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September 30, 2016

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

SUBJECT: Submittal of *Identifying Management Areas and Controls for Mercury and PCBs in San Mateo County Stormwater Runoff, September 30, 2016.*

Dear Mr. Wolfe:

The San Mateo Countywide Water Pollution Prevention Program (SMCWPPP) is pleased to submit the attached report entitled *Identifying Management Areas and Controls for Mercury and PCBs in San Mateo County Stormwater Runoff, September 30, 2016*. This report was prepared on behalf of all of SMCWPPP's member agencies in compliance with Municipal Regional Permit (MRP) Provisions C.11.a.iii and C.12.a.iii. These provisions require that Permittees develop a prioritized list of watersheds and management areas where control measures for mercury and PCBs are currently implemented or will be implemented during the term of permit along with an implementation schedule.

I certify under penalty of law that the attached report was prepared under my direction or supervision in accordance with a system designed to ensure that qualified personnel properly gather and evaluate the information submitted. Based on my enquiry of the person or persons who manage the system, or those directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

If you have any questions or comments, please call me at (650) 599-1419.

Sincerely,

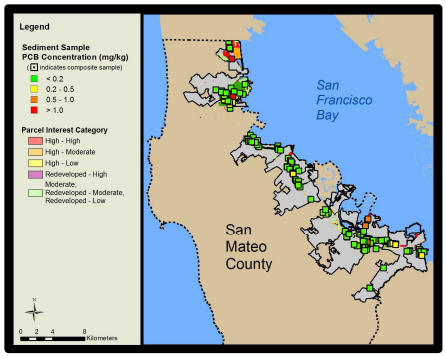
Matthew Fabry

Matthew Fabry
Program Manager

Attachment: *Identifying Management Areas and Controls for Mercury and PCBs in San Mateo County Stormwater Runoff, September 30, 2016*

SAN MATEO COUNTYWIDE
Water Pollution
Prevention Program

Identifying Management Areas and Controls for Mercury and PCBs in San Mateo County Stormwater Runoff



Submitted in Compliance with
NPDES Permit No. CAS612008, Provision C.11.a.iii / C.12.a.iii

EOA inc.

September 30, 2016

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LIST OF ABBREVIATIONS

BASMAA	Bay Area Stormwater Management Agencies Association
BMPs	Best Management Practices
CW4CB	Clean Watersheds for a Clean Bay
CWA	Clean Water Act
FY	Fiscal Year
GI	Green Infrastructure
MPC	Monitoring and Pollutants of Concern
MRP	Municipal Regional Permit
MS4	Municipal Separate Storm Sewer System
NPDES	National Pollution Discharge Elimination System
PCBs	Polychlorinated Biphenyls
POC	Pollutant of Concern
POTW	Publically Owned Treatment Works
RAA	Reasonable Assurance Analysis
RMP	Regional Monitoring Program for Water Quality in San Francisco Bay
SMCWPPP	San Mateo Countywide Water Pollution Prevention Program
TMDL	Total Maximum Daily Load
WY	Water Year
WMA	Watershed Management Area

1.0 INTRODUCTION

Fish tissue monitoring in San Francisco Bay has revealed bioaccumulation of polychlorinated biphenyls (PCBs), mercury, and other pollutants. The levels found are thought to pose a health risk to people consuming fish caught in the Bay. As a result of these findings, an interim advisory has been issued on the consumption of fish from the Bay. The advisory led to the Bay being designated as an impaired water body on the Clean Water Act (CWA) "Section 303(d) list" due to elevated levels of PCBs, mercury, and other pollutants. In response, the San Francisco Bay Regional Water Quality Control Board (Regional Water Board) has developed Total Maximum Daily Load (TMDL) water quality restoration programs targeting PCBs and mercury in the Bay. The general goals of the TMDLs are to identify sources of PCBs and mercury to the Bay, implement actions to control the sources, and restore water quality.

The PCBs and mercury TMDLs stipulate that a 90% reduction in PCBs and 50% reduction in mercury found in discharges from urban stormwater runoff to the Bay are needed to achieve water quality standards and restore beneficial uses. Provisions C.11 and C.12 of first Municipal Regional Stormwater National Pollutant Discharge Elimination System (NPDES) Permit (MRP 1.0; Order R2-2009-0074) required Permittees to implement pilot-scale control measures during the permit term to reduce PCBs and mercury discharges from Municipal Separate Storm Sewer Systems (MS4s) to the Bay. These pilot studies were intended to enhance our collective knowledge about the costs and benefits of different Best Management Practices (BMPs) to control PCBs and mercury. The recently reissued permit (MRP 2.0, Order R2-2015-0049) requires municipal agencies to move from pilot-scale work to focused implementation and defined load reduction goals (e.g., 3 kg/year region-wide for PCBs). The strategies and BMPs that will be applied to meet the load reduction goals are anticipated at a minimum to include:

- Source property identification and referral for investigation and abatement;
- Stormwater Green Infrastructure (GI); and
- Management of PCBs in building materials during demolition.

The San Mateo Countywide Water Pollution Prevention Program (SMCWPPP) is assisting San Mateo County local agencies to identify and control sources of PCBs and mercury to their MS4s in compliance with C.11 and C.12. The following sections provide further details about the permit requirements and how SMWCPPP is providing this assistance to San Mateo County municipalities.

1.1. Permit Requirements

MRP 2.0 Provisions C.11.a.iii and C.12.a.iii require that Permittees develop a prioritized list of watersheds and management areas where control measures for mercury and PCBs are currently implemented or will be implemented during the term of permit along with an implementation schedule. These areas are designated in this report as watershed management areas (WMAs). Permittees are also required to provide the monitoring data and other information used to select the management areas. In addition to the list of management areas, Permittees are also required to report on the following:

- The number, type and locations and/or frequency (if applicable) of control measures;
- A cumulative listing of all potentially PCBs-contaminated sites Permittees have discovered and referred to the Regional Water Board to date, with a brief summary description of each site and where to obtain further information;
- The description, scope and start date of control measures;

- For each structural control and non-structural control BMP, interim implementation progress milestones and as schedule for milestone achievement; and
- Clear statements of the roles and responsibilities of each participating Permittee for implementation of pollution prevention or control measures identified by Permittees.

Per MRP requirements, SMCWPPP submitted and initial report dated April 1, 2016 detailing progress made towards meeting the above reporting requirements (SMCWPPP 2016). Permittees are then required to report per the above requirements in their 2015/16 Annual Report (due by September 30, 2016). This report fulfills this reporting requirement. In subsequent annual reports, Permittees are required to provide updates to the initial information presented with their 2015/16 Annual Reports.

Permittees are also required to demonstrate achievement of PCBs load reductions during the term of the Permit. Beginning with the 2016/17 Annual Report, Permittees are required to quantify PCBs load reductions and ancillary load reduction benefits for mercury. MPR Provisions C.11/12.b., Assess Mercury/PCBs Load Reductions from Stormwater, requires Permittees to submit with their 2015/16 Annual Report for Executive Officer approval an assessment methodology that updates the load reduction accounting system outlined in the MRP 2.0 factsheet. Permittees are required to use the assessment methodology to quantify in a technically sound manner mercury and PCBs loads reduced through implementation of pollution prevention, source control, and treatment control measures, including source control, stormwater treatment, GI, and other measures. Beginning with their 2016/17 Annual Report, Permittees must report on the use of the methodology to demonstrate progress toward achieving the mercury and PCBs load reductions required in this permit term. SMCWPPP participated in a Bay Area Stormwater Management Agencies Association (BASMAA) regional project to develop the interim accounting methodology. BASMAA's report on this project (BASMAA 2016) was submitted to the Regional Water Board concurrently with this report.

Per MRP 2.0 requirements, the interim accounting methodology will eventually be replaced by more robust accounting methods, including a modeling approach for estimating pollutant loads reduced via GI and stormwater treatment, via development of a Reasonable Assurance Analysis (RAA) later in this permit term.

1.2. Approach

This report documents SMCWPPP's approach and progress to-date in assisting San Mateo County local agencies to reduce discharges of PCBs and mercury from their MS4s to the Bay, in compliance with Provisions C.11 and C.12. As a starting point, SMCWPPP is identifying all existing and already planned controls, including any opportunities to monitor existing activities (e.g., via analysis of sediments removed for PCBs and mercury) and/or readily enhancing existing actions to reduce pollutant loads. One general guiding principle of this approach is "no missed opportunities."

SMCWPPP is identifying controls that should result in pollutant load reduction credits towards meeting the San Mateo County portion of the PCBs and mercury TMDL wasteload allocations. SMCWPPP is therefore tracking existing controls that commenced or were enhanced in 2005 or later and thus are assumed to reduce urban runoff pollutant loads relative to the PCBs TMDL baseline urban runoff load. This date was selected because load reductions due to controls fully implemented prior to 2005 were already accounted for in the PCBs TMDL baseline urban runoff load estimate.

As part of the evaluation SMCWPPP is assessing whether each existing or planned control would represent a new action or an enhancement during the MRP 2.0 permit term. Such controls should result in credit towards the MRP 2.0 requirement that 370 grams/year PCBs load reduction is achieved in San Mateo County by the end of the MRP 2.0 permit term (of this, a 60 grams/year reduction must be achieved in San Mateo County by June 2018). In addition, at least 15 grams/year of the 370 grams/year PCBs load reduction must be achieved via GI by the end of the permit term. The interim accounting methodology will be used to calculate the load reduction credits for pollutant controls implemented in San Mateo County during the MRP 2.0 permit term as part of tracking progress towards achieving these MRP 2.0 load reduction requirements.

The major efforts and planned activities described in this report include the following:

- SMCWPPP has implemented a process to identify and prioritize WMAs which is generally consistent with other Bay Area stormwater management program efforts as coordinated through BASMAA.
- SMCWPPP worked with San Mateo County MRP Permittees to develop a database of existing and planned public and private GI and stormwater treatment projects in San Mateo County, including Low Impact Development (LID) measures at redevelopment sites. The database includes existing and planned GI and treatment facilities constructed in 2005 or later.
- SMCWPPP worked with San Mateo County MRP Permittees to begin evaluating new or enhanced municipal operations activities implemented in 2005 or later that may remove sediments containing PCBs and/or mercury. The types of municipal operations evaluated include maintenance of MS4 infrastructure (e.g., channel desilting and cleanout and/or retrofit of detention ponds, flood control basins, pump stations or storm drain inlets).
- SMCWPPP began evaluating opportunities to take credit for PCBs and mercury loads avoided due to contaminated site cleanups in San Mateo County that were initiated during 2005 or later, typically a result of enforcement actions to remediated sites overseen by federal, state or local regulatory agencies. In addition, cleanups completed during the MRP 2.0 permit term should result in credit towards MRP 2.0 load reduction requirements. Investigation of contaminated site cleanups may also lead to opportunity to identify additional PCBs source properties that could be referred to the Regional Water Board for further investigation and abatement, either because cleanup at a site was never completed, or because the cleanup standards applied were not adequate relative to TMDL goals for reducing pollutant loads in stormwater runoff.
- A detailed description of and schedule for the next steps planned to continue addressing the requirements of MRP 2.0 provisions C.11 and C.12, including refining the lists and maps of WMAs and existing and planned pollutant control measures within the WMAs.

The following sections provide background, methods, results and discussion relative to the above efforts and accomplishments documented in this report.

2.0 BACKGROUND

2.1. Terminology

This section summarizes important terminology used in this report. As noted above, *watershed management areas* (WMAs) are priority watersheds or stormwater catchments in the urban landscape where PCBs and/or mercury control measures are currently being implemented or will be implemented during the MRP 2.0 permit term, to the extent that feasible and cost-effective controls can be identified. The WMA identification process assumes that all areas in the urban landscape that drain to the Bay fall within one of three PCBs *interest* categories. All areas will eventually be further prioritized based on opportunity for PCB load reductions. PCBs areas of interest vary in geographic area and are generally identified at the parcel scale (smallest) through the stormwater catchment scale (largest). The three *interest* categories have the following characteristics:

- **High Interest** – Parcels, broader land areas, or stormwater catchments associated with land uses (most commonly old industrial, electrical, recycling, railroad, and military) that have a relatively higher likelihood of having elevated concentrations of PCBs (≥0.5 mg/kg) in street dirt, sediment from the MS4, or in stormwater runoff (particle concentration). These areas generally have not been redeveloped and do not contain stormwater treatment facilities.
- **Moderate Interest** – Parcels, broader land areas, or stormwater catchments associated with land uses (typically older non-industrial urban land uses) that have limited risk factors associated with PCBs. These areas generally have not been redeveloped and do not contain stormwater treatment facilities. Moderate interest areas are less likely to have elevated concentrations of PCBs.
- **Low/no Interest** – Parcels, broader land areas, or stormwater catchments associated with land uses (usually newly urbanized areas, redeveloped areas that have stormwater treatment, open spaces, and parks) where PCBs are typically found at low levels or below detection limits. Low/no interest areas are unlikely to have elevated concentrations of PCBs.

Catchments of interest contain high interest parcels with land uses associated with PCBs. Areas where concentrations of PCBs in sediment have been confirmed via collection of samples in the field to equal or exceed 0.5 mg/kg are further classified as *PCBs source areas* and designated WMAs for PCBs. Because these areas are typically defined at the stormwater catchment scale, further investigation (i.e., a *source investigation*) is often needed to better characterize the geographic extent of elevated PCBs within a WMA and pollutant sources at the parcel scale. A *source property* is a property (composed of one or multiple adjacent parcels) that has been identified (usually via a *source investigation*) as discharging sediments or stormwater runoff with elevated levels of PCBs to an MS4 or receiving water body.

2.2. Overall Process to Identify Pollutant Management Areas and Controls

Identifying areas of interest and opportunity for PCBs and mercury controls and the selection and classification of WMAs is a multi-year process designed to identify the land areas in San Mateo County that contribute relatively higher loads of PCBs and mercury to MS4s, and therefore should be the focus of control measure implementation. The process being implemented by SMCWPPP and San Mateo County MRP Permittees is generally consistent with the framework developed by BASMAA agencies in consultation with Regional Water Board staff. Consistent with the permit requirements, the selection of

WMAs and controls is primarily focused on PCBs, with assumed ancillary/secondary benefits for controlling mercury.

