	Inlet	9	9.4	58	0.67	0.50	3.14
160	Inlet	9	6.1	24	0.39	0.50	1.18
164	In-line	9	60.9	530	0.59	0.50	18.0
165	Off-line	4	484	3293	0.71	0.50	191
169	Inlet	9	11.5	136	0.32	0.50	1.85
172	Inlet	9	5.3	24	0.77	0.50	2.04
174	Inlet	9	6.4	22	0.67	0.50	2.15

Device ID	Device Type	TMA	Catchment Area (ac)	Trash Capture Rate (gal/yr)	Weighted C Value	Treatment Intensity (in/hr)	Treatment Flow Rate (cfs)
176	Inlet	9	17.3	175	0.83	0.50	7.18
177	Inlet	9	3.1	31	0.80	0.50	1.26
181	Inlet	9	4.7	27	0.66	0.50	1.54
182	Inlet	9	6.7	34	0.58	0.50	1.95
184	Inlet	9	5.3	105	0.92	0.50	2.44
186	Inlet	9	2.4	35	0.82	0.50	0.98
191	Inlet	1I	3.9	47	0.73	0.50	1.42
193	Inlet	11I	3.1	17	0.65	0.50	1.00
194	Inlet	11I	3.3	17	0.58	0.50	0.97
195	Inlet	11I	3.0	15	0.62	0.50	0.94
196	Inlet	11I	3.5	18	0.65	0.50	1.14
197	Inlet	11I	3.1	16	0.56	0.50	0.85
198	Inlet	11I	3.1	16	0.55	0.50	0.84
199	Inlet	11I	3.3	17	0.58	0.50	0.96
200	Inlet	11I	3.2	17	0.62	0.50	1.00
201	Inlet	11I	3.4	17	0.60	0.50	1.02
202	Inlet	11I	3.5	18	0.62	0.50	1.08
203	Inlet	11I	10.1	51	0.55	0.50	2.77
204	Inlet	11I	3.7	19	0.54	0.50	1.00
205	Inlet	4	3.3	17	0.55	0.50	0.89
206	Inlet	16P	3.2	17	0.66	0.50	1.07
207	Inlet	15S	3.1	17	0.63	0.50	0.99
208	Inlet	15S	3.1	18	0.85	0.50	1.30
209	Inlet	10	3.6	19	0.63	0.50	1.14
210	Inlet	9	3.3	18	0.66	0.50	1.11
211	Inlet	10C	3.4	18	0.55	0.50	0.95
212	Inlet	8	3.2	16	0.50	0.50	0.79
213	Inlet	9	3.3	17	0.52	0.50	0.84
214	Inlet	9	6.7	33	0.51	0.50	1.71
215	Inlet	9	10.5	53	0.52	0.50	2.71
216	Inlet	8	9.5	49	0.58	0.50	2.74
218	Inlet	9	4.0	20	0.55	0.50	1.09
219	Inlet	16P	3.8	19	0.66	0.50	1.25
220	Inlet	16P	3.3	18	0.78	0.50	1.30
221	Inlet	16P	2.2	46	0.50	0.50	0.55
222	Inlet	16P	2.9	62	0.50	0.50	0.73
223	Inlet	16P	2.4	37	0.50	0.50	0.59
224	Inlet	16P	1.1	21	0.48	0.50	0.25
283	Inlet	16P	3.8	20	0.71	0.50	1.35
284	Inlet	16P	9.0	27	0.32	0.50	1.44
285	Inlet	6	9.6	43	0.57	0.50	2.73
298	Inlet	17	4.3	23	0.41	0.50	0.88
489	Inlet	9	18.1	172	0.66	0.50	5.94

A-2: Existing City Owned Device Treatment Calculations

Existing Device Name	Area (ac)	Location	TMA	Trash Gen Rate	Trash Load (gal/yr)
4C1TC202	1.1	Constitution Dr & N Canyons Pkwy	1C	Medium	6.8
4C1TC204	0.6	3142 N Canyons Pkwy	1C	Medium	3.7
4C1TC205	7.1	Constitution Dr & N Canyons Pkwy	1C	Medium	23.5
4C1TC207	1.8	Constitution Dr & N Canyons Pkwy	1C	Medium	5.2
4C1TC300	0.3	2882 Constitution Dr	1C	Medium	2.1
4C1TC308	0.3	Airway Blvd & N Canyons Pkwy	1C	Medium	1.7
4C1TC313	7.8	Airway Blvd & N Canyons Pkwy	1C	Medium	21.5
4C1TC400	1.8	2801 Constitution Dr	1C	Medium	11.3
4C1TC404	0.6	Doolan Rd & N Canyons Pkwy	1C	Medium	3.5
4C1TC413	0.2	Kitty Hawk Rd & Airway Blvd	1C	Medium	1.3
4C1TC416	2.3	2929 Constitution Dr	1C	Medium	15.7
4C1TC523	3.7	82 Constitution Drive	1C	Medium	23.3
4C1TC529	1.5	Doolan Rd & Collier Cyn	1C	Medium	9.4
4C1TC536	2.0	Doolan Rd & Collier Cyn	1C	Medium	11.4
4C2TC501	5.5	Constitution Dr & Shea Center Dr	1C	Medium	41.4
4C2TC505	0.6	Cotton Wood Creek And Constitution Drive	1C	Very High	16.4
4C2TC506	0.5	Cotton Wood Creek And Constitution Drive	1C	Medium	2.4
4C2TC522	1.8	Independence Dr & Collier Canyon	1C	Medium	11.0
4C3TC200	4.1	2383 Nissen Dr	1C	Medium	29.6
4C3TC224	1.2	Earhart Way & Nissen Dr	1C	Medium	10.5
4C3TC408	3.3	2333 Nissen Dr	1C	Medium	23.2
4C3TC505	2.1	Lindbergh Ave & Nissen Dr	1C	Medium	5.2
4C4TC216	2.8	419 Earhart Way	1C	Medium	17.7
4C4TC403	3.9	274 Lindbergh Ave	1C	Medium	27.0
4C4TC406	4.3	Lindbergh Ave & Armstrong St	1C	Medium	17.7
4C4TC408	1.5	335 Lindbergh Ave	1C	Medium	9.4
4C4TC410	0.5	170 Lindbergh Ave	1C	Medium	4.3
4C4TC415	7.6	135 Lindbergh Ave	1C	Medium	82.4
4C4TC418	2.1	405 Lindbergh Ave	1C	Medium	13.6
4D1TC501	10.9	Constitution Dr & Shea Center Dr	1C	Medium	75.6
4C1TC312	3.7	1815 Doolan Rd	1I	Medium	21.6
4C1TC407	2.3	N Canyon Pkwy & Doolan Rd	1I	Medium	19.0
4C2TC103	6.3	477 Independence Dr	1I	Medium	52.6
4C2TC210	0.2	2649 Collier Cyn Rd	1I	Medium	1.6
4C2TC211	0.2	2648 Collier Cyn Rd	1I	Medium	1.1
4C2TC300	0.7	2694 Gateway Ave	1I	Medium	5.1
4C2TC301	13.2	2694 Gateway Ave	1I	Medium	97.3
4C2TC304	2.8	455 North Canyons Pkwy	1I	Medium	20.6
4C2TC312	1.0	North Canyons Pkwy & Independence Dr	1I	Medium	8.1
4C2TC514	1.2	Collier Cyn Rd & Constitution Dr	1I	Medium	8.9
4C2TC525	1.0	466 Collier Canyon	1I	Very High	33.4
4C3TC109	0.3	Airway Blvd & Kitty Hawk Rd	1I	Very High	16.3
4C3TC110	0.3	Kitty Hawk Rd & Airway Blvd	1I	Very High	12.4

Existing Device Name	Area (ac)	Location	TMA	Trash Gen Rate	Trash Load (gal/yr)
4C3TC114	0.1	Airway Blvd & Kitty Hawk Rd	1I	Very High	6.2
4C3TC115	0.2	Kitty Hawk Rd & Airway Blvd	1I	Very High	10.0
4C3TC202	0.4	Kitty Hawk Rd & Airway Blvd	1I	Very High	14.7
4C3TC206	0.2	Airway Blvd & Kitty Hawk Rd	1I	Medium	1.5
4C3TC401	6.7	Airway Blvd & Kitty Hawk Rd	1I	Medium	6.3
4C3TC506	1.5	472 Lindbergh Ave	1I	Medium	3.8
4C4TC300	0.6	349 Earhart Way	1I	Medium	2.0
4C4TC414	8.1	122 Lindbergh Ave	1I	Medium	93.0
4C4TC419	1.1	Lindbergh Ave & Armstrong St	1I	Medium	6.4
4D1TC303	5.1	Gateway Ave & Shea Center Dr	1I	Medium	22.2
4D1TC402	0.6	2580 Shea Center Dr	1I	Medium	4.2
4C1TC311	0.5	Airway Blvd & N Canyons Pkwy	1R	Medium	3.2
4C2TC401	3.1	2854 Independence Dr	1R	Medium	19.1
4C2TC508	0.3	Collier Canyon & Independence Dr	1R	Medium	1.7
4C2TC509	1.5	Collier Canyon & Independence Dr	1R	Medium	8.8
4C2TC515	1.3	Independence Dr & Collier Canyon	1R	Medium	8.0
4C2TC517	0.2	Collier Canyon & Independence Dr	1R	Medium	2.2
4C2TC518	2.1	Collier Canyon & Independence Dr	1R	Medium	12.4
4C2TC519	0.2	444 Collier Canyon	1R	Medium	4.3
4C2TC523	3.3	445 Collier Canyon	1R	Medium	19.4
4C2TC524	2.9	467 Collier Canyon	1R	Medium	18.0
4C4TC400	2.7	201 Lindbergh Ave	1	Medium	20.4
4E4TC202	1.0	3000 Las Positas Rd	2C	Medium	6.1
4E4TC309	0.4	3000 Las Positas Rd	2C	Medium	2.1
4F1TC508	0.3	3400 Las Positas Rd	2C	Medium	1.8
4F3TC101	2.2	3400 Las Positas Rd	2C	Low	0.7
4F3TC102	0.4	3400 Las Positas Rd	2C	Medium	2.3
4F3TC104	0.5	3200 Las Positas Rd	2C	Medium	2.3
4F3TC204	0.5	North Mines Rd & Las Positas Rd	2C	Medium	2.7
4F3TC206	0.4	3100 Las Positas Rd	2C	Medium	2.6
4F3TC207	0.1	North Mines Rd & Las Positas Rd	2C	Medium	0.7
4F3TC208	0.1	North Mines Rd & Las Positas Rd	2C	Medium	0.4
4E3TC401	0.2	N Livermore Ave & Las Positas Rd	2I	Medium	2.0
4E3TC504	1.0	N Livermore Ave & Las Positas Rd	2I	Medium	5.9
4E3TC402	10.5	N Livermore Ave & Las Positas Rd	2R	High	60.3
4E3TC411	6.3	Las Positas Rd & N Livermore Ave	2R	High	28.2
4E3TC415	2.6	Las Positas Rd & N Livermore Ave	2R	High	39.3
4E3TC417	2.4	N Livermore Ave & Las Positas Rd	2R	High	35.2
4E4TC304	0.2	2792 Las Positas Rd	2R	High	2.9
4E4TC305	0.2	2826 Las Positas Rd	2R	High	3.4
4E4TC401	3.8	2301 Las Positas Rd	2R	High	10.5
4E4TC402	2.6	2301 Las Positas Rd	2R	High	15.1
4F4TC202	0.5	4514 Las Positas Rd	3R	High	5.3
4F4TC203	0.7	4300 Las Positas Rd	3R	High	8.2

Existing Device Name	Area (ac)	Location	TMA	Trash Gen Rate	Trash Load (gal/yr)
4F4TC303	0.5	First St & Las Positas Rd	3R	High	7.0
4F4TC305	0.3	Las Positas Rd & First St	3R	High	3.5
4F4TC308	0.2	Las Positas Rd & First St	3R	High	1.5
4F4TC310	0.5	First St & Southfront	3R	High	7.8
4F4TC420	2.2	Las Positas Blvd & First St	3R	High	29.6
4F4TC423	1.4	Las Positas Blvd & First St	3R	High	19.6
4F4TC525	2.9	First St & Bellmawr Dr	3R	High	38.7
4G3TC219	1.2	4849 South Front Rd	3R	High	13.3
4G3TC226	0.6	South Front Ln & First St	3R	High	7.2
4G3TC230	0.6	4700 First St	3R	High	3.4
4G3TC233	0.5	4707 First St	3R	High	7.0
4G3TC412	1.4	South Front Ln & First St	3R	High	11.9
5F2TC102	0.7	First St & N Mines Rd	3R	High	8.6
5F2TC116	8.4	4676 Las Positas Rd	3R	High	76.3
5F2TC124	12.9	4273 First St	3R	High	170.8
5F2TC316	1.6	N Mines Rd & Technology Dr	3R	High	21.3
5F2TC317	2.6	N Mines Rd & Technology Dr	3R	High	31.4
4G3TC221	0.6	4849 South Front Rd	4	Medium	5.1
4G3TC300	1.8	4749 Bennett Dr	4	Medium	14.8
4G3TC303	19.1	4741 Bennett Dr	4	Medium	112.7
4G3TC307	1.4	4771 Arroyo Vista	4	Medium	11.3
4G3TC315	4.8	4740 Bennett Dr	4	Medium	61.3
4G3TC505	1.7	Las Positas Rd & Bennett Dr	4	Medium	14.5
4G3TC520	10.1	4647 C Las Positas Rd	4	Medium	58.7
5F2TC401	0.8	Technology Dr & N Mines Rd	4	Medium	9.0
5F2TC402	2.5	Technology Dr & N Mines Rd	4	Medium	21.1
5F2TC408	0.4	N Mines Rd & Technology Dr	4	Medium	3.6
5F2TC411	0.5	N Mines Rd & Technology Dr	4	Medium	4.0
5G1TC106	4.6	4555 Las Positas Rd	4	Medium	33.5
5G1TC201	3.8	4569 Las Positas Rd	4	Medium	27.2
4C1TC203	5.7	455 North Canyons Pkwy	17	Low	12.9
4C1TC307	0.6	N Canyons Pkwy & Airway Blvd	17	Low	0.5
4C1TC405	0.6	952 N Canyons Pkwy	17	Low	1.4
4C1TC410	0.6	N Canyons Pkwy & Republic Dr	17	Low	2.5
4C2TC502	1.7	Constitution Dr & Shea Center Dr	17	Very High	68.5
4C2TC510	0.3	Collier Canyon Rd & Constitution Dr	17	Very High	6.9
4C2TC511	3.4	Collier Canyon Rd & Constitution Dr	17	Low	4.3
4C2TC513	0.8	Collier Canyon Rd & Constitution Dr	17	Low	2.6
4C3TC204	0.3	Airway Blvd & Kitty Hawk Rd	17	Low	1.5
4C3TC439	0.6	Airway Blvd & Clubhouse Dr	17	Low	3.5
4C3TC507	1.7	448 Airway Blvd	17	Low	4.3
4C3TC508	0.2	464 Airway Blvd	17	Low	0.2
4C3TC510	0.2	550 Airway Blvd	17	Low	0.2
4C4TC200	2.7	465 Airway Blvd	17	Low	19.7