In 2015, SMCWPPP staff worked with other BASMAA agency staff to develop a general framework for identifying areas of interest and opportunity for PCBs and mercury controls. This iterative framework was adapted by SMCWPPP to include the following four steps that occur first at the parcel-scale (steps No.1 & No.2) and then at the catchment-scale (steps No.3 & No.4):

1. **Initial Screening (Parcel-scale) -** Identify parcels that were industrialized in 1980 or earlier (i.e., old industrial parcels) or have other land uses associated with PCBs (i.e., electrical, recycling, railroad, and military). These parcels are *potential* high interest areas.
2. **Detailed Screening (Parcel-scale)** - Prioritize potential high interest areas based on the evaluation of existing information on current land uses and practices (e.g., redevelopment status, extent and quality of pavement, level of current housekeeping, any history of stormwater violations, and presence of electrical or heavy equipment, tanks, or stormwater treatment) identified via land use analysis, local institutional/historical knowledge, and surveys of site conditions (windshield, Google Street View, and/or aerial photograph). The result of the prioritization is a list of high interest parcels.
3. **Field Monitoring (Catchment-scale)** - Collect sediment and/or stormwater runoff samples in the public right-of-way (i.e., streets or stormwater conveyance system) in catchments that contain high interest parcels and analyze for PCBs, mercury and ancillary analytes. Based on the results and historical sediment sample analysis data, identify potential or confirmed WMAs.
4. **Opportunity Analysis (Parcel or Catchment–scale)** - Making use of the data collected during the above screening and field monitoring steps and other pertinent data, perform an "opportunity analysis." Control measures will focus on parcels or portions of WMAs where opportunities for cost-effective and feasible load reduction actions by Permittees are identified.

It is important to note that the above process to screen parcels and collect samples at higher priority sites within catchments (first three of above steps) is driven by PCBs, but all field samples are analyzed for mercury in addition to PCBs.

More detailed descriptions of the first three steps of the above process, including monitoring data and other information obtained and analyzed through WY2015,[1] were provided in SMCWPPP (2016). The results of the parcel-based analysis (i.e., Steps No.1 and No.2) are summarized in Table 1. Figure 1 provides an overview of the location of the high interest parcels identified in San Mateo County. SMCWPPP (2016) provides additional details.

Appendix A contains SMCWPPP's *Pollutants of Concern Monitoring Report, Water Year 2016 Accomplishments and Water Year 2017 Planned Allocation of Effort.* This report describes what was accomplished for Pollutant of Concern (POC) monitoring (including PCBs and mercury) during WY2016 and the allocation of sampling effort for PCBs, mercury and other POC monitoring planned for the forthcoming year (WY2017).

[1] Monitoring is conducted on a Water Year (WY) basis, with each WY beginning on October 1 and concluding on September 30 of the named year. For example, WY2016 began October 1, 2015 and concludes September 30, 2016.

Table 1. Number of total, potential high interest, and high interest parcels in San Mateo County identified through the screening process (SMCWPPP 2016).

San Mateo County Permittee	Number of Parcels		
	Total	Potential High Interest	High Interest[1]
Atherton	2,592	2	2
Belmont	8,275	110	28
Brisbane	2,208	150	76
Burlingame	8,694	321	111
Colma	578	23	10
Daly City	23,980	118	20
East Palo Alto	5,017	153	125
Foster City	9,286	23	3
Half Moon Bay	6,067	28	0
Hillsborough	4,082	3	3
Menlo Park	10,106	185	94
Millbrae	6,623	40	21
Pacifica	12,751	37	0
Portola Valley	1,811	0	0
Redwood City	20,715	426	192
San Bruno	12,807	185	44
San Carlos	10,979	441	169
City of San Mateo	28,308	373	167
Unincorporated San Mateo County	24,363	575	225
South San Francisco	18,121	808	287
Woodside	2,346	3	2
Total	**219,709**	**4,004**	**1,579**

[1] High interest properties were only identified in portions of San Mateo County that drain to San Francisco Bay.

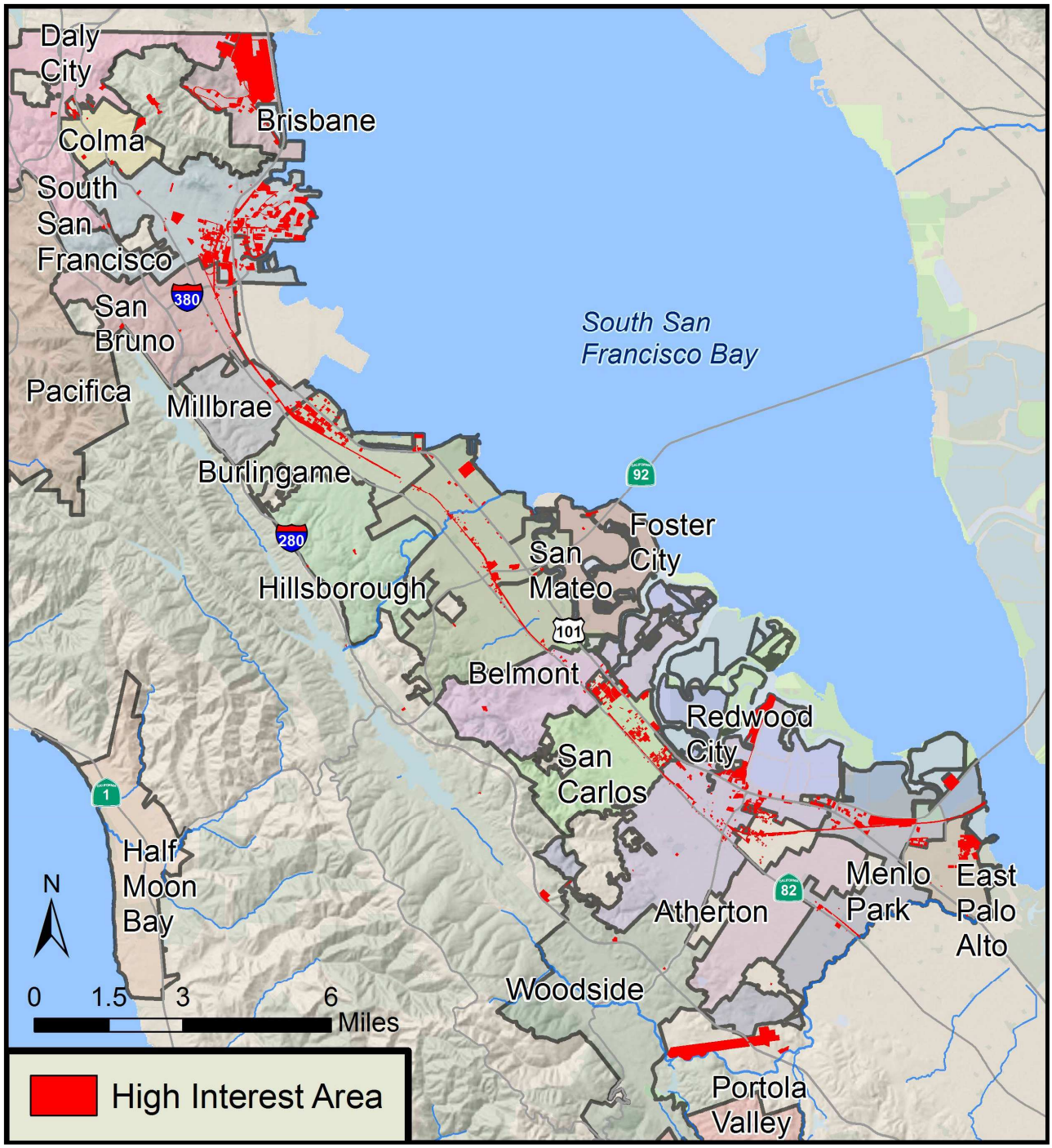

Figure 1. High interest parcels for PCBs in San Mateo County (SMCWPPP 2016).

3.0 METHODS

3.1. Tracking and Reporting Green Infrastructure (GI) Projects

MRP 2.0 requires that a 370 grams/year PCBs load reduction is achieved in San Mateo County by the end of this permit term. Of this, at least 15 grams/year must be achieved via Green Infrastructure (GI). For the purposes of tracking and crediting pollutant load reductions achieved through GI and stormwater treatment, SMCWPPP worked with San Mateo County MRP Permittees to develop a database of existing and planned public and private GI and stormwater treatment projects in San Mateo County, including Low Impact Development (LID) measures at redevelopment sites. The database includes existing and planned GI and treatment facilities constructed in 2005 or later since these facilities are assumed to reduce urban runoff pollutant loads relative to the PCBs TMDL baseline urban runoff load. In addition, 2005 was the year that San Mateo County's municipal stormwater permit was amended to include more stringent Provision C. 3 requirements; thus most new or redevelopment projects constructed in 2005 or later include stormwater treatment.

As part of this evaluation SMCWPPP is assessing whether each GI or stormwater treatment facility was constructed or planned for construction during the MRP 2.0 permit term. The interim accounting methodology will be used to calculate the load reduction credits for GI and stormwater treatment implemented in San Mateo County during the MRP 2.0 permit term as part of tracking progress towards achieving the MRP 2.0 load reduction requirements described above.
The types of information that SMCWPPP is collecting and maintaining in the database of existing and planned public and private GI and stormwater treatment projects in San Mateo County includes the following:

- Project name
- Description of GI and stormwater treatment system(s)
- Location - street address or location description and coordinates
- Whether the facility is located on private property or in public right-of-way
- Area treated by facility (acres)
    - For LID at redevelopment or new developments sites, this is generally assumed to be the project area
    - For Green Street or other retrofits in public right-of-way, estimated drainage area to facility
- Hydraulic sizing criteria
- Date of construction
    - Existing facilities: date of construction completion (e.g., initial inspection sign-off)
    - Planned facilities: estimated construction completion date
- Whether or not the facility includes infiltration
- Whether or not the facility includes an underdrain

SMCWPPP worked with municipal staff to gather the above data from each San Mateo County Permittee with urban areas that drain to San Francisco Bay. For each of these Permittees, a summary of the

information gathered to-date on existing and planned GI and stormwater treatment facilities is presented in Section 5.0 of this report.

The information in this section and Section 5.0 also fulfills the requirement in MRP Provision C.3.j.iv to report on progress on development and implementation of methods to track and report implementation of GI.

3.2. New or Enhanced Municipal Operations Activities that Potentially Remove Sediments with PCBs and/or Mercury

SMCWPPP worked with San Mateo County MRP Permittees to begin evaluating new or enhanced municipal operations activities that may remove sediments containing PCBs and/or mercury. SMCWPPP is tracking actions implemented in 2005 or later since these actions are assumed to reduce urban runoff pollutant loads relative to the PCBs TMDL baseline urban runoff load. The types of municipal operations evaluated include maintenance of MS4 infrastructure (e.g., channel desilting and cleanout and/or retrofit of detention ponds, flood control basins, pump stations or storm drain inlets).

As part of this evaluation SMCWPPP is assessing whether new or enhanced municipal operations activities were implemented or planned for implementation during the MRP 2.0 permit term. The interim accounting methodology will be used to calculate the load reduction credits for activities implemented in San Mateo County during the MRP 2.0 permit term as part of tracking progress towards achieving the MRP 2.0 load reduction requirements.

SMCWPPP worked with municipal staff to gather pertinent municipal operations data from each San Mateo County Permittee with urban areas that drain to San Francisco Bay. For each Permittees a summary of the information gathered to-date is presented in Section 5.0 of this report.

3.3. Contaminated Site Cleanups

SMCWPPP has begun evaluating opportunities to take credit for PCBs and mercury loads avoided due to contaminated site cleanups in San Mateo County that were initiated during 2005 or later, since these cleanups are assumed to reduce urban runoff pollutant loads relative to the PCBs TMDL baseline urban runoff load. The cleanups are typically a result of enforcement actions with cleanup oversight by federal, state and local regulatory agencies, including United States Environmental Protection Agency (USEPA), California Department of Toxic Substance Control (DTSC), the Regional Water Board, and/or local municipal agencies. In addition, cleanups completed during the MRP 2.0 permit term should result in credit towards MRP 2.0 load reduction requirements. Investigation of contaminated site cleanups may also lead to opportunity to identify additional PCBs source properties that could be referred to the Regional Water Board for further investigation and abatement, either because cleanup at a site was never completed, or because the cleanup standards applied were not adequate relative to TMDL goals for reducing pollutant loads in stormwater runoff.

Regional Water Board staff recently compiled a list of contaminated sites that were or are targeted for cleanup of soil and/or groundwater impacts under USEPA, DTSC, Regional Water Board, or local municipal agency oversight. The list was compiled primarily from a review of online databases, including DTSC's Envirostor and the State Water Resource Control Board's GeoTracker, and targeted sites that may have been associated with PCBs. The purpose in compiling this list was so that Regional Water Board staff could follow-up with the oversight agencies to ensure stormwater runoff concerns were or

will be adequately addressed as part of the cleanups. SMCWPPP used the Regional Water Board list as a starting point for identifying completed PCBs cleanup sites in San Mateo County. The online databases (Envirostor and GeoTracker) were used to review site histories and cleanup records, and compile the information needed to determine the cleanup status of the site, justify calculating preliminary load reductions for the site cleanup, and document the data inputs needed to calculate loads avoided. The following information was collected, as available:

- Area of the site;
- Current cleanup status;
- Date of cleanup;
- Evidence of PCBs on the site prior to cleanup (i.e., pre-cleanup PCBs concentrations in soils or groundwater);
- Cleanup/abatement methods;
- Evidence of adequate PCBs cleanup at the site (e.g., post-cleanup PCBs concentrations in soils or groundwater);
- Available evidence to justify designation as a potential PCBs source property for referral to Regional Water Board;
- Documentation of any follow-up needed at the site;

This information was used to identify sites with cleanups initiated in 2005 or later. For each completed site cleanup, preliminary PCBs load reductions were then calculated using the methods described in the interim accounting methodology. This load reduction accounting methodology is based on relative mercury and PCBs yields from different land use categories. A land use-based yield is an estimate of the load of a pollutant contributed by a particular land use per unit area. In general, different types of land uses are expected to yield different pollutant loads because land use types differ in their degree of contamination resulting from differing intensities of historic or ongoing use of pollutants. For contaminated site cleanups, the load of pollutant reduced was estimated using the following interim accounting method (BASMAA 2016):

$$Load\ of\ POC\ Reduced = SP_A \bullet (SP_Y - OU_Y)$$

Where:

SP_A	=	Source property area (acres)
SP_Y	=	Source property PCBs or mercury yield (mg/acre/year)
OU_Y	=	Old Urban land use PCBs or mercury yield (mg/acre/year)

The best available information was used as inputs in the load reduction calculation. The source property and old urban land-use yields for PCBs are currently estimated as 4,035 mg/acre/year and 30.3 mg/acre/year, respectively. This initial review of potential cleanup sites focused on PCBs. Any property-specific information on mercury will also be included in the future, although none was found to date. The calculated loads avoided are preliminary and will be revised as additional information becomes available.