Existing Device Name	Area (ac)	Location	TMA	Trash Gen Rate	Trash Load (gal/yr)
4C4TC203	1.5	550 Airway Blvd	17	Low	12.8
4C4TC304	0.9	Armstrong St & Earhart Way	17	Low	5.6
4D1TC503	1.4	Constitution Dr & Shea Center Dr	17	Very High	44.4
4D1TC505	0.7	Constitution Dr & Shea Center Dr	17	Very High	27.2
4E4TC300	30.4	Las Positas Rd & Hilliker Pl	17	Low	39.7
4E4TC301	2.9	Las Positas Rd & Hilliker Pl	17	Low	3.5
4E4TC302	3.8	2825 Las Positas Rd	17	Low	4.7
4E4TC308	0.8	3031 Las Positas Rd	17	Low	1.3
4E4TC313	4.9	2881 Las Positas Rd	17	Low	2.5
4E4TC314	0.5	2904 Las Positas Rd	17	Low	0.5
4E4TC403	3.1	2500 Las Positas Rd	17	Low	3.1
4E4TC404	0.1	Las Positas Rd & Hilliker Pl	17	Low	0.1
4F1TC500	0.4	3600 Las Positas Rd	17	Low	NOT IN CITY
4F1TC501	0.2	Missing	17	Low	0.2
4F1TC502	7.0	3600 Las Positas Rd	17	Low	0.0
4F1TC506	0.2	Missing	17	Low	0.2
4F3TC103	7.5	31 Las Positas Rd	17	Low	0.8
4F3TC201	21.0	N Mines Rd & Las Positas Rd	17	Low	0.2
4F3TC205	17.3	Las Positas Rd & N Mines Rd	17	Low	0.1
4F4TC200	2.5	4440 Las Positas Rd	17	Low	0.0
4F4TC205	2.7	4300 Las Positas Rd	17	Low	0.8
4F4TC206	6.9	4290 Las Positas Rd	17	Low	1.5
4F4TC306	0.4	Las Positas Rd & First St	17	Low	0.1
4F4TC307	1.0	4526 Las Positas Rd	17	Low	0.0
4F4TC503	0.8	First St & Bellmawr Dr	17	Low	1.3
4F4TC509	0.4	Bellmawr Dr & First St	17	Low	0.6
4F4TC511	0.9	Bellmawr Dr & First St	17	Low	1.4
4G3TC305	6.0	4749 Bennett Dr	17	Low	50.4
4G3TC413	4.3	4749 Bennett Dr	17	Low	4.8
4G3TC418	5.1	4747 Arroyo Vista	17	Low	10.1
4G3TC420	0.8	4749 Bennett Dr	17	Low	0.8
4G3TC502	1.5	4659 C Las Positas Rd	17	Low	1.8
4G3TC507	0.5	4671 Las Positas Rd	17	Low	0.9
4G3TC509	4.1	Las Positas And Arroyo Vista	17	Low	16.0
4G3TC512	7.4	Arroyo Vista & Las Positas Rd	17	Low	14.0
5F2TC111	0.7	4250 First St	17	Low	1.2
5G1TC111	1.5	4676 Las Positas Rd	17	Low	3.9
Total	459				2573

A-3: Existing Private Device Treatment Calculations

Street Number	Street Name	Tree Well Filter	Hydrodynamic Separator	Water Quality Inlets	Media Filters	Other Device	ID	Area (ac)	Trash Captured (minus ex City device catchments) (gal/year)
50	Contractors Street		x				0	2.34	14.53
2500	Las Positas Road		x				13	5.58	83.50
5489	Las Positas Road	x					14	21.22	178.91
100	North Canyons Parkway		x				21	3.31	20.53
6049	Northfront Road			x			20	0.68	5.76
6061	Northfront Road			x			19	0.69	5.22
2330	Railroad Avenue		x				22	1.89	11.45
3560	Robertson Park Road			x			23	8.22	51.06
1860	Second Street	x					24	0.70	4.46
6850	Brisa Street			x			5	6.35	53.55
800	East Stanley Boulevard		x				30	10.06	86.66
200	Greenville Road		x				9	2.44	11.88
7770	Hawthorne Avenue			x			8	4.96	41.78
3100	Las Positas Road		x				10	4.69	29.10
3200	Las Positas Road		x				11	3.21	19.64
3400	Las Positas Road		x				12	1.86	11.44
6211	Las Positas Road		x				15	6.07	51.13
6475	Las Positas Road		x				16	3.14	26.49
7480	Las Positas Road			x			17	4.61	38.84
6553-6589	Las Positas Road		x				18	2.99	18.59
6650	National Drive			x			6	6.22	52.39
7600-7648	National Drive		x				7	2.43	19.26
5750	Scenic Avenue			x			25	0.70	1.38
355	South Vasco Road			x	x		28	11.70	98.66
6153	Southfront Road					x	26	2.91	24.51
6175	Southfront Road			x			27	3.55	29.93
3102-3278	Constitution Drive		x				1	0.30	1.40
3103-3197	Independence Drive				x		3	4.62	28.67
2282	Kitty Hawk Road					x	4	2.56	15.22
101	Vineyard Avenue		x				29	4.20	14.61
4542	Contractors Pl.		x				2	1.71	14.23
Totals								136	1,065

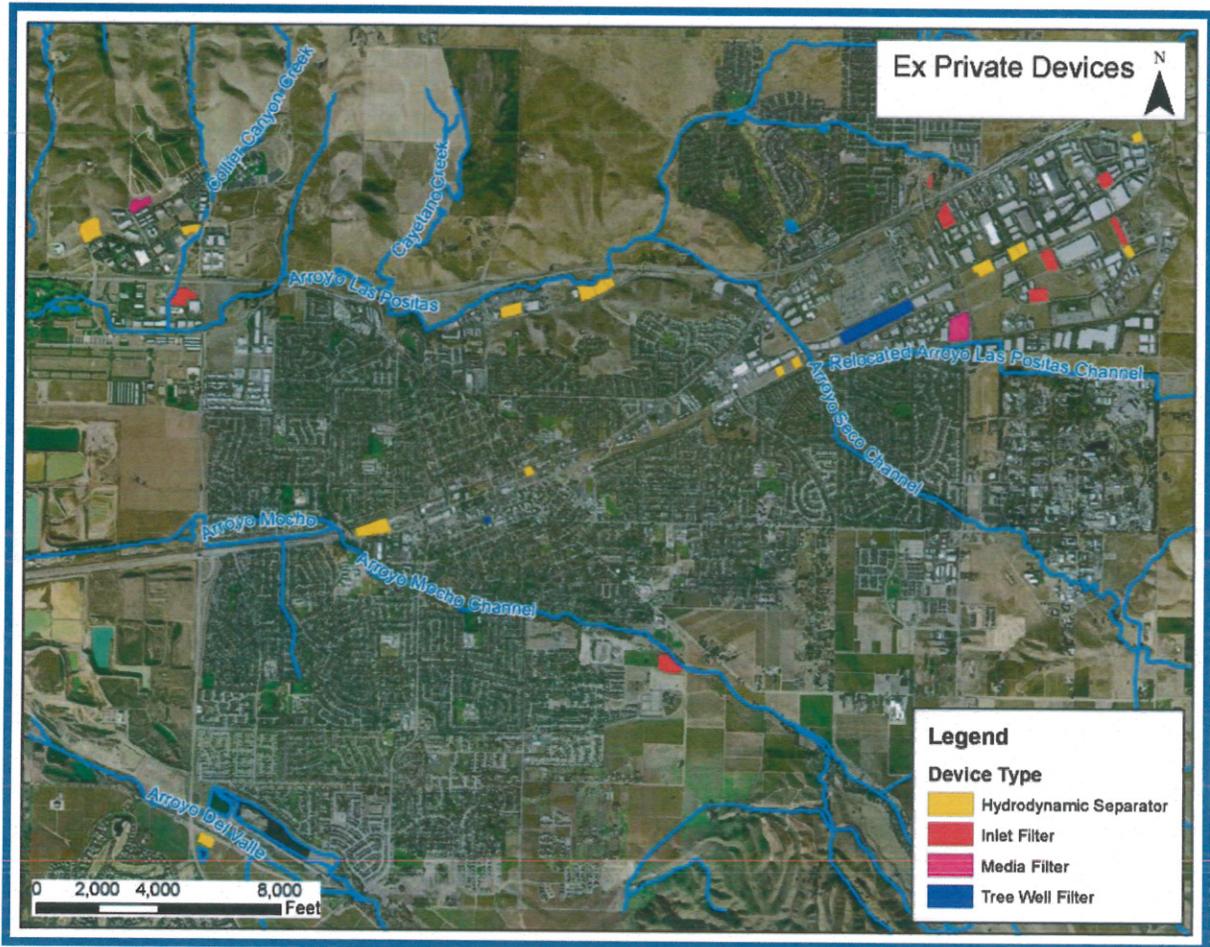


Figure A-1: Existing Private Devices

Appendix B: Detailed Cost Estimates

2017 70% Reduction Goal Cost Estimate

Appendix B

A	B	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
Device ID	Device Type	Acres	Load Reduction (gal/year)	Treatment Q (cfs)	Device Cost (2014)	Diversion Structure Cost (2014)	Installation Cost (2014)	Total Base 2014 Cost	Construction Year	Lifetime (years)	Total Base Cost (Const Year)	Device + Installation (Present Value)	Yearly Maintenance Cost	Yearly Maintenance (Present Value)	Replacement Cost (Present Value)	Total Lifetime Cost (Present Value)
							(2xH+I for Off-Line : 1xH for Inlet Filter)	(H+I+J) (In 2014 dollars)		(time before replacement is required)	(K Inflated 2.54% to Construction Year Cost)	(N deflated 6.25% to 2014)	(Cost Per Year at Installation)	(P inflated 2.54% over 50 years and deflated 6.25% to present)	(N inflated 2.54% to L+25 years and deflated 6.25% to present)	(O+Q+R)
100	Inlet Filter	6.5	95	2.8	\$500		\$500	\$1,000	2016	25	\$1,050	\$930	\$220	\$5,230	\$383	\$6,543
101	Inlet Filter	8.4	171	3.9	\$500		\$500	\$1,000	2016	25	\$1,050	\$930	\$220	\$5,230	\$383	\$6,543
103	Inlet Filter	21.0	98	4.5	\$500		\$500	\$1,000	2016	25	\$1,050	\$930	\$220	\$5,230	\$383	\$6,543
104	Inlet Filter	6.3	144	3.0	\$500		\$500	\$1,000	2016	25	\$1,050	\$930	\$220	\$5,230	\$383	\$6,543
105	Inlet Filter	31.1	161	8.5	\$500		\$500	\$1,000	2016	25	\$1,050	\$930	\$220	\$5,230	\$383	\$6,543
106	Inlet Filter	16.4	85	4.5	\$500		\$500	\$1,000	2016	25	\$1,050	\$930	\$220	\$5,230	\$383	\$6,543
107	Inlet Filter	7.2	39	2.0	\$500		\$500	\$1,000	2016	25	\$1,050	\$930	\$220	\$5,230	\$383	\$6,543
108	Inlet Filter	8.4	23	1.2	\$500		\$500	\$1,000	2016	25	\$1,050	\$930	\$220	\$5,230	\$383	\$6,543
110	Off-Line	864.3	4109	243	\$486,000	\$20,000	\$1,012,000	\$1,518,000	2016	50	\$1,595,100	\$1,743,000	\$880	\$21,000	\$0	\$1,434,000
111	Off-Line	243.1	3062	98	\$196,000	\$13,000	\$418,000	\$627,000	2016	50	\$658,900	\$684,000	\$880	\$21,000	\$0	\$605,000
116	Inlet Filter	38.6	43	2.2	\$500		\$500	\$1,000	2016	25	\$1,050	\$930	\$220	\$5,230	\$383	\$6,543
117	Inlet Filter	9.1	51	2.3	\$500		\$500	\$1,000	2016	25	\$1,050	\$930	\$220	\$5,230	\$383	\$6,543
118	Inlet Filter	9.2	53	2.7	\$500		\$500	\$1,000	2016	25	\$1,050	\$930	\$220	\$5,230	\$383	\$6,543
119	Inlet Filter	21.5	120	6.0	\$500		\$500	\$1,000	2016	25	\$1,050	\$930	\$220	\$5,230	\$383	\$6,543
122	Inlet Filter	10.4	68	3.3	\$500		\$500	\$1,000	2016	25	\$1,050	\$930	\$220	\$5,230	\$383	\$6,543
123	Inlet Filter	8.8	49	2.2	\$500		\$500	\$1,000	2016	25	\$1,050	\$930	\$220	\$5,230	\$383	\$6,543
124	Inlet Filter	3.8	17	0.7	\$500		\$500	\$1,000	2016	25	\$1,050	\$930	\$220	\$5,230	\$383	\$6,543
125	Inlet Filter	5.3	29	1.3	\$500		\$500	\$1,000	2016	25	\$1,050	\$930	\$220	\$5,230	\$383	\$6,543
127	Inlet Filter	6.9	57	2.8	\$500		\$500	\$1,000	2016	25	\$1,050	\$930	\$220	\$5,230	\$383	\$6,543
128	Inlet Filter	22.0	158	8.8	\$500		\$500	\$1,000	2016	25	\$1,050	\$930	\$220	\$5,230	\$383	\$6,543
129	Inlet Filter	4.4	34	1.9	\$500		\$500	\$1,000	2016	25	\$1,050	\$930	\$220	\$5,230	\$383	\$6,543
131	Inlet Filter	11.1	70	4.3	\$500		\$500	\$1,000	2016	25	\$1,050	\$930	\$220	\$5,230	\$383	\$6,543
132	Inlet Filter	5.0	42	2.0	\$500		\$500	\$1,000	2016	25	\$1,050	\$930	\$220	\$5,230	\$383	\$6,543
133	Inlet Filter	10.7	48	2.9	\$500		\$500	\$1,000	2016	25	\$1,050	\$930	\$220	\$5,230	\$383	\$6,543
134	Inlet Filter	5.3	31	1.7	\$500		\$500	\$1,000	2016	25	\$1,050	\$930	\$220	\$5,230	\$383	\$6,543
136	Inlet Filter	3.9	59	2	\$500		\$500	\$1,000	2016	25	\$1,050	\$930	\$220	\$5,230	\$383	\$6,543
137	Inlet Filter	1.5	29	0.7	\$500		\$500	\$1,000	2016	25	\$1,050	\$930	\$220	\$5,230	\$383	\$6,543
138	Inlet Filter	11.9	207	6.3	\$500		\$500	\$1,000	2016	25	\$1,050	\$930	\$220	\$5,230	\$383	\$6,543
139	Inlet Filter	4.5	98	2.0	\$500		\$500	\$1,000	2016	25	\$1,050	\$930	\$220	\$5,230	\$383	\$6,543
140	Inlet Filter	1.0	21	0.5	\$500		\$500	\$1,000	2016	25	\$1,050	\$930	\$220	\$5,230	\$383	\$6,543
142	Inlet Filter	17.3	257	7.3	\$500		\$500	\$1,000	2016	25	\$1,050	\$930	\$220	\$5,230	\$383	\$6,543
174	Inlet Filter	6.4	22	2.0	\$500		\$500	\$1,000	2016	25	\$1,050	\$930	\$220	\$5,230	\$383	\$6,543
176	Inlet Filter	17.3	175	7.2	\$500		\$500	\$1,000	2016	25	\$1,050	\$930	\$220	\$5,230	\$383	\$6,543
177	Inlet Filter	3.1	31	1.3	\$500		\$500	\$1,000	2016	25	\$1,050	\$930	\$220	\$5,230	\$383	\$6,543
181	Inlet Filter	4.7	27	1.5	\$500		\$500	\$1,000	2016	25	\$1,050	\$930	\$220	\$5,230	\$383	\$6,543
182	Inlet Filter	6.7	34	1.9	\$500		\$500	\$1,000	2016	25	\$1,050	\$930	\$220	\$5,230	\$383	\$6,543
184	Inlet Filter	5.3	105	2.4	\$500		\$500	\$1,000	2016	25	\$1,050	\$930	\$220	\$5,230	\$383	\$6,543
186	Inlet Filter	2.4	35	1.0	\$500		\$500	\$1,000	2016	25	\$1,050	\$930	\$220	\$5,230	\$383	\$6,543
191	Inlet Filter	3.9	47	1.4	\$500		\$500	\$1,000	2016	25	\$1,050	\$930	\$220	\$5,230	\$383	\$6,543
193	Inlet Filter	3.1	17	1.0	\$500		\$500	\$1,000	2016	25	\$1,050	\$930	\$220	\$5,230	\$383	\$6,543

2017 70% Reduction Goal Cost Estimate

Appendix B

A	B	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
Device ID	Device Type	Acres	Load Reduction (gal/year)	Treatment Q (cfs)	Device Cost (2014)	Diversion Structure Cost (2014)	Installation Cost (2014)	Total Base 2014 Cost	Constructi on Year	Lifetime (years)	Total Base Cost (Const Year)	Device + Installation Cost (Present Value)	Yearly Maintenance Cost	Yearly Maintenance (Present Value)	Replacement Cost (Present Value)	Total Lifetime Cost (Present Value)
					(\$2000xG for Off-Line) (In 2014 dollars)	(In 2014 dollars)	(2xH+I for Off-Line : 1xH for Inlet Filter)	(H+I+J) (In 2014 dollars)		(time before replacement is required)	(K Inflated 2.54% to Construction Year Cost)	(N deflated 6.25% to 2014)	(Cost Per Year at Installation)	(P inflated 2.54% over 50 years and deflated 6.25% to present)	(N inflated 2.54% to L + 25 years and deflated 6.25% to present)	(O+Q+R)
194	Inlet Filter	3.3	17	1.0	\$500		\$500	\$1,000	2016	25	\$1,050	\$930	\$220	\$5,230	\$383	\$6,543
195	Inlet Filter	3.0	15	0.9	\$500		\$500	\$1,000	2016	25	\$1,050	\$930	\$220	\$5,230	\$383	\$6,543
196	Inlet Filter	3.5	18	1.1	\$500		\$500	\$1,000	2016	25	\$1,050	\$930	\$220	\$5,230	\$383	\$6,543
197	Inlet Filter	3.1	16	0.9	\$500		\$500	\$1,000	2016	25	\$1,050	\$930	\$220	\$5,230	\$383	\$6,543
198	Inlet Filter	3.1	16	0.8	\$500		\$500	\$1,000	2016	25	\$1,050	\$930	\$220	\$5,230	\$383	\$6,543
199	Inlet Filter	3.3	17	1.0	\$500		\$500	\$1,000	2016	25	\$1,050	\$930	\$220	\$5,230	\$383	\$6,543
200	Inlet Filter	3.2	17	1.0	\$500		\$500	\$1,000	2016	25	\$1,050	\$930	\$220	\$5,230	\$383	\$6,543
201	Inlet Filter	3.4	17	1.0	\$500		\$500	\$1,000	2016	25	\$1,050	\$930	\$220	\$5,230	\$383	\$6,543
202	Inlet Filter	3.5	18	1.1	\$500		\$500	\$1,000	2016	25	\$1,050	\$930	\$220	\$5,230	\$383	\$6,543
203	Inlet Filter	10.1	51	2.8	\$500		\$500	\$1,000	2016	25	\$1,050	\$930	\$220	\$5,230	\$383	\$6,543
204	Inlet Filter	3.7	19	1.0	\$500		\$500	\$1,000	2016	25	\$1,050	\$930	\$220	\$5,230	\$383	\$6,543
205	Inlet Filter	3.3	17	0.9	\$500		\$500	\$1,000	2016	25	\$1,050	\$930	\$220	\$5,230	\$383	\$6,543
206	Inlet Filter	3.2	17	1.1	\$500		\$500	\$1,000	2016	25	\$1,050	\$930	\$220	\$5,230	\$383	\$6,543
207	Inlet Filter	3.1	17	1.0	\$500		\$500	\$1,000	2016	25	\$1,050	\$930	\$220	\$5,230	\$383	\$6,543
208	Inlet Filter	3.1	18	1.3	\$500		\$500	\$1,000	2016	25	\$1,050	\$930	\$220	\$5,230	\$383	\$6,543
209	Inlet Filter	3.6	19	1.1	\$500		\$500	\$1,000	2016	25	\$1,050	\$930	\$220	\$5,230	\$383	\$6,543
210	Inlet Filter	3.3	18	1.1	\$500		\$500	\$1,000	2016	25	\$1,050	\$930	\$220	\$5,230	\$383	\$6,543
211	Inlet Filter	3.4	18	0.9	\$500		\$500	\$1,000	2016	25	\$1,050	\$930	\$220	\$5,230	\$383	\$6,543
212	Inlet Filter	3.2	16	0.8	\$500		\$500	\$1,000	2016	25	\$1,050	\$930	\$220	\$5,230	\$383	\$6,543
213	Inlet Filter	3.3	17	0.8	\$500		\$500	\$1,000	2016	25	\$1,050	\$930	\$220	\$5,230	\$383	\$6,543
214	Inlet Filter	6.7	33	1.7	\$500		\$500	\$1,000	2016	25	\$1,050	\$930	\$220	\$5,230	\$383	\$6,543
215	Inlet Filter	10.5	53	2.7	\$500		\$500	\$1,000	2016	25	\$1,050	\$930	\$220	\$5,230	\$383	\$6,543
216	Inlet Filter	9.5	49	2.7	\$500		\$500	\$1,000	2016	25	\$1,050	\$930	\$220	\$5,230	\$383	\$6,543
218	Inlet Filter	4.0	20	1.1	\$500		\$500	\$1,000	2016	25	\$1,050	\$930	\$220	\$5,230	\$383	\$6,543
219	Inlet Filter	3.8	19	1.3	\$500		\$500	\$1,000	2016	25	\$1,050	\$930	\$220	\$5,230	\$383	\$6,543
220	Inlet Filter	3.3	18	1.3	\$500		\$500	\$1,000	2016	25	\$1,050	\$930	\$220	\$5,230	\$383	\$6,543
283	Inlet Filter	3.8	20	1.3	\$500		\$500	\$1,000	2016	25	\$1,050	\$930	\$220	\$5,230	\$383	\$6,543
284	Inlet Filter	9.0	27	1.4	\$500		\$500	\$1,000	2016	25	\$1,050	\$930	\$220	\$5,230	\$383	\$6,543
285	Inlet Filter	9.6	43	2.7	\$500		\$500	\$1,000	2016	25	\$1,050	\$930	\$220	\$5,230	\$383	\$6,543
298	Inlet Filter	4.3	23	0.9	\$500		\$500	\$1,000	2016	25	\$1,050	\$930	\$220	\$5,230	\$383	\$6,543
489	Inlet Filter	18.1	172	5.9	\$500		\$500	\$1,000	2016	25	\$1,050	\$930	\$220	\$5,230	\$383	\$6,543
Subtotal								\$2,215,000			\$2,327,500	\$2,062,100		\$408,100	\$26,776	\$2,497,000
50% Contingency								\$1,107,500			\$1,163,750	\$1,031,050		\$204,050	\$13,388	\$1,248,500
Total								\$3,322,500			\$3,491,250	\$3,093,150		\$612,150	\$40,163	\$3,745,500

September 2014

Schaaf Wheeler
CONSULTING CIVIL ENGINEERS

2022, 100% Reduction Goal Estimate

A	B	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
Device ID	Device Type	Load Reduction (gal/year)	Treatment Q (cfs)	Device Cost (2014)	Diversion Structure Cost (2014)	Installation Cost (2014)	Total Base 2014 Cost (H+I+J)	Construction Year	Lifetime (years)	Total Base Cost (Construction Year)	Device + Installation Cost (Present Value)	Yearly Maintenance Cost	Yearly Maintenance (Present Value)	Replacement Cost (Present Value)	Total Lifetime Cost (Present Value)
				(\$2000xG for Off-Line) (In 2014 dollars)	(In 2014 dollars)	(2xH+I for Off-Line : 1xH for Inlet Filter)			(time before replacement is required)	(K Inflated 2.54% to Construction Year Cost)	(N deflated 6.25% to 2014)	(Cost Per Year at Installation)	(P Inflated 2.54% over 50 years and deflated 6.25% to present value)	(N inflated 2.54% to L+25 years and deflated 6.25% to present value)	(O+Q+R)
112	In-Line	496	23	\$45,162		\$90,323	\$135,500	2018	50	\$149,300	\$117,200	\$925	\$20,900	\$0	\$136,100
115	Off-Line	3389	180	\$359,700	\$20,000	\$719,400	\$1,099,100	2018	50	\$1,210,800	\$950,100	\$925	\$20,900	\$0	\$971,000
145	Inlet Filter	80	1.50	\$500		\$500	\$1,000	2019	25	\$1,130	\$830	\$237	\$5,230	\$344	\$6,410
147	Inlet Filter	34	0.59	\$500		\$500	\$1,000	2019	25	\$1,130	\$830	\$237	\$5,230	\$344	\$6,410
151	Inlet Filter	28	1.33	\$500		\$500	\$1,000	2019	25	\$1,130	\$830	\$237	\$5,230	\$344	\$6,410
152	Inlet Filter	52	2.54	\$500		\$500	\$1,000	2019	25	\$1,130	\$830	\$237	\$5,230	\$344	\$6,410
153	Inlet Filter	53	2.59	\$500		\$500	\$1,000	2019	25	\$1,130	\$830	\$237	\$5,230	\$344	\$6,410
156	Inlet Filter	37	2.31	\$500		\$500	\$1,000	2019	25	\$1,130	\$830	\$237	\$5,230	\$344	\$6,410
157	Inlet Filter	58	3.14	\$500		\$500	\$1,000	2019	25	\$1,130	\$830	\$237	\$5,230	\$344	\$6,410
160	Inlet Filter	24	1.18	\$500		\$500	\$1,000	2019	25	\$1,130	\$830	\$237	\$5,230	\$344	\$6,410
164	In-Line	530	18	\$35,997		\$71,995	\$108,000	2021	50	\$127,200	\$83,200	\$998	\$20,900	\$0	\$104,100
165	Off-Line	3293	191	\$382,021	\$20,000	\$764,043	\$1,166,100	2021	50	\$1,373,400	\$898,500	\$998	\$20,900	\$0	\$919,400
169	Inlet Filter	136	1.85	\$500		\$500	\$1,000	2020	25	\$1,150	\$800	\$243	\$5,230	\$332	\$6,360
221	Inlet Filter	46	0.5	\$500		\$500	\$1,000	2020	25	\$1,150	\$800	\$243	\$5,230	\$332	\$6,360
222	Inlet Filter	62	0.7	\$500		\$500	\$1,000	2020	25	\$1,150	\$800	\$243	\$5,230	\$332	\$6,360
223	Inlet Filter	37	0.6	\$500		\$500	\$1,000	2020	25	\$1,150	\$800	\$243	\$5,230	\$332	\$6,360
224	Inlet Filter	21	0.3	\$500		\$500	\$1,000	2020	25	\$1,150	\$800	\$243	\$5,230	\$332	\$6,360
Subtotal							\$2,521,700			\$2,875,490	\$2,059,640		\$151,590	\$4,416	\$2,216,000
50% Contingency							\$1,260,850			\$1,437,745	\$1,029,820		\$75,795	\$2,208	\$1,108,000
Total							\$3,782,550			\$4,313,235	\$3,089,460		\$227,385	\$6,624	\$3,324,000

Appendix C: Full Scale 100% Trash Capture Plan

100% Capture Plan

Legend

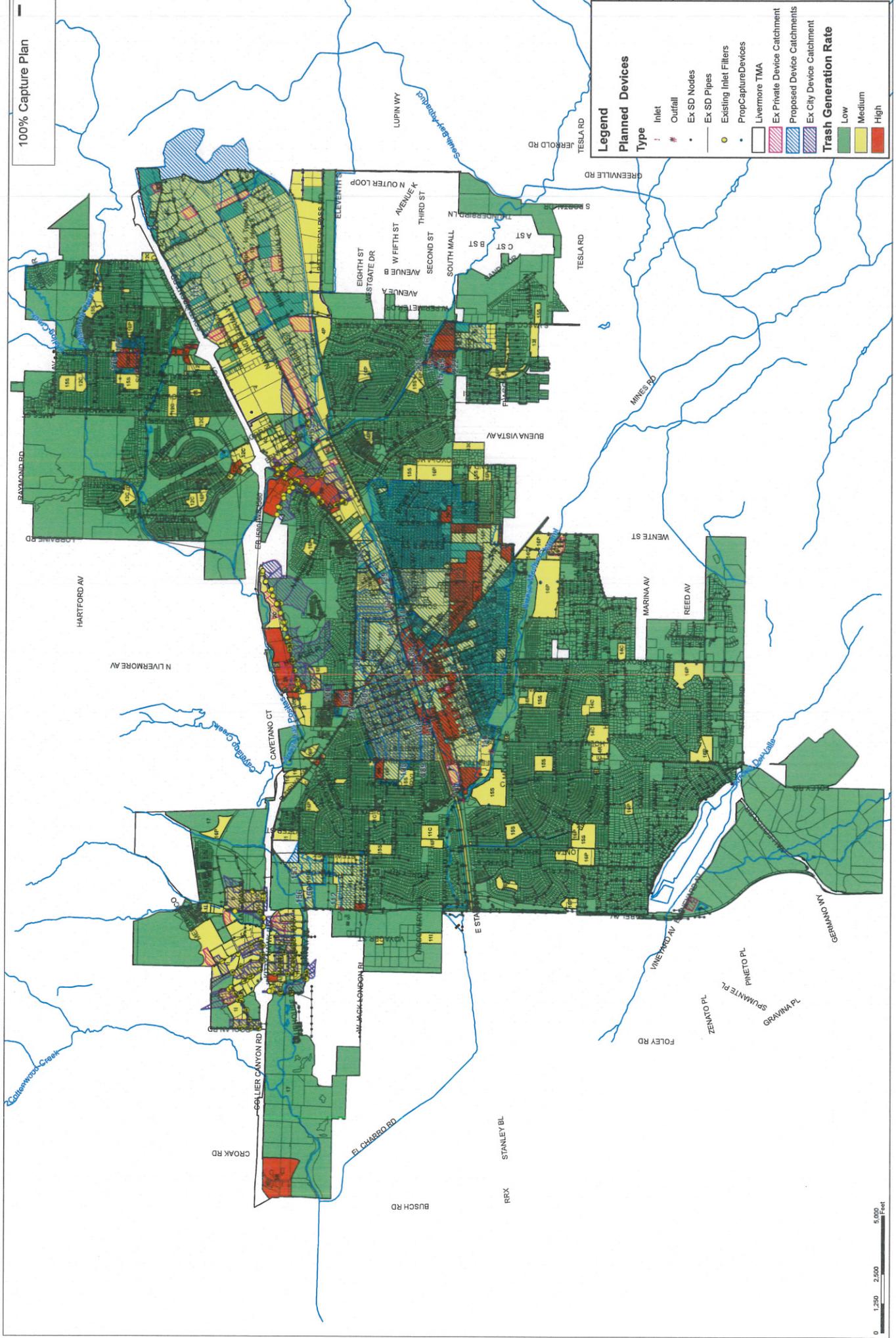
Planned Devices

Type

- Inlet
- Outfall
- Ex SD Nodes
- Ex SD Pipes
- Existing Inlet Filters
- Prop Capture Devices
- Livermore TMA
- Ex Private Device Catchment
- Proposed Device Catchments
- Ex City Device Catchment

Trash Generation Rate

- Low
- Medium
- High



0 1,250 2,500 5,000 Feet



PROJECT REPORT

DATE: AUGUST 7, 2014

TO: Jim Scanlin, Clean Water Program Alameda County

FROM: Stefanie Pruegel & Shana McCracken

RE: *Synthesis of MFD Litter Pilot Results & Recommendations*

1. Background

The City of Livermore was challenged with complying with their NPDES permit by keeping litter out of the creek. Previous observations and cleanup activities by local groups like the Boy Scouts had shown that multi-family dwellings (MFDs) have particularly high litter rates. The Clean Water Program conducted a pilot project, testing various approaches to behavior change regarding litter at MFDs. Out of a number of suitable MFD properties in Livermore, three complexes were chosen to participate in the pilot. These complexes reported high litter rates and had cooperative property managers who were willing to take part in our study. The 3-month pilot period was mid March to mid June 2014.

The purpose of the pilot was to gain insights about the effectiveness of different behavior change strategies regarding MFD litter, and—based on the lessons learned—to develop best practices and a litter outreach kit for MFDs elsewhere in the county.