The online database review revealed 29 cleanup sites in San Mateo County where PCBs were listed as a potential pollutant. Of these 29 sites, SMCWPPP identified nine sites that had been remediated since 2005. In addition, another 12 sites were identified as potential sites for referral to the Regional Water Board for additional investigation and further cleanup. This included one site in Daly City, one site in East Palo Alto, one site in Redwood City, five sites in San Carlos, one site in the City of San Mateo, and three sites in South San Francisco. However, SMCWPPP plans to gather additional information about these sites and work with staff from these cities before any additional referrals are made.

A summary of the information on contaminated site cleanups that SMCWPPP gathered to-date is presented in Section 5.0 of this report.

4.0 RESULTS: INITIAL CATCHMENT AND WMA IDENTIFICATION VIA SCREENING AND FIELD MONITORING

Permittees are required to develop a prioritized list of watersheds and management areas where PCBs and/or mercury control measures are currently being implemented or will be implemented during the MRP 2.0 permit term. Stormwater catchments were selected as the initial geographical scale at which WMAs are being identified in San Mateo County. Catchment delineations are based on stormwater runoff drainage patterns and hydrology in the County. This type of information should tie-in well with modeling that will be conducted as part of the Reasonable Assurance Analyses (RAA) for PCBs and mercury that are also required by MRP 2.0. SMCWPPP and San Mateo County MRP Permittees plan to continue tracking and reporting on control measure implementation and associated load reduction benefits by WMA.

As described in Section 2.0 and 4.0 of this report and in more detail by SMCWPPP (2016), SMCWPPP previously conducted a screening process that covered all land areas in San Mateo County that drain to the Bay. The process identified 110 catchments with high densities of high interest parcels, designated catchments of interest (see Section 2.2 and Figure 1). Table 2 and Figure 2 provide a preliminary classification of these stormwater catchments based on the available applicable field monitoring data described earlier. Table 2 and Figure 2 designate a catchment with two or more elevated sediment samples (> 0.5 mg/kg PCBs) as being a “confirmed WMA.” A catchment with a single sediment sample elevated for PCBs is designated a “potential WMA.” The remaining catchments (n = 100) are designated “remaining catchments of interest”. Table 3 provides additional information regarding selected characteristics of the confirmed or potential WMAs that were preliminarily identified using field monitoring results.

The preliminary list of catchments and WMAs was greatly expanded upon in this report by including designating as WMAs all catchments with high interest parcels and/or existing or planned pollutant controls. Section 3.0 of this report described the methods used to identify controls and Section 5.0 describes the WMAs and controls by each San Mateo County Permittee.

Table 2. Preliminary classification of 110 stormwater catchments of interest (SMCWPPP 2016).

Permittee	Preliminary Classification			Total Catchments
	Watershed Management Areas		Remaining Catchments of Interest	
	Confirmed	Potential		
Atherton/Redwood City	-	-	1	**1**
Belmont/San Carlos	-	-	1	**1**
Belmont/San Mateo	-	-	1	**1**
Belmont/Unincorporated	-	-	1	**1**
Brisbane	-	1	1	**2**
Burlingame	-	-	8	**8**
Burlingame/San Mateo	-	-	1	**1**
Colma/Daly City	-	-	1	**1**
Daly City	-	-	1	**1**
Daly City/South San Francisco	-	-	1	**1**
Daly City/Unincorporated	-	-	1	**1**
East Palo Alto	-	-	5	**5**
Foster City	-	-	1	**1**
Menlo Park	-	-	5	**5**
Menlo Park/East Palo Alto	-	-	1	**1**
Menlo Park/Redwood City	-	1	2	**3**
Menlo Park/Unincorporated	-	-	1	**1**
Millbrae	-	-	2	**2**
Millbrae/San Bruno	-	-	1	**1**
Redwood City	-	1	17	**18**
Redwood City/San Carlos	-	1	0	**1**
Redwood City/ Unincorporated	-	1	1	**2**
San Bruno	-	-	1	**1**
San Bruno/South San Francisco	-	1	2	**3**
San Carlos	2	1	5	**8**
San Mateo	-	-	16	**16**
South San Francisco	-	1	22	**23**
Total	**2**	**8**	**100**	**110**

Table 3. Characteristics of the preliminarily WMAs in San Mateo County, identified via field monitoring results (SMCWPPP 2016).

Watershed Management Area Classification	Catchment ID	Permittee(s)	Receiving Water	Acres	Percent Catchment Area that is High Interest Parcels	Number of Sediment Samples > 0.5 mg/kg Total PCBs	Maximum Sediment Sample Concentration (mg/kg)		Maximum PCBs to Suspended Sediment Concentration Ratio in Stormwater (mg/kg)
							Total Mercury	Total PCBs	
Confirmed	210 (Pulgas P.S.[1] South)	San Carlos	Pulgas Creek	140	23%	9	1.10	**192.91**	**37.36**
	31 (Pulgas P.S. North)	San Carlos	Pulgas Creek	99	27%	4	0.35	**1.61**	**2.15**
Potential	379	Redwood City / Unincorporated	Atherton Creek	802	14%	1	0.39	**0.93**	NA
	75	San Carlos	Steinberger Slough	66	58%	1	1.84	**20.29**	NA
	291	San Bruno/South San Francisco	Colma Creek	194	33%	1	0.12	**2.72**	NA
	358	South San Francisco	Colma Creek	32	22%	1	0.15	**1.46**	NA
	17	Brisbane	Guadalupe Valley Creek	1,638	3%	1	0.07	**1.22**	NA
	1011	Redwood City/San Carlos	Steinberger Slough	507	12%	1	0.63	**0.72**	NA
	1000	Redwood City	San Francisco Bay	148	75%	1	0.96	**0.57**	NA
	239	Menlo Park / Redwood City	Atherton Channel	36	29%	1	0.13	**0.57**	NA

[1]P.S. – Pump Station

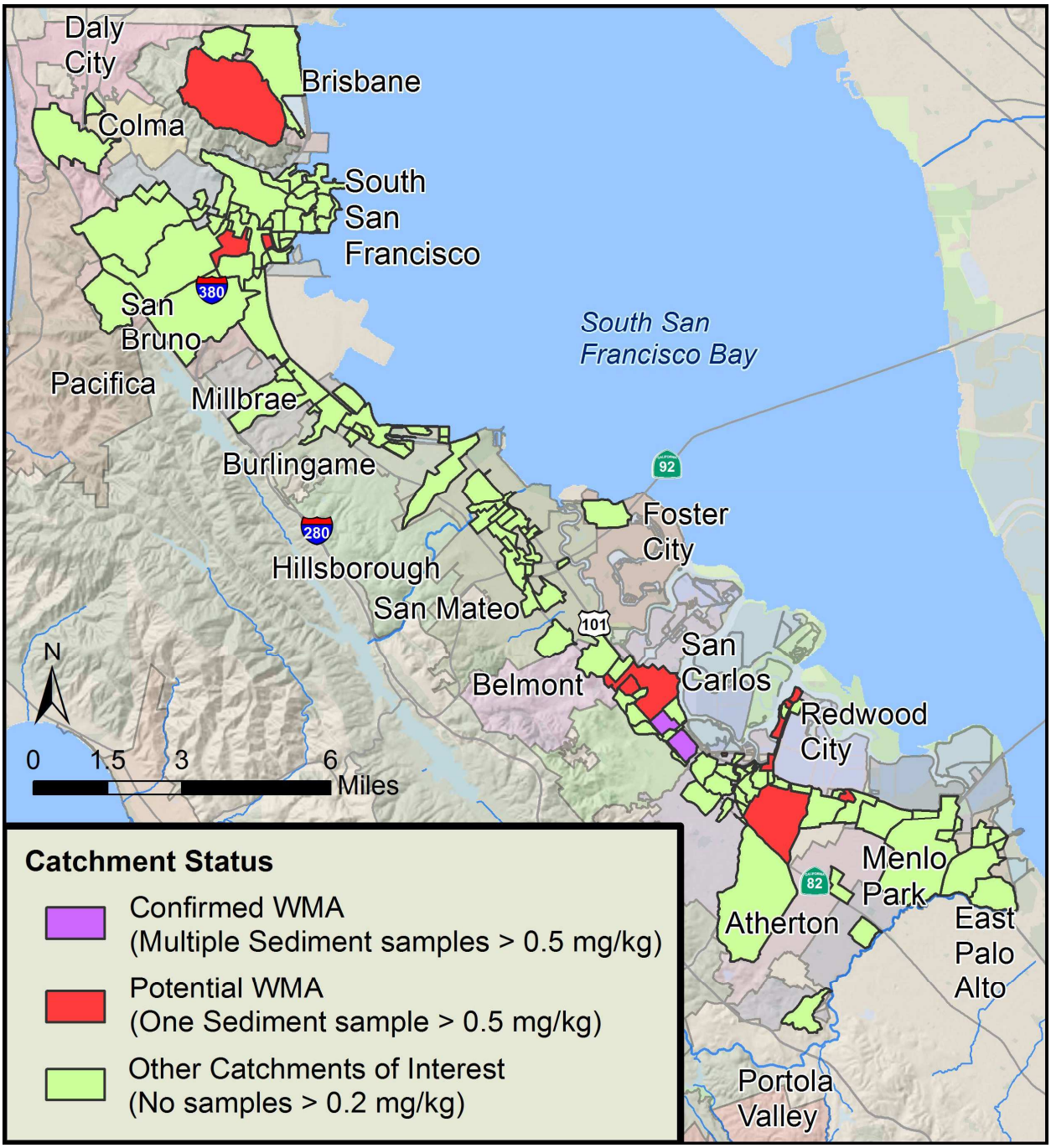

Figure 2. Preliminarily WMAs in San Mateo County identified via field monitoring results (SMCWPPP 2016).

5.0 RESULTS: WMAS AND POLLUTANT CONTROLS BY EACH SAN MATEO COUNTY PERMITTEE

The WMAs identified in San Mateo County and the associated controls implemented or planned within these WMAs to-date are described below for each San Mateo County Permittee in Sections 5.1 through 5.19. The Cities of Half Moon Bay and Pacifica drain to the Pacific Ocean and therefore were not included this evaluation, which is focused on the PCBs and mercury TMDLs for San Francisco Bay. As noted previously, the preliminary list of catchments and WMAs was greatly expanded upon in this report by designating as WMAs all catchments with high interest parcels and/or existing or planned pollutant controls. Each WMA is mapped in Appendix B, Figures B-1 through B-19.

WMAs Identified via Screening and Field Monitoring

As described in Sections 2.0 and 4.0 of this report and in more detail by SMCWPPP (2016), SMCWPPP previously conducted a screening process that covered all land areas in San Mateo County that drain to the Bay. The process identified catchments with high densities of high interest parcels, designated catchments of interest (see Section 2.2 and Figure 1). Table 2 and Figure 2 provide a preliminary classification of these stormwater catchments based on the available applicable field monitoring data described earlier. A catchment with two or more elevated sediment samples (> 0.5 mg/kg PCBs) was designated as being a "confirmed WMA." A catchment with a single sediment sample elevated for PCBs was designated a "potential WMA." Table 3 provides additional information regarding selected characteristics of the confirmed or potential WMAs that were preliminarily identified using field monitoring results.

For each Permittee, a summary of the WMAs identified via the screening/monitoring process is presented below in Sections 5.1 through 5.19. The suspected source properties that have been referred to the Regional Water Board to-date are also summarized below for each Permittee and in Table 4, along with references to reports where additional information can be found.

GI and Stormwater Treatment

SMCWPPP staff worked with municipal staff to gather data on existing and planned GI and stormwater treatment facilities from each San Mateo County Permittee with urban areas that drain to San Francisco Bay. For each Permittee, a summary of the information gathered to-date is presented below in Sections 5.1 through 5.19.

Tables C-1 through C-18 (Appendix C) summarize the available data on GI and stormwater treatment for each Permittee. Table C-20 (Appendix C) summarizes the overall data to-date for each WMA, including Permittee(s) within each WMA, percentage of various land uses within the WMA (including high interest parcels), and for each WMA, the number of projects, project area, and estimated treatment area, as available. The projects are organized by built vs. planned (or under construction or unknown) projects and by public vs. private projects.

New or Enhanced Municipal Operations Activities

SMCWPPP staff worked with municipal staff to gather pertinent municipal operations data from each San Mateo County Permittee with urban areas that drain to San Francisco Bay. For each Permittee, a summary of the information gathered to-date is presented below in Sections 5.1 through 5.19.

Contaminated Sites Cleanup

Based on a search of on-line databases, SMCWPPP identified eight cleanup sites in San Mateo County with PCBs contamination that have been remediated since 2005. For each of the eight sites, the available site history and cleanup information are briefly summarized below along with a preliminary estimate of the load reduction achieved by the cleanup, calculated using the interim accounting methodology (BASMAA 2016). The information presented below is based on the information provided in the online databases and should be considered preliminary.