2. Approach

Strategies tested

We tested two approaches: “outreach” and “norming,” with a third pilot site serving as a “control” (no activities.) While the outreach approach relied largely on printed materials and signage, the norming approach was based on findings from behavioral research and the field of Community Based Social Marketing (CBSM). CBSM and similar research have shown that social norms are among the most powerful tools to influence behavior. In other words, people tend to conform to the behaviors they perceive as accepted and practiced by their peers. For the purpose of our pilot, we kept the pilot site litter-free, so as to present the absence of litter as the norm and to test if it would result in less litter generated.

Selection of pilot properties

As a condition for participation in the pilot, each MFD property had to commit to refrain from any changes during the pilot period that might skew the results. These included physical changes such as new landscaping; added, moved or removed trashcans; as well as other changes such as litter-related outreach or new tenant policies. In line with these requirements, one property had to be eliminated because of pending changes in lighting and fencing. Three qualified MFD complexes were chosen: Livermore Garden Apartments, La

Clean Water Program MFD Litter Pilot – Final Report August 2014

Castilleja Condominiums and Castilleja del Arroyo Condominiums. *See Appendix 1 for parcel reports and aerial photos of the properties.*

To learn about each pilot site and to determine which to designate as the outreach, norming and control site, interviews were conducted with the property managers. *See Appendix 2 for the full Q&As.* The table below summarizes key information.

Pilot site	CONTROL	NORMING	OUTREACH
	Livermore Garden Apartments 5720 East Ave	La Castilleja Condominiums 975 Murrieta Blvd	Castilleja del Arroyo Condos 1001 & 1009 Murrieta Blvd
Number of units Owners vs. renters	96 units 100% renters	50 units 84% renters, 16% owners	124 units 75% renters, 25% owners
Ethnicities (other than Caucasian)	49% Hispanic* 2% African American & Asian <i>* Most with at least one English-speaking family member</i>	24% Hispanic* 10% African American & Asian <i>* Very few primarily Spanish speaking</i>	47% Hispanic* 2% African American 4% Asian <i>* Less than half primarily Spanish speaking</i>
Families/children	Approx. 90% of all units occupied by families with children.	More families with children have moved in in recent years.	Approx. 15% of all units occupied by families with children.
Property manager	Onsite manager 24/7	Manager is onsite 12 hours/week.	Onsite manager 24/7
Communication with tenants	As needed, notes on doors or in-person.	Written notices as needed.	Monthly HOA newsletter, taped to doors. HOA website.
Trash cans on- site (in common areas)	3 trash cans, located near the pool, the play yard and in the middle of the property.	None outside. One (and a recycling bin) in the mailroom.	4 trash cans, two located near the pool and two near the entrance/mailboxes.
Smoking rules	Not permitted in common areas, but rules not enforced.	Permitted in common areas.	Permitted in common areas.
Butt cans/ ash trays	None	Two "butt buckets" (since May 2014)	One butt can

Activities at each pilot site

"Outreach" Site

Over the course of the 3-month project, the residents at this MFD received anti-litter messages through a number of outreach channels. To make the outreach as relevant as possible to this particular MFD, a campaign logo was developed integrating the property's name and logo. All outreach materials were tied together visually.

The outreach tactics included:

- **Signs:** At the beginning of the project (March 2014), six 12.5"x15.5" semi-permanent (corrugated plastic) signs were placed throughout the common outdoor areas of the property, including on fences and near garbage enclosures. About half were near garbage cans. *See Appendix 3 to view the sign and a map of the sign locations.*
- **Posters:** At the same time as the sign installation, 10"x16" posters were placed into each of the two kiosks near the complex's entrance where information is shared with residents. *See Appendix 3 to view the poster.*
- **Newsletter articles:** Each month, property management distributes a 2-page newsletter to residents (taped to each resident's door) and also posts the latest issue in the kiosks. For the duration of the pilot, a litter-themed article was included (in both English and Spanish) for a total of four issues. Articles *gradually* introduced readers to the desired behavior by raising general awareness (issue 1), featuring a resident speaking out in favor of not littering (issue 2), inviting commitment to not litter (issue 3) and finally thanking residents for their actions (issue 4). *See Appendix 3 to view the newsletter issues.*
- **Pledge posters:** Coinciding with the newsletter that invited residents' commitment to not litter, two pledge posters were posted near the mailbox areas, asking residents to sign their names in support. *See Appendix 3 to view the pledge poster.*

"Norming" Site

At this MFD, a resident was paid to pick up litter daily during the pilot period: March through June 2014. The resident picked up litter each morning, seven days a week, following the same routine and covering all of the property's common areas.

"Control" Site

No activities were performed at this MFD. The purpose of the control site was to isolate the norming and outreach activities as the only significant variable impacting litter behaviors.

3. Measurement

Litter at each pilot property was measured before and after the pilot. For both of these measurements, litter was collected over a period of one week, then categorized and measured by volume and number of items. The count followed a method developed by the California Coastal Commission. *See Appendix 4 for a description of the litter count methodology.*

The property managers at each pilot site handled the litter collection. To guide them in this effort, they were instructed to collect all types of litter from all common areas of the complex, at the same time each day of the collection weeks. In most cases, the property managers assigned the task of collecting litter to janitorial staff or resident volunteers. The table below lists the collection weeks before and after the pilot.

	Livermore Garden Apartments	La Castilleja Condominiums	Castilleja del Arroyo Condominiums
Pre-campaign measurement	Feb 2-16, 2014 (7 days)	Dec 20-26, 2013 (7 days)	Dec 6-12, 2013 (7 days)
Post-campaign measurement	June 9-13, 16, 17, 2014 (7 days)	June 8-14, 2014 (7 days)	June 9-13, 16, 17, 2014 (7 days)

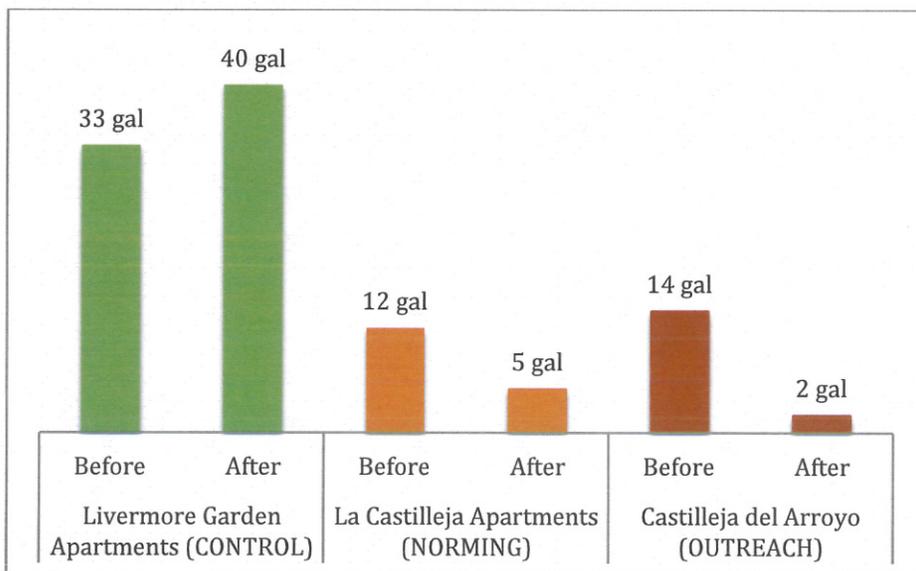
4. Results

The table below summarizes the amount of litter by volume and number of items at each property, before and after the pilot. Note that due to differences in the sizes of individual items found during the pre-campaign and post-campaign counts,

	Livermore Garden Apartments (CONTROL)		La Castilleja Condominiums (NORMING)		Castilleja del Arroyo Condominiums (OUTREACH)	
	Pre-campaign	Post-campaign	Pre-campaign	Post-campaign	Pre-campaign	Post-campaign
Litter volume	33 gal	40 gal	12 gal	5 gal	14 gal	2 gal
Change	21% increase		58% decrease		86% decrease	
Litter count	729	688	175	186	591	41
Change	6% decrease		6% increase		93% decrease	

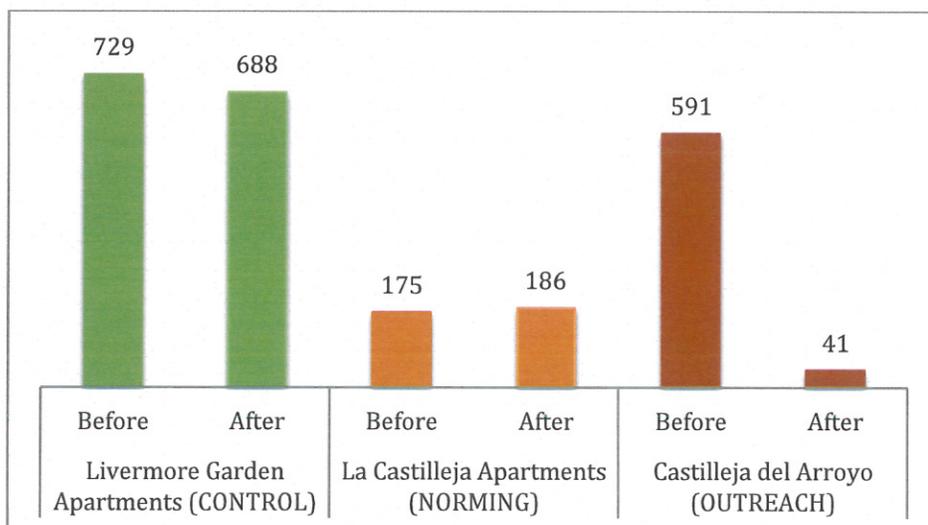
a. Litter by Volume

The amount of litter found on the two pilot properties that received treatment (“norming” or “outreach”) decreased overall, compared to the pre-pilot measurement. While the amount of litter collected in one week at the “norming” property went down by 58% (from 12 gal to 5 gal per week), litter found at the “outreach” property decreased by 86% (from 14 gal to 2 gal). **The amount of litter collected in one week at the control property (no activities) increased by 21% compared to pre-pilot measurement, from 33 gal to 40 gal.**



b. Litter by Count

Comparing the count of litter items collected, the “control” and “norming” properties remained roughly the same with a 6% decrease and 6% increase respectively. However, **the “outreach” property had a significant decrease in the number of litter items counted, with 93% fewer items** compared to pre-pilot measurement.



c. Litter by Category

Litter category*	Livermore Garden Apartments (CONTROL)		La Castilleja Condominiums (NORMING)		Castilleja del Arroyo Condominiums (OUTREACH)	
	Pre-campaign count	Post-campaign count	Pre-campaign count	Post-campaign count	Pre-campaign count	Post-campaign count
Food packaging & related items**	266	276	62	46	168	18
Cigarette butts**	155	7	14	0	125	0
Other tobacco-related items	15	20	4	2	3	1
Non-food packaging materials**	1	9	26	0	2	0
Personal care & hygiene products	0	2	0	4	4	0
Clothing items**	8	26	0	1	0	0
Tiny trash pieces (less than 2.5cm)	285	329	63	132	284	21
Other	0	19	6	1	5	1
TOTAL	729	688	175	186	591	41

* See Appendix 5 for the litter count breakdown by material in each category.

** See notes below regarding the highlighted counts in these litter categories.

Before the pilot phase, most litter items collected fell into the categories food packaging, cigarette butts and tiny trash pieces.

Food packaging & related items

This category included:

- Food wrappers, such as candy wrappers, hamburger wrappers, chips bags, etc.
- Food take-out containers (paper, plastic or plastic foam)
- Take-out cups and plates (paper, plastic or plastic foam)
- Disposable utensils (forks, knives, spoons), straws and stirrers
- Beverage bottles (glass, plastic) and aluminum cans
- Bottle caps (metal, plastic) and lids (plastic)
- Bags (plastic, paper, “ziploc”-type)

Food packaging and related items were by far the largest category by volume in the pre-pilot measurement, with food wrappers making up for the majority of items found. After the pilot phase, the number of items in this category remained roughly the same at the “control” property. At the “norming” property, this litter category went down by about one third from

62 to 46 items. At the “outreach” property, the reduction was dramatic—from 168 items pre-pilot to 18 items post-campaign.

Cigarette butts

The counts of cigarette butts show a dramatic reduction at all three properties after the pilot phase. However, several unforeseen activities at the pilot properties as well as inconsistencies in litter collected for the pre- and post-pilot counts have to be considered when interpreting these results.

“Control” Site: The count of cigarette butts at this site suggests a decrease from 155 pre-pilot to 7 post-pilot. No pilot activities geared at litter reduction were performed at this property. The change is likely due to two factors:

- According to the property manager, one of the many residents smoke, but only a small number litter cigarette butts. During the pilot one of these notorious butt litterers—who also frequently had outside friends smoke with him in common areas—moved out, potentially contributing to the decrease.
- During the pilot (in May) property management issued conduct warning notices to each resident, stating that tenants found littering cigarette butts were jeopardizing their lease. This is a form of outreach and most likely contributed to the decrease in butts littered in the weeks following the notice.

“Norming” Site: The count of cigarette butts at this site suggests a decrease from 14 pre-pilot to 0 post-pilot. However, the numbers are likely not reliable due to two factors:

- Although the same person, a resident volunteer, had collected the pre- and post-pilot samples, there still seems to have been a high level of inconsistency. The volunteer reported that he picked up only some of the cigarette butts found, citing the large number of butts on the property and unclear sample collection guidelines from the property manager.
- During the pilot period (April 2014), two buckets filled half way with sand were placed in areas of frequent cigarette butt littering, to serve as butt cans. The resident volunteer pointed the cans out to smokers on the property. This change and outreach may have contributed to the decrease in butts at this site.

We can therefore not draw any definitive conclusions about the effectiveness of the norming activities at this site on the littering of cigarette butts.

“Outreach” Site: The count of cigarette butts at this site suggests a decrease from 125 pre-pilot to 0 post-pilot. However:

- Different people had collected the litter samples for the pre-pilot and post-pilot count. This resulted in different routines regarding the inclusion of cigarette butts, i.e. the post-pilot sample didn’t include butts, although they were present on the property, according to the property manager.

We therefore cannot claim conclusive results about the effectiveness of the outreach activities at this site on the littering of cigarette butts. Also of note, the property has one butt can in an area frequented by smokers. The property manager reports good use of the can and few cigarette butts littered in that particular area.

Other tobacco-related items

This category included cigarette boxes, tobacco packaging and wrap, cigarette lighters and cigar tips. Counts in these categories were relatively low to begin with and did not change much pre- and post-pilot.

Non-food packaging materials

This category included plastic bottles (non beverage), plastic bags (non food/grocery) and other plastic packaging including non-food foam packaging such as packing peanuts and foam plastic blocks. The number of these items went down at both the “norming” and “outreach” properties as well. It went up at the “control” property, in line with the overall increase in litter volume at that location over the course of the pilot.

Personal care & hygiene products

Items in this category included tampons, tampon applicators, cosmetics such as lip gloss, mascara, and other personal care items.

Clothing items

We observed more than a 3-fold increase in clothing items at the “control” site after the pilot phase. It appears that this increase is due to the fact that the pool area was closed during the pre-pilot count in February but open during the post-pilot count in June. According to the property manager, discarded clothing items are commonly found tossed over the fence next to the pool area.

Tiny trash pieces

This category includes trash pieces smaller than 2.5cm in diameter. The majority of these pieces are paper and plastic, but glass, foam and foil pieces were also found. According to the litter count, the number of tiny trash pieces increased from 285 to 329 at the “control” site and from 63 to 132 at the “norming” site. The number decreased at the “outreach” site from 284 to 21. However, it is not clear if the numbers truly reflect the amount of this type of litter present before and after the pilot, given the inconsistencies in collecting other small litter items for the measurement, such as the cigarette butts.

d. Litter Distribution

According to the onsite contacts at each of the three properties, the following distribution of certain types of litter items was observed.