In addition, another 12 sites were identified as potential sites for referral to the Regional Water Board for additional investigation and further cleanup. This included one site in Daly City, one site in East Palo Alto, one site in Redwood City, five sites in San Carlos, one site in the City of San Mateo, and three sites in South San Francisco. SMCWPPP plans to gather additional information about these sites and confer with staff from these cities before any additional referrals are made.

Table 4. Summary of properties in San Mateo County referred to Regional Water Board to-date

Referral Address	Description	Reference
977 Bransten Rd., San Carlos	Referred in 2003. The current occupant of this property is GC Lubricants. Former occupants include Cal Recyclers. This is a DTSC cleanup site with elevated PCBs found in on-site soil samples and in street and storm drain sediment samples collected from locations adjacent to the property.	SMSTOPPP 2003
Corner of Industrial Rd. & Center St., San Carlos	Referred in 2003. This property is a PG&E substation. Elevated PCBs found in storm drain sediment samples collected nearby to this property. However, more recent evidence suggests that another nearby property may be the source rather than the substation. SMCWPPP is working with San Carlos staff on next steps.	SMSTOPPP 2003
270 Industrial Road, San Carlos	Referred in 2003. This property is the Delta Star facility where transformers are manufactured, including transformers with PCBs historically. This is a Regional Water Board cleanup site with elevated PCBs found in on-site soil and groundwater samples and in a storm drain sediment sample collected from a location adjacent to the property.	KLI & EOA 2002
245 Spruce Ave., So. San Francisco	Referred in 2003 due to elevated PCBs in a composite sediment sample taken from an on-site grated storm drain vault and manhole. At the time the property was leased by the San Francisco International Airport and used for warehousing and offices. Research on historic land uses did not reveal any direct evidence of PCBs use or release at the site. Historic uses included a paper distributor with underground fuel and waste oil tanks.	SMSTOPPP 2002

5.1. Town of Atherton

The WMAs identified in the Town of Atherton are shown in Appendix B, Figure B-1.

WMAs Identified via Screening and Field Monitoring

To-date, SMCWPPP has not identified screening/monitoring-based WMAs in Atherton and no properties in this municipality have been referred to the Regional Water Board for abatement.

GI and Stormwater Treatment

The Town of Atherton reported two existing new/redevelopment projects that were constructed between 2010 and 2014. These projects are both located in WMA ATH on private property developments with the project areas totaling about 104 acres. These projects include bioretention ponds and flow through planters that treat a total of about 14 acres (Appendix C, Table C-1).

No planned projects were reported.

GI and stormwater treatment facilities in Atherton are shown in Appendix B, Figure B-1.

New or Enhanced Municipal Operations Activities

The Town of Atherton conducted a one-time desilting of the Atherton Channel at Watkins Avenue and Station Lane in 2004/2005. Approximately 25 cubic yards of sediment was removed during this activity. However, the sediment was not tested for PCBs and mercury. The city plans to repeat this activity in the future, at which time, it may be possible to test the sediment removed for PCBs and mercury in order to calculate the load avoided due to this action in a given year.

Contaminated Sites Cleanup

The review of on-line databases did not reveal any PCBs or mercury cleanups sites in Atherton.

5.2. City of Belmont

The WMAs identified in the City of Belmont are shown in Appendix B, Figure B-2.

WMAs Identified via Screening and Field Monitoring

To-date, SMCWPPP has not identified screening/monitoring-based WMAs in Belmont and no properties in this municipality have been referred to the Regional Water Board for abatement.

GI and Stormwater Treatment

The City of Belmont reported three existing new/re-development projects that were constructed on private property. Stormwater treatments on these projects include bioretention and bioswales. One of these projects is located in WMA 1011 and the other two are located in WMA BEL. The data gathered to-date show an area for one existing project (and presumed treatment area) of about 5 acres (Appendix C, Table C-2).

In addition, another four projects on private property are either in planning or under construction. Stormwater treatments on these projects will include bioretention and bioswales. One of these projects has an area of about 2 acres and is located within WMA 60, while the other three are located in WMA

BEL. The data gathered to-date show planned project areas (and presumed treatment areas) ranging from about 2 to 7 acres (Appendix C, Table C-2).

GI and stormwater treatment facilities in Belmont are shown in Appendix B, Figure B-2.

New or Enhanced Municipal Operations Activities

To-date, Belmont has not reported any existing or planned new or enhanced municipal operations activities.

Contaminated Sites Cleanup

The review of on-line databases did not reveal any PCBs or mercury cleanups sites in Belmont.

5.3. City of Brisbane

The WMAs identified in the City of Brisbane are shown in Appendix B, Figure B-3.

WMAs Identified via Screening and Field Monitoring

Based on the screening/monitoring performed to-date, WMA 17 in Brisbane (Figure 2 and Appendix B, Figure B-3) is a potential catchment of concern. This catchment contains high interest parcels and one elevated (> 0.5 mg/kg PCBs) sediment sample has been collected from WMA 17 do-date. Based on these findings this catchment will be considered through a prioritization process for additional sediment and/or stormwater runoff monitoring during WY2017.

To-date, no properties in this municipality have been referred to the Regional Water Board for abatement.

GI and Stormwater Treatment

The City of Brisbane reported two existing new/re-development projects that were constructed on private property in 2013 and 2014. Stormwater treatments on these projects include flow through planters that treat an area of about 9 acres. Both projects are located in WMA 17 (Appendix C, Table C-3).

No planned projects were reported.

GI and stormwater treatment facilities in Brisbane are shown in Appendix B, Figure B-3.

New or Enhanced Municipal Operations Activities

Brisbane is currently planning to implement a one-time cleanout of sediment in mixing basins that are downstream of an area where elevated PCBs in storm drain sediments have been observed and may include testing of the sediments for PCBs and mercury.

Contaminated Sites Cleanup

The review of on-line databases did not reveal any PCBs or mercury cleanups sites in Brisbane.

5.4. City of Burlingame

The WMAs identified in the City of Burlingame are shown in Appendix B, Figure B-4.

WMAs Identified via Screening and Field Monitoring

To-date, SMCWPPP has not identified screening/monitoring-based WMAs in Burlingame and no properties in this municipality have been referred to the Regional Water Board for abatement.

GI and Stormwater Treatment

Burlingame reported eight existing new/re-development projects that were constructed on private property between 2010 and 2015, and one existing public GI retrofit project that was constructed in 2011. Stormwater treatments on these projects include bioretention, flow-through planters, media vaults, Vortex Hydrodynamic Separators, and rain gardens with curb extensions. Three private developments are located in WMA's 141, 164, and 1006, and the other five private developments and the public retrofit project are all located in WMA BRI. The private development project areas (and presumed treatment areas) are about 12 acres. The public retrofit project treatment area is about 1.3 acres (Appendix C, Table C-4).

In addition, another thirteen projects on private property are either in planning or under construction. Stormwater treatments on these projects will include bioretention, rainwater harvesting, flow-through planters, media filters, and dry wells. The planned project areas of about 45 acres will be located in WMA's 16, 149, 164, 1006, and BRI. The data gathered to-date show planned project areas of about 45 acres, with total treatment areas of about 24 acres (Appendix C, Table C-4).

GI and stormwater treatment facilities in Burlingame are shown in Appendix B, Figure B-4.

New or Enhanced Municipal Operations Activities

To-date, Burlingame has not reported any existing or planned new or enhanced municipal operations activities.

Contaminated Sites Cleanup

Burlingame High School

Burlingame High School was identified in Envirostor as a PCB cleanup site overseen by DTSC. This 22 acre cleanup site is located at 400 Carlolan Avenue. Remedial actions included removal of 60 cubic yards of contaminated soil that had an Aroclor 1260 concentration of up to 9.3 mg/Kg. Post-cleanup soil concentrations of PCBs were < 0.1 mg/Kg. Following soil excavation, the entire remediated area was paved. Land-use restrictions remain in place to prevent future residential development of the site. The site cleanup was completed in October 2008. The total estimated PCBs load reduction in stormwater runoff resulting from this site cleanup based on the land use yield method specified in the interim accounting methodology (BASMAA 2016) is 89 grams PCBs/year.

5.5. Town of Colma

The WMAs identified in the Town of Colma are shown in Appendix B, Figure B-5.

WMAs Identified via Screening and Field Monitoring

To-date, SMCWPPP has not identified screening/monitoring-based WMAs in Colma and no properties in this municipality have been referred to the Regional Water Board for abatement.

GI and Stormwater Treatment

The Town of Colma reported five existing new/re-development projects that were constructed on private property between 2010 and 2014, and one existing public GI retrofit project that was constructed in 2015. Stormwater treatments on these projects include bioretention/rain gardens, media filters, tree well filters, CDS units, and infiltration basins. The private property developments are located in WMAs 329 and COL, with project areas (and presumed treatment areas) of about 19 acres. The public retrofit project is located in WMA COL and treats about 1 acre (Appendix C, Table C-5).

In addition, another five public GI retrofit projects are in planning or under construction. Stormwater treatments on these projects will include bioretention. These projects will be located in WMA COL and are expected to be completed by 2018. The data gathered to date show planned project areas (and assumed treatment areas) of about 15 acres (Appendix C, Table C-5).

GI and stormwater treatment facilities in Colma are shown in Appendix B, Figure B-5.

New or Enhanced Municipal Operations Activities

To-date, Colma has not reported any existing or planned new or enhanced municipal operations activities.

Contaminated Sites Cleanup

The review of on-line databases did not reveal any PCBs or mercury cleanups sites in Colma.

5.6. City of Daly City

The WMAs identified in the City of Daly City are shown in Appendix B, Figure B-6.

WMAs Identified via Screening and Field Monitoring

To-date, SMCWPPP has not identified screening/monitoring-based WMAs in Daly City and no properties in this municipality have been referred to the Regional Water Board for abatement.

GI and Stormwater Treatment

The City of Daly City reported three existing new/re-development projects that were constructed on private property between 2013 and 2015. Stormwater treatments on these projects include bioretention and flow-through planters. Two of these projects are in WMA 329, and one project is in WMA DCY. The combined area of these projects (and assumed treatment area) is about 87 acres (Appendix C, Table C-6).

In addition, another seven private property development projects are in planning or under construction. Stormwater treatments on these projects will include bioretention. Two of these projects will be in WMA 329 and five of these projects will be in WMA DCY. The combined area of the projects (and assumed treatment area) will be about 130 acres (Appendix C, Table C-6).

GI and stormwater treatment facilities in Daly City are shown in Appendix B, Figure B-6.

New or Enhanced Municipal Operations Activities

To-date, Daly City has not reported any existing or planned new or enhanced municipal operations activities.

Contaminated Sites Cleanup

The review of on-line databases did not reveal any PCBs or mercury cleanups sites in Daly City.

5.7. City of East Palo Alto

The WMAs identified in the City of East Palo Alto are shown in Appendix B, Figure B-7.

WMAs Identified via Screening and Field Monitoring

To-date, SMCWPPP has not identified screening/monitoring-based WMAs in East Palo Alto and no properties in this municipality have been referred to the Regional Water Board for abatement.

GI and Stormwater Treatment

The City of East Palo Alto reported 12 existing new/re-development projects that were constructed on private property, and three GI retrofit project in the public right-of-way (ROW). Stormwater treatments on these projects include bioretention, flow-through planters, media vaults, storm drain inserts, pervious pavement, filtration tanks, stormwater detention vaults, and self-retaining areas. One project is in WMA 67, two projects are in WMA 68, eight projects are in WMA 70, two projects are in WMA 1015, and two projects are in WMA EPA. The data gathered to-date show five of these projects were constructed between 2011 and 2015, and seven of these projects have a combined project area (and assumed treatment area) of about 10 acres (Appendix C, Table C-7).

In addition, another five private development projects and seven GI retrofit projects in the public ROW are in planning or under construction. Stormwater treatments on these projects will include bioretention, permeable pavement, and infiltration trenches. The data gathered to-date show four of these projects have a combined area (and assumed treatment area) of about 10 acres. One of these projects will be in WMA 67, seven of these projects will be in WMA 70, one project will be in WMA 1015 and one project will be in WMA EPA. (Appendix C, Table C-7).

GI and stormwater treatment facilities in East Palo Alto are shown in Appendix B, Figure B-7.

New or Enhanced Municipal Operations Activities

The City of East Palo Alto has reported preliminary information about a number of potential opportunities to conduct sediment removal activities from locations that may have elevated PCBs concentrations.

A large volume of soil (~150,000 cubic yards) resulting from past remediation activities (e.g., on the Stanford Campus) and believed to contain PCBs is stockpiled on a private property. The owner has stockpiled soils there for decades and the site was under Regional Water Board order until 2008. The City has asked for the order to be reopened and for the sediment to be addressed. The City is not

responsible for removing this material but believes soils may be migrating into nearby wetlands. In general, the City is addressing this old industrial area as part of its Ravenswood Specific Plan Area.

East Palo Alto also recently cleaned out a stormwater pump station located at the east end of O'Connor Street, adjacent to San Francisquito Creek. The pump station had not been previously cleaned for more than 30 years. The sediment removed during the cleanout has been stockpiled and allowed to dry but not disposed of or tested for PCBs and mercury to-date.

In addition, there may be future channel desilting projects in areas of East Palo Alto that may have elevated PCBs.

Contaminated Sites Cleanup

The review of on-line databases did not reveal any PCBs or mercury cleanups sites in East Palo Alto.

5.8. City of Foster City

The WMAs identified in the City of Foster City are shown in Appendix B, Figure B-8.

WMAs Identified via Screening and Field Monitoring

To-date, SMCWPPP has not identified screening/monitoring-based WMAs in Foster City and no properties in this municipality have been referred to the Regional Water Board for abatement.

GI and Stormwater Treatment

Foster City reported eight existing new/re-development projects that were constructed on private property between 2013 and 2016, and one GI retrofit project in the public ROW constructed in 2004. Stormwater treatments on these projects include bioretention and flow-through planters. Five of these projects are in WMA 1015, and the remaining projects are in WMA FCY. These projects have a combined area (and assumed treatment area) of about 25 acres (Appendix C, Table C-8).

In addition, another six private development projects are planned or under construction. Stormwater treatments on these projects will include bioretention, permeable pavement, flow-through planters, media filters, and infiltration trenches. Two of these projects are in WMA 1010 and the remaining projects are in WMA FCY. These projects will have a combined area (and assumed treatment area) of about 26 acres (Appendix C, Table C-8).

GI and stormwater treatment facilities in Foster City are shown in Appendix B, Figure B-8.

New or Enhanced Municipal Operations Activities

Foster City conducted dredging in their lagoon in 2005 and removed about 100,000 cubic yards of sediment. The sediment may have been tested for PCBs, and efforts to track down these data are currently underway. This activity will likely be repeated in the future, presenting a potential opportunity to again test the sediment removed for PCBs and calculate loads avoided.

Contaminated Sites Cleanup

The review of on-line databases did not reveal any PCBs or mercury cleanups sites in Foster City.

5.9. Town of Hillsborough

The WMAs identified in the City of Hillsborough are shown in Appendix B, Figure B-9.

WMAs Identified via Screening and Field Monitoring

To-date, SMCWPPP has not identified screening/monitoring-based WMAs in Hillsborough and no properties in this municipality have been referred to the Regional Water Board for abatement.

GI and Stormwater Treatment

The Town of Hillsborough reported two existing new/re-development projects that were constructed on private property in 2016. These projects include bioretention and pervious concrete that will treat a total of about 0.16 acres. These projects are both in WMA HIL (Appendix C, Table C-9).

In addition, one public/private pervious paver project that will treat 0.02 acres is planned for construction this fall. This project is in WMA HIL (Appendix C, Table C-9).

GI and stormwater treatment facilities in Hillsborough are shown in Appendix B, Figure B-9.

New or Enhanced Municipal Operations Activities

To-date, Hillsborough has not reported any existing or planned new or enhanced municipal operations activities.

Contaminated Sites Cleanup

The review of on-line databases did not reveal any PCBs or mercury cleanups sites in Hillsborough.

5.10. City of Menlo Park

The WMAs identified in the City of Menlo Park are shown in Appendix B, Figure B-10.

WMAs Identified via Screening and Field Monitoring

Based on the screening/monitoring performed to-date, WMA 239, which is located partly in Menlo Park and partly in Redwood City (Figure 2 and Appendix B, Figures B-10 and B-13) is a potential catchment of concern. This catchment contains high interest parcels and one elevated (> 0.5 mg/kg PCBs) sediment sample has been collected from WMA 239 do-date. Based on these findings this catchment will be considered through a prioritization process for additional sediment and/or stormwater runoff monitoring during WY2017.

To-date, no properties in this municipality have been referred to the Regional Water Board for abatement.

GI and Stormwater Treatment

The City of Menlo Park reported 19 existing new/re-development projects on private property that were constructed between 2008 and 2015. Stormwater treatments on these projects include bioretention, flow-through planters, tree wells, CDS units, and infiltration trenches. Two of these projects are in WMA 66, four projects are in WMA 71, one project is in WMA 238, two projects are in WMA 252, one project

is in WMA 1014, and nine projects are in WMA MPK. The combined area of these projects is about 150 acres, and the treated area is 100 acres (Appendix C, Table C-10).

In addition, another 19 private development projects are planned or under construction. Stormwater treatments on these projects will include bioretention, pervious pavers, flow-through planters, and self-retaining areas. Two of these projects are in WMA 66, two projects are in WMA 71, two projects are in WMA 238, one project is in WMA 239, one project is in WMA 247, three projects are in WMA 252, one project is in WMA 1012, two projects are in WMA 1014 and five projects are in WMA MPK. The data gathered to-date show the combined area of these projects will be about 28 acres, and the treated area will be about 21 acres (Appendix C, Table C-10).

GI and stormwater treatment facilities in Menlo Park are shown in Appendix B, Figure B-10.

New or Enhanced Municipal Operations Activities

Menlo Park removed sediment from a section of the Atherton Channel at Haven Avenue and Bayfront Expressway (Highway 84) in 2007, 2008, 2009, 2011, 2013 and 2015. Each of these years the City removed about 500 cubic yards of sediment, except that only vegetation was removed in 2015. Since 2009, this cleaning has been performed every other year and the City anticipates continuing this schedule. Although the sediment has not been tested for PCBs to-date, the ongoing cleanout schedule provides a potential opportunity for future testing.

Contaminated Sites Cleanup

Menlo Park West / Facebook West Campus

The Facebook West Campus is a 22 acre property located at 312-314 Constitution Avenue in Menlo Park. This site was identified in Envirostor as a voluntary PCBs cleanup site overseen by DTSC. The property is a former Raychem Corporation Facility, which later became Raychem/Tyco. The property was purchased by Facebook in 2011. Initial remedial actions at the site completed in 2007 included the excavation and off-site disposal of 6,561 cubic yards of contaminated soil and installation of a multi-media cap. Further remediation was conducted between 2012 and July 2013, and included excavation and off-site disposal of 1,800 cubic yards of PCBs contaminated soil with > 50 mg/Kg PCBs, and excavation and off-site disposal of 10,600 cubic yards of soil with < 50 mg/Kg PCBs. PCBs concentrations in the soil were as high as 2,600 mg/Kg prior to cleanup. The remediated soil cleanup concentration of <0.74 mg/Kg was achieved except for 100 cubic yards of soil with PCBs > 50 mg/Kg and 500 cubic yards of soil with PCBs < 50 mg/Kg that were left buried in place at 27 - 37 feet below the ground surface. The total estimated PCBs load reduction in stormwater runoff resulting from this site cleanup based on the land use yield method specified in the interim accounting methodology (BASMAA 2016) is 89 grams PCBs/year.

Former Undeveloped Lot at 777 Hamilton Avenue

The former undeveloped lot at 777 Hamilton Avenue in Menlo Park is part of a 6.52 acre property that is currently slated for redevelopment into high density residential housing. The undeveloped lot is approximately 0.25 acres and has a history of hazardous material use and storage dating back to the 1940s. Electronics and rope manufacturing activities occurred on the property. This site was identified in GeoTracker as a Cleanup Program Site overseen by San Mateo County Environmental Health Department (CEH). Soil investigations conducted between 2012 and 2014 found PCBs at concentrations up to 1.0 ppm in shallow soils. Remediation activities to prevent release of PCB-contaminated soil from the site included capping with 2 - 4 feet of fill material or asphalt/hardscape. The site remediation was

verified as complete in August 2016, and redevelopment of the entire 6.52 acre property is planned for the near future. The total estimated PCBs load reduction in stormwater runoff resulting from remediation of the 0.25 acre lot, based on the land use yield method specified in the interim accounting methodology (BASMAA 2016), is 1 gram PCBs/year.

Haven Avenue Industrial Condominiums

The Haven Avenue Industrial Condominiums is a 4.9 acre property located at 3633 - 3655 Haven Avenue, Menlo Park. This site was identified in GeoTracker as a Cleanup Program Site overseen by CEH. The activities of former commercial and industrial tenants of the property were associated with minor surface and subsurface releases of PCBs. Pre-remediation soil concentrations of PCBs were 0.5 ppm. During remediation, all buildings at the site were demolished, and 2,300 tons of soil was excavated and disposed of offsite. Clean, imported fill was used to backfill the excavated areas. Post-remediation soil sampling did not find PCBs above the detection limit of 0.1 ppm. The site cleanup was completed in April 2006. The total estimated PCBs load reduction in stormwater runoff resulting from this site cleanup based on the land use yield method specified in the interim accounting methodology (BASMAA 2016) is 20 grams PCBs/year.

Portola Valley Training Center

The Portola Valley Training Center is a 20 acre site located at 100 Ansel Lane in Menlo Park. This site was identified in GeoTracker as a Cleanup Program Site overseen by the Regional Water Board. In 1996, the party leasing the property brought imported recycled plastic material from a metal recycling company to mix with sand for application on arenas and jumping areas on the property. This fill material was contaminated with PCBs and metals. Remedial actions included removal of soil from these areas and from a sedimentation pond on the property. In total, 1,832 tons of soil with PCBs up to 3 ppm was removed from the site. Post-remediation PCBs concentrations in soil at the site were < 0.028 ppm. The site cleanup was completed in December 2012. The total estimated PCBs load reduction in stormwater runoff resulting from this site cleanup based on the land use yield method specified in the interim accounting methodology (BASMAA 2016) is 81 grams PCBs/year.

SLAC Group 1 and Group 2

SLAC is an electron accelerator research facility located at 2575 Sand Hill Road in Menlo Park. This 426 acre property is owned by Stanford University and has been leased to the United States Department of Energy (DOE) since 1962. This site was identified in GeoTracker as a Complex Site Cleanup Program Facility overseen by the Regional Water Board. Because of its size and complexity, the property has been divided into multiple investigation areas for cleanup and removal actions.

To-date, Group I Removal Actions have been completed at five investigation areas between September 2007 and March 2008, and included excavation and off-site disposal of 1,978 cubic yards of contaminated soils, with PCBs concentrations up to 89 ppm. Confirmation sampling found no PCB concentrations above the reporting limit following remediation activities. The Group I site closure was approved by the Regional Water Board in August 2011.

Group II Removal Actions included excavation and offsite disposal of more than 32,000 cubic yards of contaminated soil. Pre-remediation PCBs concentrations in soil were up to 1,500 ppm. The post-remediation PCBs concentrations in soil were < 0.21 ppm. Group 2 site closure was approved by the Regional Water Board in March 2013.

Calculations of the estimated PCBs load reductions in stormwater runoff resulting from cleanup of the SLAC Group I and Group II sites is pending verification of the total areas remediated.

5.11. City of Millbrae

The WMAs identified in the City of Millbrae are shown in Appendix B, Figure B-11.

WMAs Identified via Screening and Field Monitoring

To-date, SMCWPPP has not identified screening/monitoring-based WMAs in Millbrae and no properties in this municipality have been referred to the Regional Water Board for abatement.

GI and Stormwater Treatment

The City of Millbrae reported two existing development projects that were constructed on private property in 2007 and 2009. Stormwater treatments on these projects include bio swales. One of these projects is in WMA 1005 and the other project is in WMA MIL. These projects have a combined area (and assumed treatment area) of about 15 acres (Appendix C, Table C-11).

No planned projects were reported.

GI and stormwater treatment facilities in Millbrae are shown in Appendix B, Figure B-11.

New or Enhanced Municipal Operations Activities

To-date, Millbrae has not reported any existing or planned new or enhanced municipal operations activities.

Contaminated Sites Cleanup

The review of on-line databases did not reveal any PCBs or mercury cleanups sites in Millbrae.

5.12. Town of Portola Valley

To-date, no WMAs have been identified in Portola Valley

WMAs Identified via Screening and Field Monitoring

To-date, SMCWPPP has not identified screening/monitoring-based WMAs in Portola Valley and no properties in this municipality have been referred to the Regional Water Board for abatement.

GI and Stormwater Treatment

To-date, the Town of Portola Valley has not reported any existing or planned GI or stormwater treatment controls.

New or Enhanced Municipal Operations Activities

To-date, Portola Valley has not reported any existing or planned new or enhanced municipal operations activities.

Contaminated Sites Cleanup

The review of on-line databases did not reveal any PCBs or mercury cleanups sites in Portola Valley.

5.13. City of Redwood City

The WMAs identified in the City of Redwood City are shown in Appendix B, Figure B-13.

WMAs Identified via Screening and Field Monitoring

Based on the screening/monitoring performed to-date, WMA 1000 located in Redwood City (Figure 2 and Appendix B, Figures B-13) is a potential catchment of concern. This catchment contains high interest parcels and one elevated (> 0.5 mg/kg PCBs) sediment sample has been collected from WMA 1000 to-date. Based on these findings this catchment will be considered through a prioritization process for additional sediment and/or stormwater runoff monitoring during WY2017.

In addition, WMA 239, which is located partly in Redwood City and partly in Menlo Park (Figure 2 and Appendix B, Figures B-13 and B-10) is a potential catchment of concern. This catchment contains high interest parcels and one elevated (> 0.5 mg/kg PCBs) sediment sample has been collected from WMA 239 to-date. Based on these findings this catchment will be considered through a prioritization process for additional sediment and/or stormwater runoff monitoring during WY2017.

WMA 379, which is located partly in Redwood City and partly in San Mateo County (Figure 2 and Appendix B, Figures B-13 and B-17a) is also a potential catchment of concern. This catchment contains high interest parcels and one elevated (> 0.5 mg/kg PCBs) sediment sample has been collected from WMA 379 to-date. Based on these findings this catchment will be considered through a prioritization process for additional sediment and/or stormwater runoff monitoring during WY2017.

Lastly, WMA 1011, which is located partly in Redwood City and partly in San Carlos (Figure 2 and Appendix B, Figures B-13 and B-15) is another potential catchment of concern. This catchment contains high interest parcels and one elevated (> 0.5 mg/kg PCBs) sediment sample has been collected from WMA 1011 to-date. Based on these findings this catchment will be considered through a prioritization process for additional sediment and/or stormwater runoff monitoring during WY2017.

To-date, no properties in this municipality have been referred to the Regional Water Board for abatement.

GI and Stormwater Treatment

The City of Redwood City reported 59 existing development projects that were constructed on private property between 2004 and 2016, and three GI retrofit projects in the public ROW that were constructed between 2008 and 2014. Stormwater treatments on these projects include bioretention, flow-through planters, permeable pavers, tree wells, CDS units, media filters, and infiltration basins. One of these projects is in WMA 253, three of these projects are in WMA 254, ten of these projects are in WMA 261, three of these projects are in WMA 266, two of these projects are in WMA 324, five of these projects are in WMA 327, three of these projects are in WMA 336, three of these projects are in WMA 337, five of these projects are in WMA 379, one of these projects is in WMA 388, one of these projects is in WMA 1001, one of these projects is in WMA 1011, and one of these projects is in WMA 1014. The remaining 23 projects are in WMA RCY. The data gathered to-date shows the private development

projects have a combined area (and assumed treatment area) of about 168 acres, and the public retrofit projects have a combined area of about six acres (Appendix C, Table C-13).