“Control” site: Litter was observed all over the property, with higher amounts in certain areas, including:

- Play yard: mainly food wrappers.
- Pool area: discarded clothing.
- Parking lot: fast food litter and cigarette butts from ashtrays emptied out by residents after they park their cars.
- Areas near entrance due to bus stop and litter accumulating along the property line, especially during the school year when students use the bus stop.
- Area with benches near onsite office: bottles, cans and cigarette butts.
- Area adjacent to neighboring “party residences:” litter gets blown onto the property.

“Norming” site: No specific types of litter in certain areas were reported. While not much litter was found near the pool and on grassy areas, areas with higher amounts included:

- Areas around dumpsters. Garbage haulers drop trash during pick-up, gets blown around the property.
- Along walkways: Residents have been observed shoving litter items into the ivy and bushes along the walkways. Some litter is also caught here after being carried by the wind.

“Outreach” site: No specific types of litter in certain areas were reported. While not much litter was found near the pool and on grassy areas, areas with higher amounts included:

- Along walkways: Residents are observed shoving litter items into the ivy and bushes along the walkways. Some also caught here after being carried by the wind.
- Area near Murrieta Blvd: Litter from street traffic getting blown onsite.

NOTE: Property management reported no difference in the amount of litter observed near the anti-litter signs that were close to trash cans, as opposed to litter near the anti-litter signs that had no trash can nearby.

e. Other Observations

Outside litter sources

All three pilot sites reported litter entering the property from outside, i.e., not generated by residents. This should be taken into account when evaluating the litter count results. However, it appears that these outside sources kept steady over the course of the pilot, so it can be assumed that they did not impact the change (increase or decrease) in litter. *For details on outside sources of litter at each of the pilot sites, see 4b. Litter Distribution.*

Comments from residents

The property managers at all three pilot sites provided anecdotal reports of comments from residents related to litter.

“Control” site:

- When the property manager asked a resident youth to pick up his litter, the young man refused and responded: “That’s what you pay the maintenance people for.”
- The property manager got comments from residents like “I’m tired of seeing this place trashed.” (However, he thinks it’s the same people responsible for the litter.)

“Norming” site:

- Both property manager and the volunteer resident picking up litter regularly received multiple comments from residents appreciating the effort and stating that it “made the complex look much nicer.”

“Outreach” site:

- The property manager received several comments from (supportive) residents who expressed their disappointment when the pledge posters were “destroyed” (scribbled on) by children.

Continuation of pilot activities

“Norming” site:

- Regular litter pickup has not been continued beyond the pilot phase. A few weeks after the pilot ended, the resident volunteer reported the amount of litter to be close to pre-pilot levels.

“Outreach” site:

- This site’s HOA decided to keep the signs up beyond the pilot, and is considering replacing them with permanent (aluminum) signs. They took down the kiosk posters to make room for other materials, but intend to bring the posters back at a later time, possibly as a default when no other information needs to be displayed.

4. Recommendations

Both norming and outreach tested during the Livermore pilot appear to have had a positive effect on litter at multi-family properties, with **the outreach approach proving particularly successful**. We recommend the Clean Water Program **develop a kit** so that other cities/agencies in Alameda County can follow the overall approaches used in the pilot, tailoring as needed. *See section 5c for details on replication.*

We also recommend that the Clean Water Program collect pre-and post-measurement figures from member agencies. They will be able to use the kit to track successes and determine what adaptations need to be made for different parts of the county, building types, etc.

See section 5d for recommendations specific to measurement.

a. Operations/ Facility Management

Before conducting outreach, place as many trash cans, butt cans and other litter-preventing receptacles on the property — especially in areas where high levels of litter are observed, e.g., near walkways, parking lots, etc. Not surprisingly, **convenience and availability of trashcans increase the likeliness of participation in a litter prevention program**. At the three pilot sites, all such receptacles were well used by residents. However, property managers at the pilot sites were generally hesitant to install additional trashcans, arguing that they have to hire janitorial staff to clean up litter anyway, and servicing the extra trashcans might create more work than it saves.

b. Selection of sites

During the pilots, buy-in and hands-on support from property managers proved a key to success. We therefore recommend **choosing sites for replication that have a property manager who is onsite** at least partially and is interested in collaborating on litter prevention. **Frequent check-ins** throughout the campaign ensure that any negative developments are quickly noticed and corrected (e.g. graffiti on signs and posters) and offer the opportunity to record observations, **remind the manager of the need to keep things consistent**, etc.

HOAs

Homeowners Associations or HOAs appear to be particularly well suited for replication of the project, as their boards meet regularly (by law at least every 3 months, but often more frequently). They also tend to **have their own communication channels** such as regular

newsletters, email groups and websites to connect with residents — all vehicles that can be leveraged for litter prevention outreach.

Onsite allies

In our work with the “outreach” pilot site, it proved very advantageous to connect and collaborate with one resident who felt strongly about litter prevention and was also fairly connected with other residents. These **allies can help support the campaign** by sharing observations, influencing fellow residents and modeling (i.e. norming) the desired behavior. When pledges are used, they can also “seed” the pledge poster with their signature.

c. Replication

To facilitate replication of the litter prevention outreach campaign tested in the pilot, we recommend creating a **kit for member agencies**. Kit contents would be **customizable** for a given multi-family property, e.g. the signage poster would contain generic elements as well as placeholders for the facility name and logo, if applicable. The kit should include:

- Signage template
- Signage production specs: temporary & long-term versions
- Guidelines about where to locate signage
- General poster template
- Pledge poster template
- Newsletter article template with content suggestions
- Outreach guidelines with suggested timeline
- Norming guidelines. *These will include suggestions on how to implement the norming approach most effectively, e.g., conduct pick-up out-of-sight of residents as much as possible (early morning, at night). This may prevent the perception among residents that staff is taking care of litter and, therefore, they don't need to dispose of items properly vs. that non-littering is the normal behavior among residents.*

We recommend tailoring the kit as needed, depending on the specific multi-family property. Customizations may include:

- Cultural/language adjustments such as no Spanish, or Chinese instead of Spanish.
- Modification of the newsletter article template to fit available channels, e.g., HOA e-blasts, social media posts and similar.
- Adapting the general poster to work as a flyer.

We also recommend that CWP members who replicate the campaign continue outreach and/or norming beyond the initial phase, adding confirmation strategies such as:

- **Providing feedback to residents about the progress being made.**
- Thanking residents for their cooperation.
- Soliciting support from residents such as orienting new neighbors to the anti-litter policy at the buildings.

d. Measurement

To obtain reliable metrics, it is critical to give a clear set of rules to both property managers and those picking up trash for measurement pre- and post-campaign. These include:

- Have the same person(s) perform the pre- and post-campaign litter collection to minimize any variations in collection routines.
- Be specific about where to pick up items and what exactly the items include.

- Do not make any changes to operations or the facility during the pilot phase, including adding or removing trash cans.
- **Do not do any outreach**, including talking to residents about litter, posting or distributing information about litter to tenants, mentioning litter in newsletters, etc.
- In general, keep anything litter-related consistent and unchanged during the campaign.
- When choosing pick-up times, try to keep time periods as similar as possible including whether school is in/out, whether it's mid-week/weekend, weather (wind, leaves dropping, etc.), and so on.
- Ask property managers to relay the **importance of consistency to janitorial staff** or residents doing pick-up and remind them occasionally throughout the pilot phase.
- Consider continuous measurement throughout the campaign (instead of before and after), adapting the tactics as needed.

e. Grants

The Clean Water Program might consider including payment to janitorial staff and/or residents for picking up litter on a regular basis (i.e., implementing the norming strategy) in its grants program. Further discussion on this topic is recommended.

[end]



Appendices

Appendix 1

Parcel reports, aerial photos and onsite photos of the pilot properties

Appendix 2

Transcripts of pre-pilot Q&A's with property managers

Appendix 3

Materials used at the "outreach" pilot site:

- a) Sign
- b) Poster
- c) Map of sign & poster locations
- d) Newsletter issues (March - June 2014)
- e) Pledge poster
- f) Photos

Appendix 4

Litter-count methodology description & photos

Appendix 5

Litter count results - detailed breakdown by material category

Appendix 6

Notes from post-pilot interviews with property managers

Appendix 1a:

“Control” site

Livermore Gardens Apartments
5720 East Ave, Livermore



Street view near property entrance



One of several on-site parking areas



Bus stop in front of the property

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Appendix 1b:

“Norming” site

La Castilleja Condominiums
975 Murrieta Ave, Livermore



Appendix 1c:

“Outreach” site

Castilleja del Arroyo Condominiums
1001 & 1009 Murrieta Ave, Livermore



Litter near onsite storm drain



Kiosk, trashcan and mailboxes near the property entrance



Appendix 2a: Pre-Pilot Property Manager Interview

**Jerry Lammerts – Livermore Garden Apartments
December 12, 2013 – 10:30am to noon**

1. Do you live on-site? **Yes**
2. If not, do you live in Livermore? **N/A**
3. If not, what city do you live in? **N/A**
4. Roughly how many hours per week are you on-site? **24-7 (280 hours)**
5. When? **Every day**
6. Do most residents know who you are and what you do for the building? **Yes. I worked for G&K Management Company for 25 years.**
7. What is the best way to reach you? **My cell phone at (925) 439-4945**
8. When is the best time to reach you? **Any time before 5:30 p.m.**
9. How do you usually communicate with your residents? **In person and through written notices taped to front door**
10. How often do they contact you? **At least once a month**
What do they usually contact you about? **Rent payment**
11. Have you ever communicated with your residents specifically about littering (or some aspect of it, like throwing cigarette butts on the ground)? **Yes, many times; especially about cigarette butts.**
If so, what form did the communication take (sign on bulletin board, conversation, etc.)? **In person conversation**
What was your message to them? **Stop throwing your cigarette butts on the ground. Use a can of water to throw your butts into when smoking outside. (Residents are allowed to smoke inside of their unit, on their unit's porch and in the common areas.)** **Jerry - Do you find butt cans lying around front doors and/or porches??**
12. How does the HOA usually communicate with your residents? **N/A**
13. How often do they contact the HOA? What do they usually contact them about? **N/A**
14. Has the HOA ever communicated with your residents specifically about littering (or some aspect of it, like throwing cigarette butts on the ground)? **N/A**
If so, what form did the communication take (sign on bulletin board, conversation, etc.)? **N/A** What was the message to them? **N/A**
15. Do you have any residents who are especially helpful? Any who might be willing to help either with the research, outreach or both? **No. Residents don't want to get involved when they see stuff.**

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16. What percentage of your residents would you say are renters vs. owners (if applicable)? **100% renters**
17. Roughly what percentage of your residents have lived at [name of complex] less than a year? **2%** One to 3 years? **96%** More than 3 years? **2% for 20 to 25 years**
18. Have there been any big changes with your residents in the past 2 years, like a higher turnover than usual, more non-English speakers moving in, more families, smokers, ...? **Yes, two years ago. Higher turnover rate than usual due to previous manager.**
19. **Have you noticed any significant changes** or trends in and around [name of complex] **related to litter?** More or less of it? More in a certain location? A different type of litter? **No... same volume, distribution and types (i.e., snack and fast food packaging and cigarette butts).**
20. Roughly what % of your residents are Hispanic/Latino? **49%**
21. Of the Latino residents, what % would you say are primarily Spanish-speaking? **Not sure. (Family complex; only five families without children. All families have at least one family member that can speak English.)**
22. Is there **another ethnic group that is represented in significant numbers** at your complex? (If Asian, what type if known and the same question as above re: the % who speak something other than English primarily.) **No. Roughly 49% of residents are Caucasian, and roughly 2% of residents are African American and Asian.**
23. **Who do you think is littering most?** (not specific names but things like “new residents” or “residents with English as a Second Language,” or smokers, men, women, or ...?) **Kids of all races littering snack and fast food packaging, adults of all races littering cigarette butts, and pot heads littering mini cigars and alcoholic bottles/cans.**
24. **Why do you think this?** **These particular residents don't care**
25. Do you mind if we look around when you're not at the complex? **No, as long as I'm notified beforehand. It's better to look around with a partner to be safe.**
26. If not, are there any areas we're not allowed in? **N/A**
27. **Are there any other rules we need to comply with or agreements you'd like to have between us during this project?** **No**
28. **Anything else you think might be useful for me to know?**

Illegal Dumping: Most of illegal dumped demolition and construction material comes from single and multi-family neighbors and subcontractors. Some complex residents dump

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mattresses, couches, etc. The HOA doesn't want to install surveillance cameras to portray a less desirable/safe living area. Livermore Sanitation picks up bulky items at \$50+ an item.

Garbage and Recycling Service: Residents upset that their garbage bill is \$75 a month. Jerry – Please confirm that water and garbage (average?) costs are included in the residents' rent payment. What is the rent payment per unit size (2, 3 and 4 bedroom)? What size and how many garbage dumpsters are in each trash enclosure? How many 96-gallon recycle carts are in each trash enclosure? How often are the dumpsters and carts serviced? What is the name of your landscape company? How often and when does the landscape company maintain the grounds? Does the landscaper speak English?

Street Sweeping: City no longer sweeps the Court located behind the property. Street sweeping helped clean-up the fast food packaging and alcoholic bottles left by people who loitered. Lynna will see if Street Sweeping can be resumed.

Appendix 2b: Pre-Pilot Property Manager Interview

**Michael Huyck – La Castilleja Condominiums
December 27, 2013 – 10:00 a.m. to 12:30 p.m.**

1. Do you live on-site? **No**
2. If not, do you live in Livermore? **No**
3. If not, what city do you live in? **Antioch**
4. Roughly how many hours per week are you on-site? **Twelve hours per week on average**
5. When? **As needed**
6. Do most residents know who you are and what you do for the building? **Yes. (Mike has been the Complex Manager, General Contractor, Home Inspector and Real Estate Broker for 3 years.)**
7. What is the best way to reach you? **My cell phone (at (925) 922-0438)**
8. When is the best time to reach you? **Anytime**
9. How do you usually communicate with your residents? **Written Notices taped to units' front doors, and posted in complex's laundry and mail rooms**
10. How often do they contact you? **As needed**
What do they usually contact you about? **Overflowing dumpster, loud noise and parking situation**
11. Have you ever communicated with your residents specifically about littering (or some aspect of it, like throwing cigarette butts on the ground)? **Yes**
If so, what form did the communication take (sign on bulletin board, conversation, etc.)? **Written Notices**
What was your message to them? **Pick-up your trash/litter**
12. How does the HOA usually communicate with your residents? **N/A**
13. How often do the residents contact the HOA? **N/A**
What do they usually contact them about? **N/A**
14. Has the HOA ever communicated with your residents specifically about littering (or some aspect of it, like throwing cigarette butts on the ground)? **N/A**
If so, what form did the communication take (sign on bulletin board, conversation, etc.)? **N/A**
What was the message to them? **N/A**

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15. Do you have any residents who are especially helpful? Any who might be willing to help either with the research, outreach or both? Yes. Ed Lopez (Unit 10 renter) picks up litter a few times a week and calls Mike when dumpster is overflowing. Luis and Maria Ramos (Unit 21 renters) translate written materials (especially Notices) into Spanish for Mike and residents for free.
16. What percentage of your residents would you say are renters vs. owners (if applicable)? 8 out of 50 units (16%) owners
17. Roughly what percentage of your residents have lived at [name of complex] less than a year? 20% One to 3 years? 48% More than 3 years? 40% [Total percentage adds up to 108% since there are some vacancies.]
18. Have there been any big changes with your residents in the past 2 years, like a higher turnover than usual, more non-English speakers moving in, more families, smokers, ...? Yes, more Non-English speakers (mostly Hispanic) and families moving in.
19. Have you noticed any significant changes or trends in and around [name of complex] related to litter? More or less of it? More in a certain location? A different type of litter? Yes, more of snack and fast food packaging. There aren't a lot of cigarette butts. (Smokers may smoke in rented units and in common areas.) Most of litter is found in parking lot and in waste storage area. Some litter is found in the common area near the pool. During the school year, most of the litter comes from the students passing through; and during the summer, most of the litter comes from the residents.
20. Roughly what % of your residents are Hispanic/Latino? 24% (12 units)
21. Of the Latino residents, what % would you say are primarily Spanish-speaking? 14% (1.7 units) (Some Hispanic households choose to speak Spanish even though they are not primarily Spanish-speaking.)
22. Is there another ethnic group that is represented in significant numbers at your complex? (If Asian, what type if known and the same question as above re: the % who speak something other than English primarily.) No. (Caucasian - 60% (30 units); African American - 4% (2 units); East Asian - 2% (1 unit); Chinese - 2% (1 unit); African American-Asian - 2% (1 unit)) [Total percentage adds up to 94% since there are some vacancies.]