In addition, another 24 private development projects and six GI retrofit projects in the public ROW are planned or under construction. Stormwater treatments on these projects will include bioretention, pervious pavers, flow-through planters, and media filters. Four of these projects are in WMA 261, three projects are in WMA 324, one project is in WMA 325, four projects are in WMA 327, one project is in WMA 336, and three projects are in WMA 337. The remaining 13 projects are in WMA RCY. The data gathered to-date show the private development projects will have a combined area (and assumed treatment area) of about 50 acres, and the public retrofit projects will have a combined area of about 10 acres (Appendix C, Table C-13).

GI and stormwater treatment facilities in Redwood City are shown in Appendix B, Figure B-13.

New or Enhanced Municipal Operations Activities

Redwood City conducted a project in 2012 that included removing and disposing of silt in two 60-inch discharge pipelines under Marine Parkway that discharge to the Belmont slough and dredging approximately 2,000 cubic yards of silt from within the Slough. The City has begun an effort to estimate the PCBs loads avoided due to this project.

SMCWPPP is also evaluating the load reduction opportunity available through potential future sediment removal actions at a small stormwater detention pond in Redwood City. SMCWPPP initially identified this stormwater detention pond as a potential location for sediment removal actions based on discussions with staff from the City of San Carlos. Areas draining to the pond include a portion of San Carlos with old industrial land uses that are associated with elevated PCBs in street and storm drain sediments, including the Delta Star site, a likely PCBs source property. There are currently no sediment removal actions conducted at the pond.

The stormwater detention pond is located within the Redwood Shores Ecological Reserve (Figure 1), which is owned and managed by the California Department of Fish and Wildlife. However, the Redwood City Public Works Department operates a pump station at the pond, including providing daily management of water levels in the pond and pump station maintenance as needed. As water levels in the pond rise, the pumps are turned on and water from the pond is pumped through a discharge pipe at the south-eastern edge of the pond into the adjacent Steinberger slough at discharge point A (Figure 2). A second discharge pipe conveys gravity-fed flow from the north-eastern edge of the pond into the Steinberger Slough at discharge point B (Figure 2). Both discharge pipe outfalls typically remains below the water surface in the slough, except at low tide.

In May 2016, SMCWPPP conducted a site visit to the pond with representatives from Redwood City Public Works and the California Fish and Wildlife Department. Based on the observations made during the visit, SMCWPPP identified several potential tasks that could be implemented as initial steps that would help inform the costs and benefits of implementing enhanced sediment removal activities at the site. The tasks under consideration include:

- Characterizing concentrations of PCBs and mercury in sediments that have accumulated in the pond;
- Characterizing concentrations of PCBs and mercury in sediments that have accumulated in the adjacent slough near the pond's outfalls and upstream and downstream, to better understand whether polluted sediment are transported from the pond to the slough;
- Monitoring stormwater flows into and out of the pond for PCBs and mercury to estimate loads into the pond, and subsequently into the slough form the pond.
- Estimate annual stormwater loads of PCBs and/or mercury that flow to the pond from the adjacent old industrial source areas;
- Estimating pollutant loads avoided via one-time or periodic sediment removal actions (e.g., sediment dredging) and the costs of those actions;
- Estimate the mass of PCBs and mercury in annual stormwater flows that are deposited within the pond and could be removed through ongoing sediment-removal actions;

If such monitoring and evaluation indicates that sediment removal actions at the pond would be a cost-effective control for PCBs and mercury, SMCWPPP and/or the City would work with the appropriate agencies (e.g., California Department of Fish and Wildlife) to further identify logistical considerations (e.g., methods, permits, schedules).

Contaminated Sites Cleanup

Redwood City Rail Spur

The Redwood City Rail Spur is a 0.2 acre former railroad spur located behind 2201 Bay Road in Redwood City. This site was identified in GeoTracker as a Cleanup Program Site overseen by the Regional Water Board. PCBs were released to the property when used by the Union Pacific Railroad. R&B Company leased the property to store pipes. Pre-remediation PCBs concentrations in the soil were up to 3,520 ppm. Remediation actions included excavation of PCBs-containing soil and capping the rail spur with an asphalt cap. The date of the remediation actions was sometime between June 2013, when a work plan for remedial actions was submitted, to April 2016, when the site was inspected by Regional Water Board staff and the remediation was documented. The total estimated PCBs load reduction in stormwater runoff resulting from this site cleanup based on the land use yield method specified in the interim accounting methodology (BASMAA 2016) is 0.8 grams PCBs/year.

Figure 3. Stormwater Detention Pond at the Redwood Shores Ecological Reserve in Redwood City, CA.

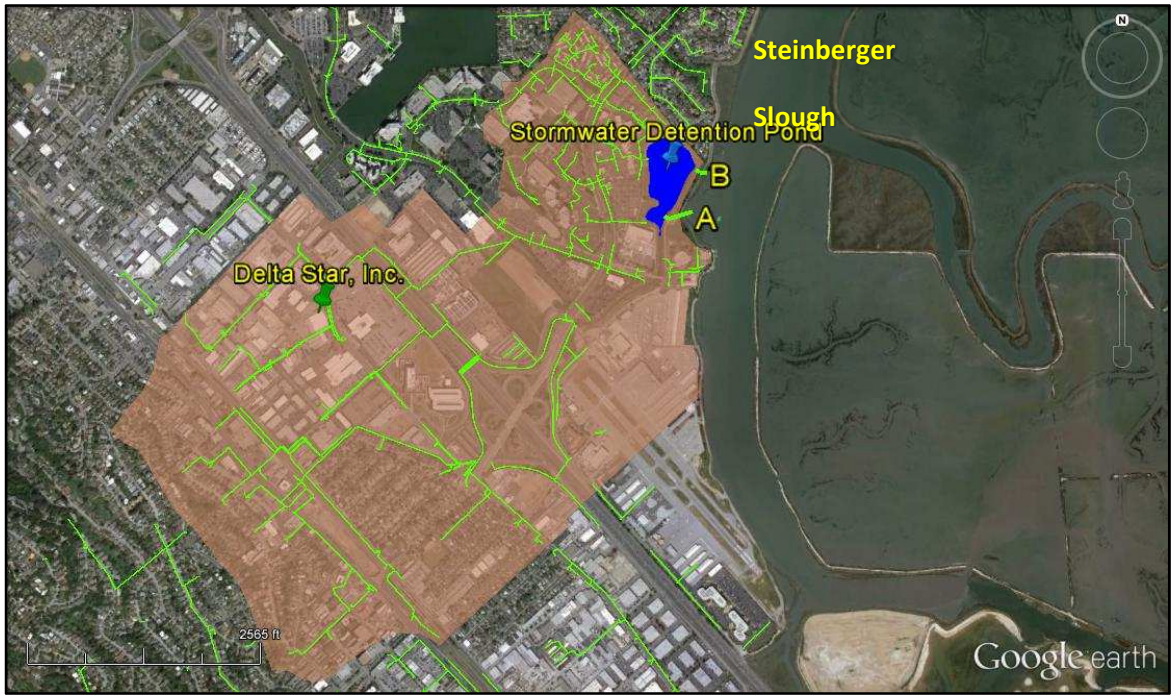

Figure 4. Drainage catchment and storm drain lines for the Redwood Shores Ecological Reserve Stormwater Detention Basin in Redwood City, CA. Point A is the pump station discharge pipe location; Point B is the gravity fed discharge pipe location; both discharge pipes empty to the Steinberger Slough.

5.14. City of San Bruno

The WMAs identified in the City of San Bruno are shown in Appendix B, Figure B-14.

WMAs Identified via Screening and Field Monitoring

Based on the screening/monitoring performed to-date, WMA 291, which is located partly in San Bruno and partly in South San Francisco (Figure 2 and Appendix B, Figures B-14 and B-18) is a potential catchment of concern. This catchment contains high interest parcels and one elevated (> 0.5 mg/kg PCBs) sediment sample has been collected from WMA 291 to-date. Based on these findings this catchment will be considered through a prioritization process for additional sediment and/or stormwater runoff monitoring during WY2017.

To-date, no properties in this municipality have been referred to the Regional Water Board for abatement.

GI and Stormwater Treatment

San Bruno has not yet provided data to SMCWPPP regarding any existing or planned new/re-development projects with stormwater treatment controls or GI retrofit projects in the public ROW.

New or Enhanced Municipal Operations Activities

To-date, San Bruno has not reported any existing or planned new or enhanced municipal operations activities.

Contaminated Sites Cleanup

The review of on-line databases did not reveal any PCBs or mercury cleanups sites in San Bruno.

5.15. City of San Carlos

The WMAs identified in the City of San Carlos are shown in Appendix B, Figure B-15.

WMAs Identified via Screening and Field Monitoring

Based on the screening/monitoring performed to-date, adjacent drainages WMA 31 (Pulgas Creek Pump Station North catchment) and WMA 210 (Pulgas Creek Pump Station North catchment) have the most elevated PCBs concentrations found to-date in sediment and water samples that have been collected in San Mateo County. These primarily old industrial catchments contain high interest parcels and multiple elevated (> 0.5 mg/kg PCBs) sediment samples has been collected from both catchments. Collectively they were designated as a "pilot watershed" for grant funded Clean Watershed for a Clean Bay project. Several controls for PCBs and mercury have been tested on a pilot scale within these catchments, including source property identification, street flushing and capture, stormwater treatment via bioretention areas (constructed on Bransten Road), and diversion of stormwater flows to the local domestic wastewater treatment plant. The results of this pilot work is anticipated to be available by the end of calendar year 2016. In addition, SMCWPPP made referrals in 2003 to the Regional Water Board for the PG&E substation at the corner of Industrial Road and Center Street (WMA 210) and a DTSC cleanup site at 977 Bransten Road (WMA 31). Elevated PCBs were found in storm drain sediment samples collected nearby to the PG&E substation. However, more recent evidence suggests that another nearby property may be the source rather than the substation. SMCWPPP is working with San Carlos staff on next steps. In general, it is believed that to-date some but not all of the source areas within these catchments have been identified. Based on these findings these catchments will receive the highest priority among the known catchments of concern (see Table 3 and Figure 2) during the prioritization process for selecting additional sediment and/or stormwater runoff monitoring during WY2017.

WMA 75 in San Carlos (Figure 2 and Appendix B, Figure B-15) is also a potential catchment of concern. This catchment contains high interest parcels and one elevated (> 0.5 mg/kg PCBs) sediment sample has been collected from WMA 75 do-date. Based on these findings this catchment will be considered through a prioritization process for additional sediment and/or stormwater runoff monitoring during WY2017.

Lastly, WMA 1011, which is located partly in San Carlos and partly in Redwood City (Figure 2 and Appendix B, Figures B-15 and B-13) is another potential catchment of concern. This catchment contains high interest parcels and one elevated (> 0.5 mg/kg PCBs) sediment sample has been collected from WMA 1011 to-date. Based on this sample SMCWPPP made a referral in 2003 to the Regional Water Board for the Delta Star property located at 270 Industrial Road in San Carlos. Based on these findings this catchment will be considered through a prioritization process for additional sediment and/or stormwater runoff monitoring during WY2017.

GI and Stormwater Treatment

The City of San Carlos reported four existing new/re-development projects constructed on private property between 2011 and 2016, and four GI retrofit projects in the public ROW constructed between 2013 and 2015. Stormwater treatments on these projects include bioretention, flow-through planters,

infiltration basins, and CDS units. One project is in WMA 31, one project is in WMA 59, one project is in WMA 210, three projects are in WMA 1011, and two projects are in WMA SCS. The data gathered to-date shows the private development projects have a combined area (and assumed treatment area) of about 11 acres, and the public retrofit projects have a combined area of about seven acres (Appendix C, Table C-15).

In addition, another twelve private developments and one GI retrofit project in the public ROW are planned or under construction. Stormwater treatments on these projects will include bioretention, pervious pavement, flow-through planters, rainwater harvesting for industrial use, media filters, CDS units, and self-treating/self-retaining areas. Two projects are in WMA 31, one project is in WMA 32, three projects are in WMA 57, one project is in WMA 207, one project is in WMA 1011, and five projects are in WMA SCS. The data gathered to-date show the private development projects will have a combined area (and assumed treatment area) of about 22 acres and the public retrofit project will have an area of about 1 acre (Appendix C, Table C-15).

GI and stormwater treatment facilities in San Carlos are shown in Appendix B, Figure B-15.

New or Enhanced Municipal Operations Activities

Between August 2015 and October 2015 San Carlos removed sediment from several sections of drainage channels in the Industrial Road area, including the Belmont Creek culvert at Industrial Road, Channel East along Shoreway Road, and West Channel along highway 101 and Holly Street. This project removed a total of 7,000 cubic yards of sediment from these channel sections, which was disposed of at a nearby landfill. Prior to the cleanout, the sediment in the channel was tested for PCBs at 3 depths, including 0 to 18 inches below surface (surface sediment); 18 to 24 inches below surface; and 24 to 36 inches below surface. The total PCBs in the surface sediment ranged from 0.01 to 0.97 mg/Kg, while the total PCBs in the lower depths ranged from 0.0083 to 0.10 mg/Kg. On September 12, 2016, SMCWPPP received additional chemical analysis results from this sediment removal action and will evaluate these data in the near future.

Contaminated Sites Cleanup

VARIAN, CPI – EIMAC Division

The Varian, CPI-EIMAC Division site is an 18.5 acre property located at 301 Industrial Rd in San Carlos. This site was an electric component manufacturing facility for power grid tubes and contained a hazardous waste facility permit between 1965 and 2006. Pre-remediation PCBs concentrations in soils were up to 12 ppm. Remediation actions included demolishing all above-grade structures and excavating 107,000 CY of contaminated soil, representing 38% of the site. Post-remediation PCBs soil concentrations were <0.089 ppm. Cleanup was completed by April, 2012. A Palo Alto Medical Foundation medical center is now located at the site. The total estimated PCBs load reduction in stormwater runoff resulting from this site cleanup based on the land use yield method specified in the interim accounting methodology (BASMAA 2016) is 75 grams PCBs/year.