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23. Who do you think is littering most? (not specific names but things like “new residents” or “residents with English as a Second Language,” or smokers, men, women, or ...?) Residents with English as a Second Language and Men
24. Why do you think this? Maybe lack of bilingual signage and a don't care attitude
25. Do you mind if we look around when you're not at the complex? No
26. If not, are there any areas we're not allowed in? N/A
27. Are there any other rules we need to comply with or agreements you'd like to have between us during this project? No
28. Anything else you think might be useful for me to know?

-Complex was senior housing in the 70's. Roof, water, sewer and gas line improvements have been made.

-Mike had contractor install some security cameras near the Pool Area and in the Mail Rooms. Mike will have contractors install more cameras and better lighting to further discourage Mail Room (for W-2s), car break-ins (for registration) later.

-Complex has one Waste Storage Area on west side of property and shares one Waste Storage Area on the east side of the property with 1001 Murrieta Boulevard on 1001's property. The west side's Waste Storage Area includes one, 4-yard trash dumpster and five, 96-gallon recycle carts. The east side's Waste Storage Area includes one, covered trash enclosure, one, 4 yard trash compactor, and three, 96-gallon recycle carts. The containers on the west side are serviced twice a week, and the containers on the east side are serviced once a week. The trash compactor has been an issue since residents place their trash in front of the compactor leaving no room for additional trash.

-Garbage and water bills included in rent and PG&E is paid separate. Garbage bill is \$35.17 a month per unit.

-Problems with illegal dumping near the west side's Waste Storage Area. Illegally dumped items are picked up by Livermore Sanitation next day or two to discourage further dumping. Bulky item pick-up is \$64.04 an item per pick-up.

- Complex has issues with abandoned shopping carts which are usually walked back to store, high school students cutting through complex, drugs being passed through the back fence, homeless and drug activity behind the AM PM located east (upstream) of property.

-The HOA board has four elected members, including a member who lives in the complex and is the board President. The three other members are investors, and there are 42 investors in all. The Neighborhood Watch Group was created out of necessity and reports to the board as needed.

- Mario Garden Landscape (independent, Hispanic landscaper) doesn't speak English but daughter translates for him. Mario maintains the landscaped areas of the property every Wednesday weather permitting.

Appendix 2c: Pre-Pilot Property Manager Interview

Gregory Knowles – Castilleja del Arroyo Condominiums
December 13, 2013 – 10:00 a.m. to 12:30 p.m.

1. Do you live on-site? **Yes**
2. If not, do you live in Livermore? **N/A**
3. If not, what city do you live in? **N/A**
4. Roughly how many hours per week are you on-site? **24-7 (280 hours)**
5. When? **Every day**
6. Do most residents know who you are and what you do for the building? **Yes. (I've been the complex manager for 4.5 years.)**
7. What is the best way to reach you? **My cell phone (at (925) 290-7456)**
8. When is the best time to reach you? **Daylight (8 a.m. to 5 p.m.)**
9. How do you usually communicate with your residents? **Usually communicate in person and over my cell phone. (Sometimes receive email and HOA website contact request.)**
10. How often do they contact you? **At least ten calls a day from various residents**
11. What do they usually contact you about? **1. A problem 2. Requesting information**
12. Have you ever communicated with your residents specifically about littering (or some aspect of it, like throwing cigarette butts on the ground)? **Yes, to both renters and owners**
If so, what form did the communication take (sign on bulletin board, conversation, etc.)? **HOA monthly newsletter and website (Newsletter is mailed to owner's address, taped to resident's front door and posted on bulletin board near complex's entrance.)**
What was your message to them? **A gentle reminder about beautifying the complex sent out a few times a year**
13. How does the HOA usually communicate with your residents? **Monthly**
14. How often do the residents contact the HOA? **Usually residents don't contact the HOA since I act on behalf of**
What do they usually contact them about? **N/A**
15. Has the HOA ever communicated with your residents specifically about littering (or some aspect of it, like throwing cigarette butts on the ground)? **(See as 11's answer)**
If so, what form did the communication take (sign on bulletin board, conversation, etc.)? **(See 11's answer)**

What was the message to them? (See 11's answer)

16. Do you have any residents who are especially helpful? Any who might be willing to help either with the research, outreach or both? Yes. Unit 5 owner, JoAnn, periodically picks up trash and regularly attends HOA Board Meetings for free. Unit 71, Jose (Complex's maintenance person) and Maria (Jose's wife), translate correspondence and newsletter into Spanish for residents for free.
17. What percentage of your residents would you say are renters vs. owners (if applicable)? 75% renters and 25% owners
18. Roughly what percentage of your residents have lived at [name of complex] less than a year? One to 3 years? 50% More than 3 years? 25%
(All owners have owned their property for more than 3 years, and are responsible for their own tenants. Owners don't share the above information with the HOA as 25% of resident information is unknown.)
19. Have there been any big changes with your residents in the past 2 years, like a higher turnover than usual, more non-English speakers moving in, more families, smokers, ...? No, new change in pattern
20. Have you noticed any significant changes or trends in and around [name of complex] related to litter? More or less of it? More in a certain location? A different type of litter? No, no change in pattern. Mostly cigarette butts, snack and fast food packaging, and loose paper. (Homeless may be picking up cans and bottles since they are allowed to go through trash for recyclables as long as they don't cause trouble and keep the trash enclosures clean.) Litter is in parking lots and common areas, and some litter in landscaped areas surrounding units.
21. Roughly what % of your residents are Hispanic/Latino? 46.77% (58 units)
22. Of the Latino residents, what % would you say are primarily Spanish-speaking? 15 to 25 units (25.86% to 43.10%)
23. Is there another ethnic group that is represented in significant numbers at your complex? (If Asian, what type if known and the same question as above re: the % who speak something other than English primarily.) No. (47.58% of residents (59 units) are Caucasian, 1.61 % of residents (2 units) are African American, and 4.03% (5 units) are Asian.)
24. Who do you think is littering most? (not specific names but things like "new residents" or "residents with English as a Second Language," or smokers, men, women, or ...?) I don't know

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25. Why do you think this? N/A
26. Do you mind if we look around when you're not at the complex? No
27. If not, are there any areas we're not allowed in? Between complex fence and unit gates since gates remain locked
28. Are there any other rules we need to comply with or agreements you'd like to have between us during this project? No
29. Anything else you think might be useful for me to know?

- 124 units with 124 covered parking stalls and 42 uncovered parking stalls
- Complex was built in 1971, and is culturally and financially diverse
- Greg had contractors replace complex's back fence, and install security cameras, LED lighting and trash compactors
- One, 3-yard compactor replaced two, 3-yard dumpsters on each side of the complex
- One, 4-yard recycle dumpster and three, 96-gallon recycle carts replaced (1) eight, 96-gallon recycle carts, and then (2) one, 3-yard recycle dumpster, on each side of the complex
- Garbage bill was reduced from \$5,000 a month (2 pick-ups) to \$2,500 a month (2 pick-ups). Compactors are 90% to 100% full when serviced. Residents pay \$20.16 a month for garbage and recycling service. Garbage and water costs included in rent
- Two problems with two, trash enclosures: (1) Garbage bags are placed on ground and not in back of compactor; and (2) Recycle boxes are placed on ground and/or not flattened in one, 4-yard cardboard dumpster. Greg will educate residents with an article in the HOA newsletter and on the website, and signs on the trash enclosures
- In May, contractors will be adding more LED lighting, widening the complex driveways, replacing the side and front fences with gate, and adding a picnic area with benches near pool area.
- The owners created the current HOA board about 5 years ago. Board members are elected for two year terms.
- Landscape Company: Trimacs Maintenance & Landscape Construction, Inc., just started service every Tuesday; Company speaks English

Appendix 3:

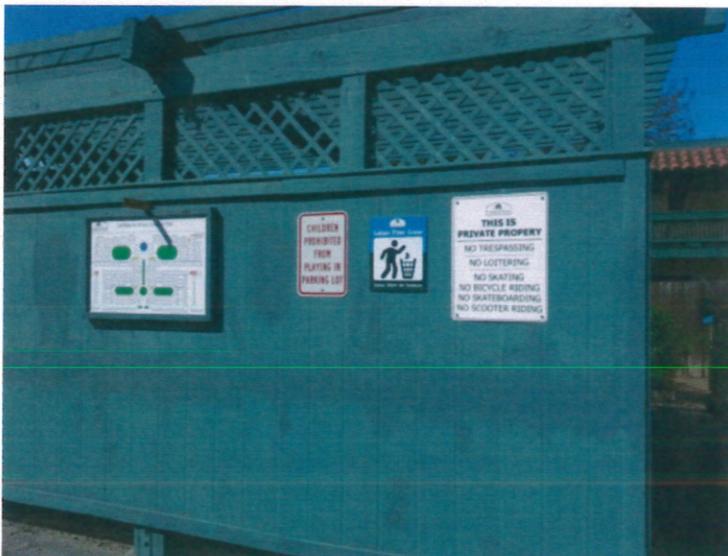
Outreach materials in use at the “outreach” site



The poster was displayed in two kiosks near the mailboxes for the duration of the pilot.



The signs were posted throughout the shared areas of the property, including fences and garbage enclosures, as shown in these photos.



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Monthly newsletters were taped to each unit's door.



Two months into the campaign, pledge posters were placed near the mailboxes for residents to sign in support of litter prevention. One week after the pledge posters were placed, kids scribbled on them. The property manager removed the posters at that point.





Litter Free Zone



Zona libre de basura



Litter Free Zone

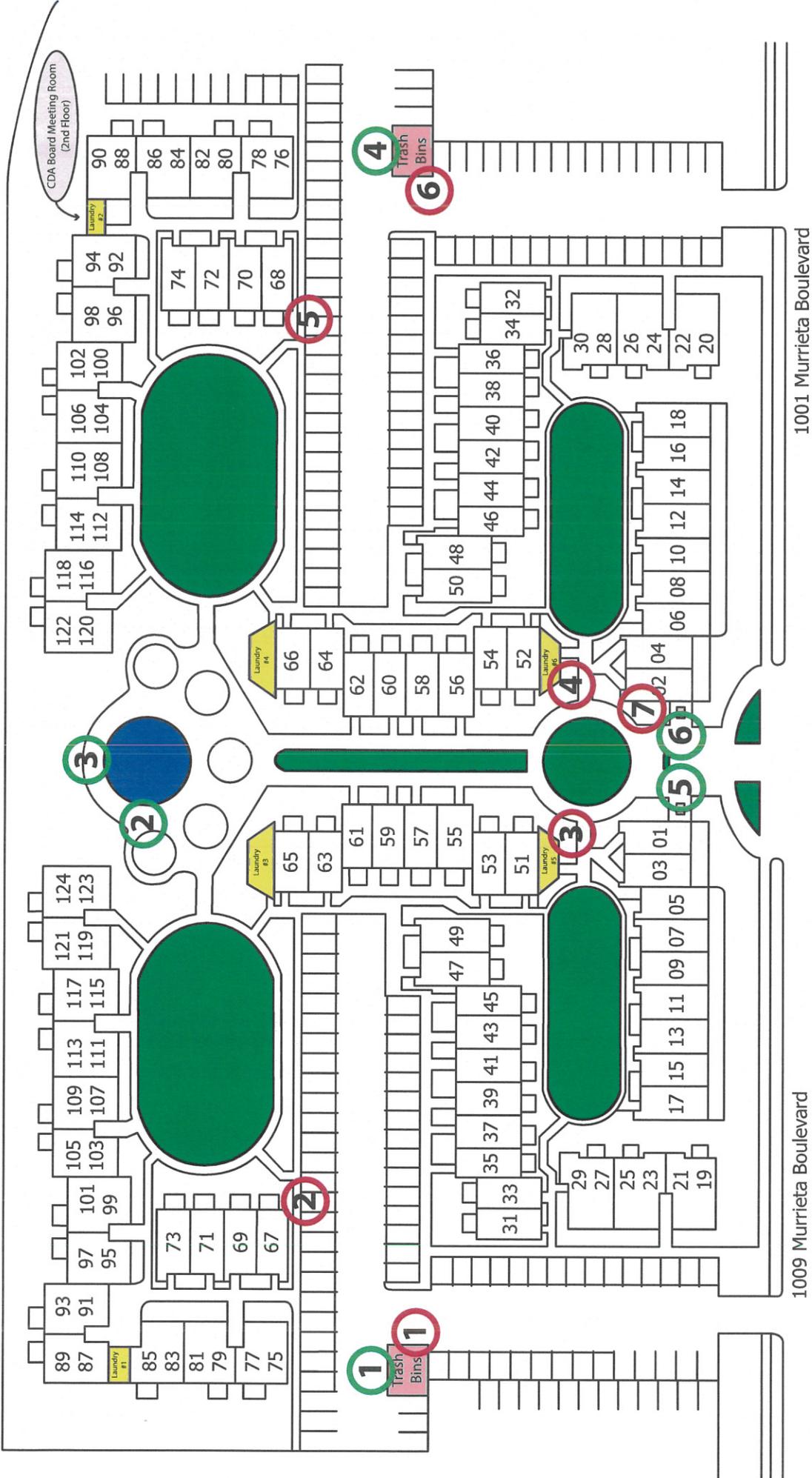


Zona libre de basura



Castilleja del Arroyo Complex Map

= Signs
= Trash Cans



March, 2014



Castilleja del Arroyo HOA Newsletter

www.CastillejaDelArroyo.com / CastillejaDelArroyo@gmail.com

[Una versión en español de este boletín está disponible a petición del administrador local al (925) 290-7456.]

CDA Board Members

President - John Howard
Vice-President - Charles Katz
Secretary - Rick Mei
Treasurer - Chong Knowles
Director - Ajay Mittal

CDA is a Litter Free Zone!

Here at Castilleja del Arroyo, we take pride in our beautiful property and our caring community of tenants. That's why we're encouraging

residents and their guests to keep the grounds free from litter and cigarette butts, and to place these items into the trash cans located throughout the property. If you see a candy wrapper, chip bag or some other piece of trash in the parking lots or common areas, please put it in its place. If we each do our part, we will all benefit!

¡Nuestra CDA es una zona libre de basura!

Aquí en Castilleja del Arroyo estamos orgullosos de nuestra bella propiedad y nuestra solidaria comunidad de inquilinos. Por eso es que estamos animando a nuestros residentes y a sus visitantes a que mantengan las áreas comunes libres de basura y colillas de cigarrillos, y a que coloquen todo desperdicio en los botes de basura que hay por toda la propiedad. Si usted ve envolturas de dulces, bolsas de papitas o alguna otra basura en los es-

tacionamientos o áreas comunes, por favor, póngalos en el bote apropiado. Si cada cual hace su poquito, todos nos beneficiaremos.



What's Up With The Dog Poop?



We are disappointed that there continues to be a problem with people not cleaning up after their pets. Come on people, if you own a pet clean up after them. No one wants to step in your poop! Not to mention that your animal's poop has bacteria in it that can harm our children if they get it on them. Please be responsible.

Future CDA HOA Board Meetings

March 24 & May 12

All Board meetings start at 6:30 PM in the meeting room on the second floor near unit 94.



If your vehicle has been towed, please contact R. Lance & Sons Towing company at (925) 245-8884. Their address is 6776 Patterson Pass Road, Livermore CA 94550.

CDA HOA Insurance

Aaron Katz
Katz Insurance
7011 Koll Center Pkwy Suite 180
Pleasanton CA 94566
(925) 484-5900



Police Information

*For all emergencies
Call 911*

Non-emergencies
(925) 371-4900

Animal Control
(925) 371-4848

Graffiti Hotline
(925) 373-5600

Gang Tip Hotline
(925) 371-4790

Noise

Every resident that lives here at Castilleja del Arroyo has a right to peace and quiet. Unfortunately, we have been receiving complaints from various sources that some residents are disturbing their fellow residents with loud noises. These noises include radios and TV's turned up too loud; yelling; loud cars, trucks and motorcycles; etc.

The City of Livermore's noise ordinance, Livermore Municipal Code Section 9.36, states, in part, regarding the time restrictions, "... at any time or place so as to annoy or disturb the quiet, comfort or repose of persons in any office or in any dwelling, hotel or other type of residence, or of any persons in the vicinity, is prohibited." So, there is no specific time where the ordinance is not in effect.

Please remember that we all live very close to each other. Our walls are thin and just about any noise you make can be heard. Slamming doors, pounding up and down the stairs, running your dishwasher and garbage disposal, rattling your dishes, even taking a shower all produce noise that can disturb your neighbors.

Try to be aware of the noises you are making, and ask yourself if they might be causing a disturbance.

Please treat each other kindly.

Items Hanging on Fences/Balconies

Please remember that our Governing Documents are very clear that no items may hang on the fence or balconies that can be seen from someone standing on the ground level.

April, 2014



Castilleja del Arroyo HOA Newsletter

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Interview with our resident cat Livermora

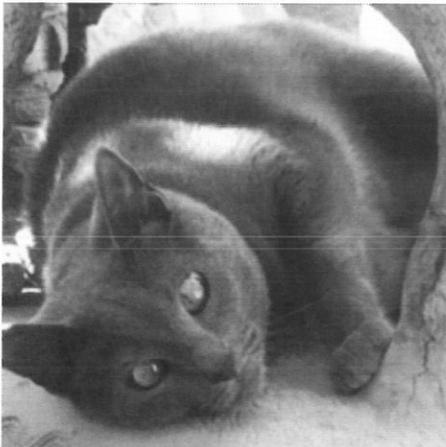
CDA: Livermora, you and JoAnn have been living in unit 5 for a few years now. How do you like it?

Livermora: We love it! Everybody is very nice and I get lots of attention, especially from the kids. I often take JoAnn out for walks around the complex. She really likes that.

Contacts

On-Site Manager
Greg Knowles, CCAM
(925) 290-7456

Off-Site Manager
NAM - Dee Lachner
(925) 243-1797 x104
dee@neighborhoodam.com



CDA: What do you do on your walks?

Livermora: Oh, I just roll around in the grass and keep an eye on the birds. JoAnn picks up stuff like candy wrappers and cigarette butts.

CDA: Are those things a problem?

Livermora: JoAnn thinks it's ugly to see litter scattered around our nice place here. I agree! Cigarette butts are especially bad. They stink! My nose is much closer to the ground than people's, so I know!

CDA: Anything else you'd like to tell our readers?

Livermora: Well, if everybody could just put their trash in the garbage, JoAnn would have more time to focus on me instead of the litter! And it would look nicer around here.

CDA: Thanks Livermora. You're the purr-fect neighbor!

FIRE at CDA

A fire broke out on the 1001-side of our complex shortly after 1 am on the morning of Thursday, March 27, 2014. This fire started in unit 78 and began to spread to adjacent units when firefighters arrived and extinguished it. Unit 78 was gutted and several other units have varying degrees of damage. Six units total will be uninhabitable for several months.

We urge all owners to make sure they have working smoke alarms and fire extinguishers in their units, buy condo insurance for their unit's interior, and urge or require their renters to buy renters insurance. This loss will be in the hundreds of thousands of dollars and everyone needs to be properly covered. Adjusters for Allied/Nationwide Insurance are working with the various owners' insurance companies to cooperate in adjustment and repair.

Again, please understand that something like this could happen at any time, and the HOA insurance DOES NOT cover all your loss in these types of events. Protect yourselves and your property. Contact your insurance agent today and find out what type of coverage you need for your property.

Future CDA HOA Board Meetings

May 12, June 9 (Annual Meeting Only) & July 14

All Board meetings start at 6:30 PM in the meeting room on the second floor near unit 94.



If your vehicle has been towed, please contact R. Lance & Sons Towing company at (925) 245-8884. Their address is 6776 Patterson Pass Road, Livermore CA 94550.

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Animal Control
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Graffiti Hotline
(925) 373-5600

Gang Tip Hotline
(925) 371-4790



Do your part to keep CDA litter free!

Add your name and signature to our CDA Pledge of Support, posted near the mailboxes!

¡Ayuda a mantener a CDA libre de basura!

Agrega tu nombre y firma a la Promesa de Apoyo de CDA, colocada cerca de los buzones.

Dues Coupon Books

As part of our change to Focus Business Bank, we will be switching from monthly dues statements to coupon books. As a result, for those of you who pay your dues by check, you will now send in the check with the appropriate coupon instead of the tear-off from the statement. In the next month or so, you will be receiving your coupon book with detailed instructions about its use.

Please keep in mind that once we have fully transitioned to the coupon books you will not receive any more statements unless a payment is due to the Association for any reason other than for a dues payment.

May, 2014



Castilleja del Arroyo HOA Newsletter

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Thanks For Pitching In!

May is one of the most beautiful months out here in Livermore—usually sunny and nice but not yet too hot! Here at Castilleja del Arroyo we do everything we can to help you enjoy the summer, keeping the grass looking healthy and

the flowers blooming. Please do your part by putting any trash into the garbage cans around the property or holding onto it until you get home, if there's no garbage can nearby.

Earlier in April, many neighbors signed our pledge posters, making a commitment to keep CDA litter free. Thank you for your support! When everybody pitches in, we all get to enjoy and take pride in our beautiful home!



Contacts

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Greg Knowles, CCAM
(925) 290-7456

Off-Site Manager
NAM - Dee Lachner
(925) 243-1797 x104
dee@neighborhoodam.com

¡Gracias por encestar!

Mayo es uno de los meses más hermosos aquí en Livermore... generalmente soleado y agradable pero aún no demasiado caluroso. Aquí en Castilleja del Arroyo hacemos todo lo posible para ayudarle a disfrutar del verano, manteniendo el césped verde y las plantas florecidas. Por favor ponga de su parte colocando cualquier desperdicio en los botes de basura en las áreas públicas, o llevándola a casa si no hay un recipiente cerca.

A comienzos de abril muchos vecinos firmaron los carteles de promesa, haciendo el compromiso de mantener CDA libre de basura. ¡Gracias por su apoyo! Cuando todos contribuyen, todos podemos disfrutar y sentirnos orgullosos de nuestro bello hogar.

CDA Fire Update

The Board recently had a meeting with representatives from our insurance company and the company that will be handling the remediation (removal) of all tainted materials from the affected areas and the company that will be responsible for reconstructing the damaged areas.

The remediation will begin very soon with the construction beginning shortly thereafter. The total time until completion is expected to be 6-9 months. The total estimated amount paid out by our insurance company will be approximately \$500,000.00.

Future CDA HOA Board Meetings

June 9 (Annual Meeting Only) & July 14

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(925) 371-4848

Graffiti Hotline
(925) 373-5600

Gang Tip Hotline
(925) 371-4790

Driveway Renovation Project

The driveway renovation project has begun and there are currently several deep trenches within the construction areas. All residents are reminded to stay clear of these areas, and to make sure their children do not wander into these construction areas.

The construction project is still expected to be completed by the first week in June.

Dues Coupon Books

Dues coupon books have now been sent to all owners. If you are paying your monthly dues by electronic means, you will not need to use these coupons. However, even if you do send them electronically, you will still need to make sure your "Client ID" and "Association ID" are on the BillPay checks so that your payment is processed properly.

Finally, please make sure the address you are using for mailing in checks is Focus Business Bank, HOA Remittance Processing, PO Box 1438, San Jose, CA 95109-1438.

Electronic Newsletter

Included with this month's newsletter is a form you can fill out if you would like to receive these newsletters electronically (e-mail) instead of through the regular US postal mail. Not only does this reduce paper use, but it also helps to reduce expenses for the Association, which means less expense for you.

Please consider changing to this electronic format. Simply fill out the form and mail it back. Thanks!

June, 2014



Castilleja del Arroyo HOA Newsletter

www.CastillejaDelArroyo.com / CastillejaDelArroyo@gmail.com

[Una versión en español de este boletín está disponible a petición del administrador local al (925) 290-7456.]

CDA Board Members

President - John Howard
Vice-President - Charles Katz
Secretary - Rick Mei
Treasurer - Chong Knowles
Director - Ajay Mittal

Election Ballots

If you have not already mailed in your ballot for this year's Board Member election, please do so now. They need to be received in time to be counted at the June 9th Annual Meeting. Please take just a moment to fill it out now and send it in. Thanks!

Contacts

On-Site Manager
Greg Knowles, CCAM
(925) 290-7456

Off-Site Manager
NAM - Dee Lachner
(925) 243-1797 x104
dee@neighborhoodam.com

Parking Policy Changes

The Board has recently reviewed the current parking policy and made the following two changes:

1. Vehicles parked illegally in the uncovered parking spots will now only receive one warning instead of two. A bright warning sticker will be placed on the driver's side window indicating this is a "Final Warning" and the vehicle will be towed on any subsequent violation. This change is to try and make the very limited parking for our residents more available than it currently is. There is no change to parking illegally in the covered parking spaces or red zones - those vehicles will continue to be towed immediately.
2. The parking stickers currently being used will be changed to hang tags, which hang from the rearview mirror. These hang tags have been placed on order and will be distributed to owners as soon as they are available. You will be responsible for giving them to your tenants. This change is to help tenants more easily move their parking authorization from one vehicle to another.

Billing Statement Changes

Coupon Books have now been distributed to all owners. As such, you will no longer receive a statement for your dues payment. You will now only receive statements for financial transactions between you and the CDA HOA, other than for dues, that require a statement. For example, if you owe the CDA HOA a fine or other non-dues payment, you will receive a statement for that. Please use your coupons from the Coupon Book to make your dues payments.

For those of you using ACH or other electronic means to pay your dues payment, there will be no change, other than not receiving a statement. You will not use the coupons, but continue to make your dues payments as you always have.

Future CDA HOA Board Meetings

June 9 (Annual Meeting Only) & July 14

All meetings start at 6:30 PM in the meeting room on the second floor near unit 94.



If your vehicle has been towed, please contact R. Lance & Sons Towing company at (925) 245-8884. Their address is 6776 Patterson Pass Road, Livermore CA 94550.

CDA HOA Insurance

Aaron Katz
Katz Insurance
7011 Koll Center Pkwy Suite 180
Pleasanton CA 94566
(925) 484-5900



Police Information

*For all emergencies
Call 911*

Non-emergencies
(925) 371-4900

Animal Control
(925) 371-4848

Graffiti Hotline
(925) 373-5600

Gang Tip Hotline
(925) 371-4790

Pool Area Rules

The Pool Area Rules are posted in the pool area. Some important ones to remember are:

No glass of any kind allowed in the pool area. Broken glass can seriously hurt our children and, if the glass gets into the pool, the pool will be closed, drained and, because of the drought, will not be re-filled and re-opened. If you see someone with glass in the pool area, please ask them to remove it or contact management at (925) 290-7456.

Also, there are no animals allowed in the pool area at any time. This includes anywhere inside the pool fence, not just the pool itself.

Finally, no one under the age of 18 can be inside the pool area without adult supervision. Please do not allow your children to go unsupervised in this potentially dangerous environment.

Driveway Renovation Project

The driveway renovation project is continuing. We have begun the construction on the walls that will define the planter/sign areas. Once that is complete, we will begin widening the driveways.

During the portion of the project where the driveways are being widened, one half of each driveway will be completed before the other half is begun. That will allow vehicle traffic to continue in and out of the driveways, though only one lane will be available, until the project is completed.

The current expected completion date is the last week in June.

June, 2014



Castilleja del Arroyo HOA Newsletter

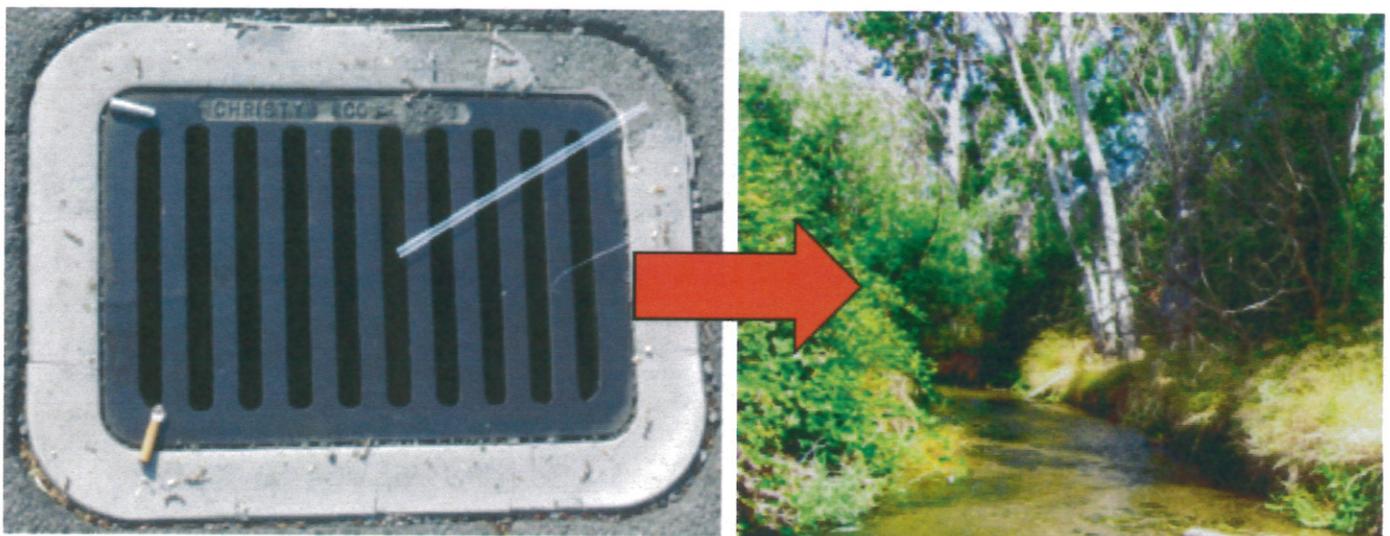
www.CastillejaDelArroyo.com / CastillejaDelArroyo@gmail.com

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Newsletter Supplement

Many Good Reasons to Keep CDA Litter Free!

Thank you for helping keep Castilleja del Arroyo litter-free! We all get to enjoy the property so much more when no wrappers, cigarette butts and other items are strewn around. And there's another good reason to cut down on litter: It gets easily blown or washed into storm drains—like this one located right here on our property. Once in the storm drain system, litter ends up directly in nearby creeks, like Arroyo Mocho, where it harms fish and other aquatic life. So let's each do our part and put litter in its place, for ourselves and for our waterways!



Gracias por mantener nuestra CDA libre de basura! Todos podemos disfrutar del lugar donde vivimos cuando no hay papelitos, colillas y otros desperdicios tirados por todos lados. Y hay otra buena razón para reducir los desperdicios: el viento y la lluvia se los llevan a los desagües, como éste ubicado aquí en nuestra propiedad. Una vez que cae en el sistema de desaguar lluvias, la basura va directamente a los arroyos cercanos, como el Arroyo Mocho, donde le hace daño a los peces y otra vida acuática. Hagamos cada uno lo correcto: ¡pongamos la basura en su lugar, por nosotros y por nuestros ríos!



Litter Free Zone

I pledge to put trash into the garbage cans.