5.16. City of San Mateo

The WMAs identified in the City of San Mateo are shown in Appendix B, Figure B-16.

WMAs Identified via Screening and Field Monitoring

To-date, SMCWPPP has not identified screening/monitoring-based WMAs in the City of San Mateo and no properties in this municipality have been referred to the Regional Water Board for abatement.

GI and Stormwater Treatment

The City of San Mateo reported 21 existing new/re-development projects that were constructed on private property between 2009 and 2015. Stormwater treatments on these projects include bioretention, Contech storm filters, permeable pavers, and self-treating areas. Three of these projects are in WMA 89, one project is in each of WMA 91, WMA 92, WMA 111, WMA 120, WMA 1007, and WMA 1008. The remaining eight projects are in WMA SMO. The data gathered to-date shows a combined project area of about 68 acres, and a combined treated area of about 28 acres (Appendix C, Table C-16).

In addition, another twelve private development projects are planned or under construction. Stormwater treatments on these projects will include bioretention, grass swales, media filters, and detention/infiltration ponds. One of these projects is in WMA 89, one project is in WMA 111, and one project is in WMA 156. Two projects are in WMA 1009, and seven projects are in WMA SMO. The data gathered to-date show the private development projects will have a combined area of 125 acres and a combined treatment area of about 104 acres (Appendix C, Table C-16).

GI and stormwater treatment facilities in the City of San Mateo are shown in Appendix B, Figure B-16.

New or Enhanced Municipal Operations Activities

To-date, the City of San Mateo has not reported any existing or planned new or enhanced municipal operations activities.

Contaminated Sites Cleanup

The review of on-line databases did not reveal any PCBs or mercury cleanups sites in the City of San Mateo.

5.17. San Mateo County

The WMAs identified in San Mateo County are shown in Appendix B, Figures B-17a and B-17b.

WMAs Identified via Screening and Field Monitoring

Based on the screening/monitoring performed to-date, WMA 379, which is located partly in San Mateo County and partly in Redwood City (Figure 2 and Appendix B, Figures B-17a and B-13) is also a potential catchment of concern. This catchment contains high interest parcels and one elevated (> 0.5 mg/kg PCBs) sediment sample has been collected from WMA 379 to-date. Based on these findings this catchment will be considered through a prioritization process for additional sediment and/or stormwater runoff monitoring during WY2017.

GI and Stormwater Treatment

San Mateo County has not yet provided data to SMCWPPP regarding any existing or planned new/re-development projects with stormwater treatment controls or GI retrofit projects in the public ROW.

New or Enhanced Municipal Operations Activities

To-date, San Mateo County has not reported any existing or planned new or enhanced municipal operations activities.

Contaminated Sites Cleanup

The review of on-line databases did not reveal any PCBs or mercury cleanups sites in San Mateo County.

5.18. City of South San Francisco

The WMAs identified in the City of South San Francisco are shown in Appendix B, Figure B-18.

WMAs Identified via Screening and Field Monitoring

Based on the screening/monitoring performed to-date, WMA 358 in South San Francisco (Figure 2 and Appendix B, Figure B-18) is a potential catchment of concern. This catchment contains high interest parcels and one elevated (> 0.5 mg/kg PCBs) sediment sample has been collected from WMA 358 do-date. Based on these findings this catchment will be considered through a prioritization process for additional sediment and/or stormwater runoff monitoring during WY2017.

WMA 291, which is located partly in South San Francisco and partly in San Bruno (Figure 2 and Appendix B, Figures B-18 and B-14) is a potential catchment of concern. This catchment contains high interest parcels and one elevated (> 0.5 mg/kg PCBs) sediment sample has been collected from WMA 291 to-date. Based on this sample SMCWPPP made a referral in 2003 to the Regional Water Board for the property located at 245 Spruce Avenue in South San Francisco. Based on these findings this catchment will be considered through a prioritization process for additional sediment and/or stormwater runoff monitoring during WY2017.

GI and Stormwater Treatment

The City of South San Francisco reported 36 existing new/re-development projects constructed on private property and 3 existing GI retrofit projects in the public ROW. These projects were mostly constructed between 2004 and 2015, although construction dates were not reported for all projects. Stormwater treatments on these projects include bioretention, Vortex separators, water quality drain inserts, media filters, and CDS Units. Four of these projects are located in WMA 291, one project is in WMA 292, two projects are in WMA 293, one project is in WMA 295, one project is in WMA 306, three projects are in WMA 307, one project is in WMA 313, one project is in WMA 315, four projects are in WMA 316, five projects are in WMA 319, one project is in WMA 359, two projects are in WMA 1001, five projects are in WMA 1002, and eight projects are in WMA SSF (Appendix C, Table C-18).

In addition, another 51 private development projects and two GI retrofit projects in the public ROW are planned or under construction. Stormwater treatments on these projects will include bioretention, drain inserts, CDS units, vortex separators, and vegetated swales. Four of these projects are in WMA 291, four projects are in WMA 293, two projects are in WMA 295, one project is in WMA 307, one project is in WMA 313, four projects are in WMA 315, two projects are in WMA 316, two projects are in WMA 318, ten projects are in WMA 319, one project each is in WMA 357, WMA 358, WMA 359, and WMA 362, five

projects are in WMA 1001, nine projects are in WMA 1002, and five projects are in WMA SSF. From the data gathered to-date, seven private development projects will treat 15 acres and one GI retrofit project will treat about 0.56 acres (Appendix C, Table C-18).

GI and stormwater treatment facilities in South San Francisco are shown in Appendix B, Figure B-18.

New or Enhanced Municipal Operations Activities

To-date, South San Francisco has not reported any existing or planned new or enhanced municipal operations activities.

Contaminated Sites Cleanup

The review of on-line databases did not reveal any PCBs or mercury cleanups sites in South San Francisco.

5.19. Town of Woodside

The WMAs identified in the Town of Woodside are shown in Appendix B, Figure B-19.

WMAs Identified via Screening and Field Monitoring

To-date, SMCWPPP has not identified screening/monitoring-based WMAs in Hillsborough and no properties in this municipality have been referred to the Regional Water Board for abatement.

GI and Stormwater Treatment

The Town of Woodside did not report any existing or planned new/re-development projects with stormwater treatment controls or GI retrofit projects in the public ROW.

New or Enhanced Municipal Operations Activities

To-date, Woodside has not reported any existing or planned new or enhanced municipal operations activities.

Contaminated Sites Cleanup

The review of on-line databases did not reveal any PCBs or mercury cleanups sites in Woodside.

6.0 DISCUSSION AND NEXT STEPS

The selection of WMAs and feasible and cost-effective control measures will be an ongoing and evolving process during the MRP 2.0 permit term as new data become available. Building on the efforts described in this report, SMCWPPP and San Mateo County MRP Permittees plan to continue to work together to conduct a variety of activities in the near-term to continue addressing MRP 2.0 requirements for PCBs and mercury. The general categories of activities are summarized as follows:

- SMCWPPP will continue identifying areas that will be the focus of PCBs and mercury control measure implementation over the course of MRP 2.0, including refining the current list of WMAs, identifying new priority WMAs, and identifying source areas within WMAs. As part of these efforts, SMCWPPP is currently evaluating the results of its WY2016 POC monitoring program (stormwater runoff sampling) that targeted selected catchments of interest (i.e., urban catchments with high densities of high interest parcels but where sediment data have revealed low PCBs concentration or where sediment data are lacking). SMCWPPP is also planning WY2017 POC monitoring efforts (sediment and stormwater runoff sampling) that will inform implementation of controls in WMAs. Appendix A contains additional information on the WY2016 and WY2017 POC monitoring efforts.
- SMCWPPP and San Mateo County Permittees will continue planning and implementing field investigations and planning scenarios for control measure implementation in priority WMAs in San Mateo County. Highest priority will be given to the Pulgas Creek pump station north and south drainages, which are the two WMAs in San Mateo County with the most elevated concentrations of PCBs in sediment and stormwater runoff samples to-date. The planning will be informed by the results of various pilot work conducted in these drainages and other locations in the Bay Area through the Clean Watersheds for a Clean Bay (CW4CB) grant-funded project. Data from the CW4CB pilot projects will be available at the end of calendar year 2016. The results of SMCWPPP's cost-benefit analysis of diverting stormwater runoff from the Pulgas Creek Pump Station WMAs to the local domestic wastewater treatment plant will also be available at the end of calendar year 2016 and used to inform the control measure planning.
- SMCWPPP and San Mateo County Permittees will submit new source properties referrals to Regional Water Board staff as relevant data become available through source investigations in priority WMAs.
- SMCWPPP will continue to work with San Mateo County Permittees to look for opportunities to take credit for PCBs and mercury loads avoided due to planned removals of sediments with elevated levels of pollutants. SMCWPPP will also continue to evaluate opportunities to optimize existing municipal operations activities, enhance planned sediment removals, and/or identify new removal actions, as cost-effective. The preliminary list of potential opportunities in this report (see Sections 5.1 – 5.19) will be updated and finalized, load reductions calculated as appropriate, and next steps developed.
- SMCWPPP will continue to evaluate opportunities to take credit for PCBs and mercury loads avoided due to existing PCBs contamination site cleanups in San Mateo County. The preliminary list of potential opportunities in this report (see Sections 5.1 – 5.19) will be updated, load reductions calculated as appropriate, and next steps developed.

- SMCWPPP will continue to work with San Mateo County Permittees to develop a tracking mechanism for GI and stormwater treatment in San Mateo County and update the associated database. The preliminary database described in this report (see Sections 5.1 – 5.19 and Appendices B and C) will be updated, load reductions calculated as appropriate, and next steps developed. The effort to fill data gaps will focus especially on information needed to calculate pollutant load reductions (e.g., treatment areas). This tracking will continue to be integrated with the MRP Provision C.3.j.iv requirement for development and implementation of methods to track and report implementation of GI.
- SMCWPPP will participate in the upcoming BASMAA regional project to design and implement a study to evaluate the magnitude and extent of PCBs in caulks/sealants used in storm drain and roadway infrastructure in the Bay Area, per MRP Provision C.12.e.
- SMCWPPP will continue participating in the ongoing BASMAA regional project to develop a scope-of-work and budget for the development of an implementation framework, guidelines and tools for managing materials and wastes containing PCBs during the demolition of buildings, per MRP Provision C.12.f. SMCWPPP will also tailor these materials for use in San Mateo County.
- SMCWPPP will continue to work with the San Mateo County Environmental Health Department on education and outreach efforts to San Mateo County residents likely to consume locally-caught fish from the Bay (e.g., maintenance of strategically placed signs, training of healthcare workers to disseminate information, and targeted social media posts). See SMCWPPP's 2015/16 Annual Report for additional information.
- SMCWPPP will conduct a Reasonable Assurance Analysis (RAA), including developing a more robust modeling approach for estimating pollutant loads reduced via GI and stormwater treatment that will eventually replace the interim accounting methodology. The first RAA deliverables required by the MRP are reporting on the quantitative relationship between GI implementation and PCBs and mercury load reductions (due September 2018) and estimating the amount of PCBs and mercury load reduction resulting from GI implementation during the term of the Permit (due September 2019).
- With assistance and guidance from SMCWPPP, San Mateo County Permittees will develop GI Plans that integrate with the planning for the use of GI to reduce loads of PCBs and mercury. The MRP requires that the GI plans are submitted by September 2019 along with documentation of legal mechanisms to ensure implementation of the Plans.

Table 5 provides more detail about selected activities that SMCWPPP and San Mateo County MRP Permittees have planned over the next three years to continue addressing PCBs and mercury, including tasks, responsible parties, and schedules for completion of each task.