<hr/>	<hr/>

Prometo poner la basura en los botes.

Zona libre de basura

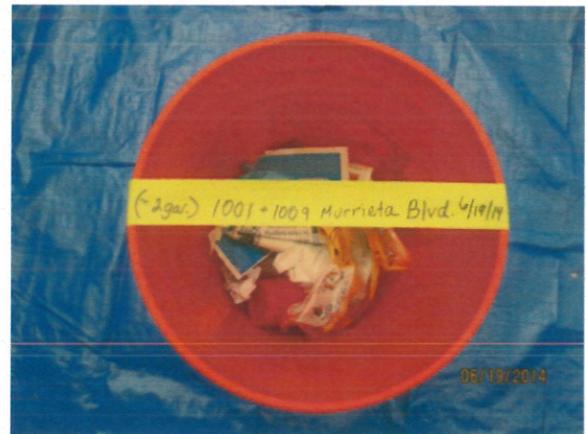
Appendix 4: Litter-Count Methodology

Pre- and post-campaign litter counts for each of the pilot sites involved the following steps:

1. Pick up and label bags with one week's worth of litter collected from each site.
2. Slowly empty each bag into 5-gallon buckets placed on tarp, filling each bucket as much as possible before moving to the next.
3. Count total number of full 5-gallon buckets, and measure volume of partially filled buckets.
4. Slowly pour litter from the buckets into a pile on the tarp.
5. Categorize the materials using Coastal Commission's 2013 Volunteer Ocean Trash Data Form: pick and identify litter items and place them in their respective piles.
6. Count number of items in each pile of categorized litter. Record number.



Post-campaign measurement: Total volume of one week's worth of litter at the "control" site.



Post-campaign measurement: Total volume of one week's worth of litter at the "outreach" site.



Litter items, categorized according to the Coastal Commission's guidelines.

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Appendix 5: Litter count results by material category

Complex	Livermore Gardens Apts		La Castilleja Apts		Castilleja del Arroyo	
	5720 East Ave		975 Murrieta Blvd		1001 & 1009 Murrieta Blvd	
Pilot activities	Control - no activities		Norming		Outreach campaign	
Measurement	Pre-Campaign (Dec 2013)	Post-campaign (June 2014)	Pre-Campaign (Dec 2013)	Post-campaign (June 2014)	Pre-Campaign (Dec 2013)	Post-campaign (June 2014)
Total volume of litter collected from complex in 1 week	33 gal	40 gal	12 gal	5 gal	14 gal	2 gal
Total number of pieces	730	688	175	186	591	41
Food packaging & related items						
Food Wrappers (candy, chips, etc.)	164	157	26	32	96	10
Take-out containers (Paper)		23	8	0	8	
Take-out containers (Plastic)			1	0		
Take-out containers (Foam)		1				
Bottle Caps (Plastic)	17	17	4	1	10	2
Bottle Caps (Metal)	8	1		1	4	1
Lids (Plastic)	8	10	3	1	10	2
Straws/Stirrers	6	11	3	5	9	0
Forks, Knives, Spoons	12	3	2	0	3	0
Beverage Bottles (Plastic)	12	13	1	1	6	0
Beverage Bottles (Glass)	2					
Beverage Cans	3	1	2	2		
Grocery Bags (Plastic)	2			1	5	0
Ziploc bags	10	11	7			0
Paper Bags			1			
Cups & Plates (Paper)	18	11	3	1	8	1
Cups (Plastic)	2	16	1	1	8	2
Cups (Foam)	2	1			1	
Subtotal	266	276	62	46	168	18
Tobacco related						
Cigarette Butts	155	7	14	0	125	0
Cigarette boxes	15	6	2	1		1
Tobacco Packaging/Wrap		12	2	1	2	0
Cigarette lighters		1			1	
Cigar tips		1				
Subtotal	170	27	18	2	128	1
non-food packaging materials						
Plastic bottles (non beverage)	1	3				
Plastic bags (non food/grocery)		6	3	0	2	0
Other Plastic Packaging			9	0		
Other Foam Packaging (non-food, e.g. sheets, peanut and chunks)			14	0		
Subtotal	1	9	26	0	2	0
Personal Care & personal hygiene products						
Tampons/Tampon Applicators		1	0	1	4	0
Cosmetics (lip gloss, mascara)		1		1		
Comb				1		
Hairband				1		
Subtotal	0	2	0	4	4	0
Clothing items						
Shoes	3	2		1		
Socks	3					
Shoelaces		1				
Coats	2					
Misc clothes		23				
Subtotal	8	26	0	1	0	0
Tiny trash pieces (less than 2.5cm)						
Paper pieces	175	122	56	106	187	14
Plastic pieces	110	197	7	21	97	5
Foam pieces		4				
Glass pieces						1
Foil pieces		6		5		1
Subtotal	285	329	63	132	284	21
Other trash						
Balloons		2			2	
Construction materials		1	4		3	1
Tires (bicycle)						
Toys		15		1		
Pens		1				
Kid's eraser				1		
AA battery				1		
Subtotal	0	19	6	1	5	1
GRAND TOTAL	730	688	175	186	591	41

Appendix 6a: Notes from Post-Pilot Interview – “Control” site

Jerry Lammerts, Livermore Gardens Apartments

About the complex

- 96 units, all renters. Clusters of 4 units per building.
- “lots of kids” – 300+
- Main areas are:
 - o Parking somewhat “randomly” scattered around complex.
 - o Pool with some lawn around it
 - o “Play-yard” for kids = large grassy area without trees
 - o Common area near office with some benches
 - o Walking paths between buildings
 - o 6 garbage enclosures with 1-2 dumpsters and 3 recycling carts each
- 3 trash cans (55-gal) in common areas: pool, play-yard and in the middle of the complex, near office
- Smoking allowed in units and common areas. No butt cans or ashtrays in common areas.

Pre- and post-campaign litter collection:

Both pre- and post-campaign litter collection was done by janitorial staff coming on-site daily. Part of their duties is picking up litter, which usually happens each morning. During the pre- and post-campaign litter collection weeks, they just saved those days’ litter for the count. Sometimes—usually when lots of litter is present—they go out a second time to collect. That litter would not be included in the count. Different staff for mid-week litter pickup and for Saturday pickup, and no litter is picked up on Sundays. However, it can be assumed that the pre- and post-campaign collections are comparable (i.e. same staff and routines).

The staff picking up litter was instructed to collect from all common areas on the property, except the garbage enclosures and immediately around them. Reasoning was that most of this trash is caused by haulers dropping garbage during pickup, and not by littering. Staff was instructed to pick up all types of litter, including all cigarette butts.

Distribution of litter items:

- All areas on the property had litter, both pre- and post-campaign.
- Littered clothing items were mainly found tossed over the fence near the pool area. Since the pool is only in use in summer, the post-campaign count (June) included a lot more clothing items than the pre-campaign count (Feb).
- Around the benches near the office/common area, a larger number of bottles, cans and cigarette butts were found. This is where youth and their friends tend to congregate to drink/smoke.
- Play-yard also a litter hotspot
- Parking areas: Jerry has observed tenants empty out their ash trays from cars into parking pots, and toss fast food bags etc. out of cars after parking.
- Bus stop near entrance to the property generates a lot of litter, especially on the grassy area between sidewalk and the property line (fence?). There’s a trashcan serviced by the bus company, but still lots of litter, especially during school year.
- There are frequent parties in the residences across from the large grassy area at the far end of the property. Litter frequently blows over onto property from there.

Smoking/cigarette butts:

- Jerry estimates that about 50% of all tenants smoke, but only certain individuals contribute to littered cigarette butts and other smoking related litter e.g. cigar tips, wrappers etc.
- Most cigarette butts found in parking area and grassy areas.
- Dramatic drop in cigarette butts collected may be due to:
 - o Move-out of several tenants who had contributed disproportionately to cigarette butt litter. Jerry mentioned on person in particular who moved out during the pilot period. He had been smoking with up to 10 friend regularly.
 - o In May management had issued conduct warning notices (placed under each door), stating that tenants found littering cigarette butts were jeopardizing their lease. Jerry assumes this has affected the littering of butts.

Changes during the pilot period:

See “smoking” section for changes affecting littering of cigarette butts.

Overall, there were more move-outs than usual. However, Jerry thinks this affected mostly the number of bulky items generated (and possibly dumped? I didn’t clarify), not the amount of litter.

No new landscaping or other on-site changes.

Comments from tenants or others

- Jerry had asked a youth to pick up his litter, but the youth refused, saying ‘that’s what you hire the maintenance people for.’
- Jerry does get comments from tenants saying they’re “tired of seeing this place trashed,” but Jerry thinks it’s the same people littering themselves.

Other

- Property has a “kids club” that is very well attended and offers activities to on-site kids, including homework supervision during the school year. Sometimes activities are related to litter, e.g. kids are incentivized to collect litter around the property as an activity. This is framed as good for the environment. However, Jerry also mentioned litter pickup being used as punishment, i.e. when kids were bad, they then have to “do something good (for the environment.)”
- Jerry thinks it’s mostly the kids littering and feels it’s lack of good parenting. He sees some parents scold their kids for littering but (many) others littering right along with the kids.
- There are 4 storm drains on West Drive (north of the property) where litter from the property is frequently carried, as runoff runs that way. Storm drains drain to the creek in the north.

Appendix 6b: Notes from Post-Pilot Interview – “Norming” site

Post-campaign interview with Ed Lopez*, La Castilleja Condominiums

** Volunteer resident who picked up litter throughout the campaign, as well as for pre- and post-campaign count*

About the complex

- 8 out of 50 units are owners
- Main areas are: parking lot, walking paths lined with ivy/bushes, dumpster area, pool with small grassy area, one other grassy area
- No trash cans on property except one in the mail room
- Smoking allowed in units and common areas.

Pre- and post-campaign litter collection:

Ed did both pre- and post-campaign litter collection. He picked up litter from around the property every morning, during both weeks. This was also how he picked up litter during the 3-month period of the campaign.

Cigarette butt collection: pre- and post-campaign numbers may both be unreliable, as Ed didn't pick up all butts there were, because a) there were too many and b) he “hadn't been told to pick up butts” as part of the litter pickup. [Question: what instructions had been given for the litter collection “methodology?”] See also below.

Distribution of litter items:

- Area with most litter near the dumpsters because haulers drop some trash when picking up, which then gets blown around the property. Also, dumpsters overflow and trash gets placed on top or in front if it and gets blown around. Often tenants carry trash to dumpsters and drop some on the way, don't bother to pick up. Ed commented that much of what he picked up on his daily litter walks were these items from the dumpster areas (i.e. not items dropped by somebody, like typical litter)
- Little trash near pool or on grassy area. More along walkways, especially in ivy/bushes, that appears to be purposely stuck in there, according to Ed, to “hide” it, and because litterer are less visible near the bushy areas.
- No particular distribution of certain kinds of litter in certain areas.
- Bike/walking trail behind the property has lots of litter, according to Ed. He has suggested to Lynna that the City should place trash cans along the trail.

Smoking/cigarette butts:

- In pre-campaign interview property manager Mike said that there were “few cigarette butts to start with.” Ed seemed to think that there were (and still are) quite a few cigarette butts. Likely discrepancy of what is perceived as “a lot.”
- In April 2014 two buckets filled halfway with sand were placed by the mailboxes and in front of units 5 through 8, where a lot of the smoking was happening, according to Ed. Prior to this there were no butt cans or similar. Ed feels the buckets have reduced litter from butts, although he reports that he often has to point the buckets out to tenants who still litter their butts. He says there's also trash being placed into the buckets.

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Students from nearby Granada High School

- Both Ed and Mike report that a lot of the litter on site comes from students walking across the property. Ed feels that this amount of litter has not changed over the course of the pilot.
- During both litter counts (pre and post), school was out for part of the time.
 - o Pre-campaign count 12/20-26: 3 days IN, 4 days OUT
 - o Post-campaign count 6/8-6/14: 4 days IN, 3 days OUT

Changes during the pilot period:

Turnover no different than usual. No new landscaping or other on-site changes. No new trash cans. No changes in smoking related rules. However, two butt buckets were added in April (or near there), see above.

Comments from tenants or others

Ed reports that approx. five tenants told him that they appreciated his picking up litter and that the complex is looking much nicer. Ed says Mike also received similar comments.

Other

Ed thinks that the fact that he was picking up litter did motivate tenants to litter less. However, since he stopped picking up litter in late June, he feels the situation (i.e. amount of litter) is back to pre-campaign level.

Appendix 6c: Notes from Post-Pilot Interview – “Outreach” site

Greg Knowles, Castilleja del Arroyo condominiums

Pre- and post-campaign litter collection:

Jose did pre-campaign litter collection in Dec 2013, Greg did post-campaign litter collection in June 2014. This may have affected the numbers, as they may have had different styles of collecting items. Greg said they both would go out in the morning and collect the litter each day, then combine the 7 bags. The area they picked up from was the entire property except a fenced off area. I confirmed both picked up from the same area. However, the following likely skewed the data:

- During the post-campaign collection week, it was very windy, causing a lot of leaves to get blown from the trees. Jose went around more than usually to collect those and throw them away. This typically happens during the day. In the process he may have gathered litter items that went into the trash with the leaves and didn't get counted. This would likely include larger items (bags, wrappers) rather than small (cigarette butts, tiny trash pieces as categorized by Lynna)
- Greg said that he didn't see a lot of cigarette butts, but that **he also didn't pick up the butts he did see** (because he was grossed out by that). Jose obviously picked up butts in the pre-campaign count. So – I don't think the cigarette butt count is reliable.
- Greg seemed to assume that Jose did a more thorough job picking up litter than he did.

Smokers in the building:

Greg estimates that there are about 10% (out of the 124 tenants) who are heavy smokers. Smokers are “definitely in the minority.” There is an area with a butt can for smokers. It is being used well, with very few butts placed outside/around the butt can. Greg seemed to think that most smoking happens here. Greg was not aware of a change in number of smokers during the pilot period (e.g. move out, vacation etc.) He confirmed no other smoking related changes happened, e.g. ore ashtrays or butt cans, new smoking rules etc.

Tenant changes during the pilot period:

Turnover was no different than usual. Greg also didn't observe the absence of many tenants due to vacations etc. Not more than usual, so this should not have affected the amount of litter found.

Distribution of litter items:

Property has three main areas: driveways/sidewalks, grassy areas and ivy/bushes around the buildings. Most litter found in ivy/bushes area, almost none in grassy areas. Greg speculates that litter is more likely to get blown/stuck there, but also that people litter more where they are protected from sight, i.e. near the bushes.

Another higher volume litter area of the property is the near Murrieta Blvd. Greg thinks at least some of the trash found there comes not from tenants but from street traffic.

He did not note specific litter types in specific areas.

Greg did not recall a difference in the amount of litter near signs that were close to a trashcan vs. signs that were farther away from trashcans. However, he commented that even before the pilot, the mailbox area would have very little trash. He speculates that this is due to the trash can right there, i.e. people would only have to take a couple steps to place litter in the can vs. on the ground. See also comment under “other” below that seems to suggest that Greg has been observing less litter near trashcans than farther from trashcans.

Clean Water Program MFD Litter Pilot – Final Report August 2014

Comments from tenants or others

Greg did not recall getting any feedback from tenants about the campaign. The only comments he received came from (supportive) tenants who expressed their disappointment when the pledge posters were “destroyed” (scribbled on) by kids.

Future plans regarding litter outreach

Greg and the HOA Board want to leave up the signs since they still look good. They are considering having similar, but more durable signs made in the future to replace the current ones. The poster was removed from the kiosk to make room for other info material, but Greg thinks they may bring it back to display in the kiosk in the future.

Other

Greg commented that litter was never a huge priority for the complex as they felt they had little of it to start with. When the current HOA took over the building, they noticed that more litter was found where no trashcan was nearby. However, the HOA never considered adding trashcans, because Jose goes around the complex with the leaf blower regularly anyway and collects any litter along with leaves, so that the cost and effort of servicing additional trashcans wouldn't be warranted.