Table 5. Summary of next steps by SMCWPPP and San Mateo County Permittees to address PCBs and mercury

Task	Responsible Party or Parties	Anticipated Completion Date	Comments
Conduct meetings of the SMCWPPP PCBs and mercury workgroup	SMCWPPP, working with Permittees	Ongoing	Provides a forum for SMCWPPP and Permittee staff to work together on PCBs and mercury
Conduct WY2017 source investigations in priority WMAs, including attempting to identify additional sources in Pulgas Creek Pump Station North and South WMAs			
Initial desktop research, field or Google Earth reconnaissance and prioritization of WMAs for sediment sampling	SMCWPPP, working with Permittees	Nov 2016	Prioritize WMAs with elevated PCBs in samples (Table 3) for additional investigation
Conduct sediment sampling in the field (40 – 60 samples)	SMCWPPP, working with Permittees	Dec 2016	See Appendix A for more information about SMCWPPP's POC monitoring program
Evaluate results and make referrals to Regional Water Board as appropriate, begin to plan future investigations	SMCWPPP, working with Permittees	June 2017	WY2018 and WY2019 POC monitoring to be planned iteratively and thus not included here
Conduct investigations to inform continued evaluation of which WMAs are priority for potential controls.			
Initial desktop research and prioritization of WMAs for stormwater runoff sampling	SMCWPPP, working with Permittees	Nov 2016	Consider results of WY2016 stormwater runoff monitoring (currently under QC review)
Conduct stormwater runoff sampling in the field (10 – 15 composite samples, each collected over a storm hydrograph)	SMCWPPP, working with Permittees	Mar 2017	See Appendix A for more information about SMCWPPP's POC monitoring program
Evaluate results and begin to plan future investigations, coordinated with stormwater runoff monitoring conducted by the RMP.	SMCWPPP, working with Permittees	Oct 2017	WY2018 and WY2019 POC monitoring to be planned iteratively and thus not included here
Update the preliminary list of potential opportunities to remove sediments with elevated pollutants, calculate load reductions as appropriate, and plan next steps	SMCWPPP, working with Permittees	Jan 2017	Includes evaluating opportunities to optimize existing municipal operations activities
Update the preliminary list of existing PCBs contamination site cleanups, calculate load reductions as appropriate, and plan next steps	SMCWPPP, working with Permittees	Jan 2017	

Task	Responsible Party or Parties	Anticipated Completion Date	Comments
Update the preliminary database of GI and stormwater treatment, calculate load reductions as appropriate, and plan next steps	SMCWPPP, working with Permittees	Jan 2017	
Complete cost-benefit analysis of stormwater runoff diversion to POTW for Pulgas Creek Pump Station WMAs	SMCWPPP and San Carlos	Jan 2017	
Evaluate results of CW4CB pilot studies to inform planning of potential future controls in Pulgas Creek Pump Station WMAs	SMCWPPP and San Carlos	Apr 2017	
Evaluate results of CW4CB pilot studies to inform planning of potential future controls and scenario development in SM County	SMCWPPP, working with Permittees	Apr 2017	Initial draft of CW4CB final report anticipated December 2016, final April 2017
Prepare initial scenarios for controls to meet June 2018 and June 2020 PCBs load reduction requirements in San Mateo County	SMCWPPP, working with Permittees	Apr 2017	Likely based on interim accounting methodology (BASMAA 2016)
Initial reporting on PCBs and mercury load reductions in San Mateo County	SMCWPPP, working with Permittees	Sep 2017	Likely based on interim accounting methodology (BASMAA 2016)
Report on PCBs and mercury load reductions in San Mateo County in comparison to June 2018 load reduction requirement.	SMCWPPP, working with Permittees	Sep 2018	Likely based on interim accounting methodology (BASMAA 2016)
Report on the quantitative relationship between GI implementation and PCBs and mercury load reductions	SMCWPPP, working with Permittees	Sep 2018	Based on the RAA modeling approach
Estimate the amount of PCBs and mercury load reduction resulting from GI implementation during the term of the Permit	SMCWPPP, working with Permittees	Sep 2019	Based on the RAA modeling approach
Develop GI Plans and submit documentation of legal mechanisms to ensure implementation of GI Plans	Permittees assisted by SMCWPPP	Sep 2019	GI plans will integrate with planning for the use of GI to reduce loads of PCBs & mercury

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APPENDIX A

Pollutants of Concern Monitoring Report

Water Year 2016 Accomplishments and Water Year 2017 Planned Allocation of Effort

Submitted in Compliance with
NPDES Permit No. CAS612008 (Order No. R2-2015-0049),
Provision C.8.h.iv

SAN MATEO COUNTYWIDE
Water Pollution Prevention Program

A Program of the City/County Association of Governments

September 30, 2016

CREDITS

This report is submitted by the participating agencies in the

SAN MATEO COUNTYWIDE
Water Pollution Prevention Program
Clean Water. Healthy Community.
www.flowstobay.org

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City of Belmont
City of Brisbane
City of Burlingame
Town of Colma
City of Daly City
City of East Palo Alto
City of Foster City
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Town of Hillsborough
City of Menlo Park
City of Millbrae
City of Pacifica
Town of Portola Valley
City of Redwood City
City of San Bruno
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LIST OF ABBREVIATIONS

BASMAA	Bay Area Stormwater Management Agency Association
BMP	Best Management Practice
CEC	Chemicals of Emerging Concern
CEDEN	California Environmental Data Exchange Network
CSCI	California Stream Condition Index
CW4CB	Clean Watersheds for Clean Bay
ECWG	Emerging Contaminants Work Group of the RMP
MRP	Municipal Regional Permit
NPDES	National Pollution Discharge Elimination System
PBDEs	Polybrominated Diphenyl Ethers
PCBs	Polychlorinated Biphenyls
PFAS	Perfluoroalkyl Sulfonates
PFOS	Perfluorooctane Sulfonates
POC	Pollutant of Concern
RMC	Regional Monitoring Coalition
RMP	San Francisco Estuary Regional Monitoring Program
RWSM	Regional Watershed Spreadsheet Model
SAP	Sampling and Analysis Plan
SMCWPPP	San Mateo Countywide Water Pollution Prevention Program
SFEI	San Francisco Estuary Institute
SPoT	Statewide Stream Pollutant Trend Monitoring
SSC	Suspended Sediment Concentration
STLS	Small Tributary Loading Strategy
TOC	Total Organic Carbon
UCMR	Urban Creeks Monitoring Report
USEPA	US Environmental Protection Agency
WY	Water Year

1.0 INTRODUCTION

This Pollutants of Concern (POC) Monitoring Report was prepared by the San Mateo Countywide Water Pollution Prevention Program (SMCWPPP or Program) on behalf of its member agencies subject to the National Pollutant Discharge Elimination System (NPDES) stormwater permit for Bay Area municipalities, referred to as the Municipal Regional Permit (MRP). The MRP was reissued by the San Francisco Regional Water Quality Control Board (Regional Water Board) on November 19, 2015 as Order R2-2015-0049. This report fulfills the requirements of Provision C.8.h.iv of the MRP for reporting:

- The allocation of sampling effort for POC monitoring planned for the forthcoming year (i.e., Water Year 2017); and
- What was accomplished for POC monitoring during the preceding water year (i.e., Water Year 2016).

In accordance with Provision C.8.h.iv, this report includes monitoring locations, number and types of samples collected, purpose of sampling (Management Questions addressed), and analytes measured. Data and interpretations will be provided in the Water Year 2016 Urban Creeks Monitoring Report (UCMR) which will be submitted to the Regional Water Board by March 31, 2017. Data collected from sampling of receiving waters (e.g., creeks) will be submitted to the San Francisco Bay Area Regional Data Center by March 31, 2017 for upload to the California Environmental Data Exchange Network (CEDEN).

1.1. POC Monitoring Requirements

Provision C.8.f of the MRP requires monitoring of several POCs including polychlorinated biphenyls (PCBs), mercury, copper, emerging contaminants[1], and nutrients. POC monitoring is conducted on a Water Year (WY) basis, with each WY beginning on October 1 and concluding on September 30 of the named year. For example, WY 2016 began October 1, 2015 and concludes September 30, 2016. Provision C.8.f specifies yearly (i.e., WY) and total (i.e., permit term) minimum numbers of samples for each POC. In addition, POC monitoring must address the five priority management information needs (i.e., Management Questions) identified in C.8.f:

1. **Source Identification** – identifying which sources or watershed source areas provide the greatest opportunities for reductions of POCs in urban stormwater runoff;
2. **Contributions to Bay Impairment** – identifying which watershed source areas contribute most to the impairment of San Francisco Bay beneficial uses (due to source intensity and sensitivity of discharge location);
3. **Management Action Effectiveness** – providing support for planning future management actions or evaluating the effectiveness or impacts of existing management actions;
4. **Loads and Status** – providing information on POC loads, concentrations or presence in local tributaries or urban stormwater discharges; and

[1] Emerging contaminant monitoring requirements will be met through participation in the Regional Monitoring Program for Water Quality in the San Francisco Estuary (RMP) special studies. The special studies will account for relevant constituents of emerging concern (CECs) in stormwater and will address at least PFOS, PFAS, and alternative flame retardants being used to replace PBDEs.

5. **Trends** – providing information on trends in POC loading to the Bay and POC concentrations in urban stormwater discharges or local tributaries over time.

The MRP specifies the minimum number of samples for each POC that must address each Management Question. For example, over the first five years of the permit, a minimum total of 80 PCBs samples must be collected and analyzed. At least eight PCB samples must be collected each year. On average 16 PCBs samples should be collected per year but the Permit gives flexibility to collect more samples some years and less other years. By the end of year four[2] of the permit term, each of the five Management Questions must be addressed with at least eight PCB samples. It is possible that a single sample can address more than one information need. POC Monitoring requirements are summarized in Table 1. In addition to the required yearly and cumulative total number of samples, Table 1 lists the yearly average number of samples that would need to be analyzed to meet the total sample goal, a good benchmark to consider when planning annual sampling goals.

Other MRP provisions require studies or have information needs that could be addressed through Provision C.8.f (POC Monitoring) and for which related samples will count towards POC monitoring requirements. These other Permit provisions and their associated timelines are listed below.

- Provisions C.11.a and C.12.a require that Permittees provide a list of management areas (referred to in this report as Watershed Management Areas, or WMAs) in which new mercury and PCBs control measures will be implemented during the permit term, as well as the monitoring data and other information used to select the WMAs. Progress toward developing the list was reported on April 1, 2016 and more complete lists with identified control measures will be provided with each Annual Report, beginning with the 2016 Annual Report due on September 30, 2016. Provision C.8.f (POCs Monitoring) is intended to support C.11/12 requirements by requiring monitoring directed toward source identification (i.e., identifying which WMAs provide the greatest opportunities for implementing controls to reduce loads of POCs in urban stormwater runoff and source areas within the WMAs).

- Provision C.12.e requires that Permittees collect at least 20 composite samples (region-wide) of the caulks and sealants used in storm drains or roadway infrastructure in public rights-of-way. Results of the investigation must be reported with the 2018 Annual Report, due by September 30, 2018.

1.2. Third-Party Data

Provision C.8.a.iii of the MRP allows Permittees to use data collected by third-party organizations to fulfill monitoring requirements, provided the data are demonstrated to meet the required data quality objectives. For example, samples collected in San Mateo County through the Regional Monitoring Program for Water Quality in the San Francisco Estuary (RMP), the Clean Watersheds for a Clean Bay (CW4CB) project, and the State's Stream Pollution Trends (SPoT) Monitoring Program may be counted by the Program towards meeting Provision C.8.f monitoring requirements.

[2] Note that the minimum sampling requirements addressing information needs must be completed by the end of year four of the permit; whereas, the minimum number of total samples does not need to be met until the end of year five of the permit.

Table 1. MRP monitoring requirements for POCs.

Pollutant of Concern	Media	Total Samples [d]	Yearly Minimum	Yearly Average	Minimum Number of Samples That Must Be Collected for Each Information Need by the End of Year Four				
					Source Identification	Contributions to Bay Impairment	Management Action Effectiveness	Loads and Status	Trends
PCBs	Water or sediment	80	8	16	8	8	8	8	8
Total Mercury	Water or sediment	80	8	16	8	8	8	8	8
Total & Dissolved Copper	Water	20	2	4	--	--	--	4	4
Nutrients [a]	Water	20	2	4	--	--	--	20	--
Emerging Contaminants [b]	--	--	--	--	--	--	--	--	--
Ancillary Parameters [c]	--	--	--	--	--	--	--	--	--

[a.] Ammonium[3], nitrate, nitrite, total Kjeldahl nitrogen, orthophosphate, total phosphorus (analyzed concurrently in each nutrient sample).

[b.] Must include perfluorooctane sulfonates (PFOS, in sediment), perfluoroalkyl sulfonates (PFAS, in sediment), alternative flame retardants. The Permittee shall conduct or cause to be conducted a special study that addresses relevant management information needs for emerging contaminants. The special study must account for relevant Chemicals of Emerging Concern (CECs) in stormwater and would address at least PFOS, PFAS, and alternative flame retardants being used to replace PBDEs.

[c.] Total Organic Carbon (TOC) should be collected concurrently with PCBs data when normalization to TOC is deemed appropriate. Suspended sediment concentration (SSC) should be collected in water samples used to assess loads, loading trends, or BMP effectiveness. Hardness data are used in conjunction with copper concentrations collected in fresh water.

[d.] Total samples that must be collected over the five-year Permit term.

[3] There are several challenges to collecting samples for "ammonium" analysis. Therefore, samples will be analyzed for total ammonia which is the sum of un-ionized ammonia (NH_3) and ionized ammonia (ammonium, NH_{4+}). Ammonium concentrations will be calculated by subtracting the calculated concentration of un-ionized ammonia from the measured concentration of total ammonia. Un-ionized ammonia concentrations will be calculated using a formula provided by the American Fisheries Society that includes field pH, field temperature, and specific conductance. This approach was approved by Regional Water Board staff in an email dated June 21, 2016.

2.0 POC MONITORING ACCOMPLISHMENTS (WY 2016) AND GOALS (WY 2017)

In compliance with Provision C.8.f of the MRP, in WY 2016 the Program conducted POC monitoring for PCBs, mercury, copper, and nutrients. The MRP-required yearly minimum number of samples was met or exceeded for all POCs. The total number of samples collected for each POC, the agency conducting the monitoring, and the Management Questions addressed are listed in Table 2. Specific monitoring stations are listed in Table 3 and mapped in Figure 1. The sections below describe details of the monitoring accomplished in WY 2016 and the planned allocation of effort for WY 2017. A summary of the planned allocation of effort for WY 2017 is presented in Table 4.

Table 2. SMCWPPP POC Monitoring Accomplishments, WY 2016.

Pollutant of Concern/ Organization	Number of Samples (WY 2016)	Management Question Addressed [a]					Sample Type and Comments
		1. Source Identification	2. Contributions to Bay Impairment	3. Management Action Effectiveness	4. Loads and Status	5. Trends	
PCBs & Mercury							
SMCWPPP	8	8	8	--	8	--	Stormwater runoff samples to characterize catchments of interest
RMP STLS	7	7	7	--	7	--	Stormwater runoff samples to characterize catchments of interest
CW4CB	--	--	--	3	--	--	BMP effectiveness samples at Bransten Road bioretention facilities
Total / MRP Minimum by Year Four	15 / 80 [b]	15 / 8	15 / 8	3 / 8	15 / 8	0 / 8	
Copper							
SMCWPPP	3	--	--	--	3	--	Copper analyzed on a subset of PCBs/Hg stormwater runoff samples
Total / MRP Minimum by Year Four	3 / 20 [b]	--	--	--	3 / 4	0 / 4	
Nutrients							
SMCWPPP	2	--	--	--	2	--	Water samples collected from bottom-of-the-watershed stations
Total / MRP Minimum by Year Four	2 / 20 [b]	--	--	--	2 / 20	--	

a. Individual samples can address more than one Management Question simultaneously.
b. Total number of samples required over the five-year permit term.

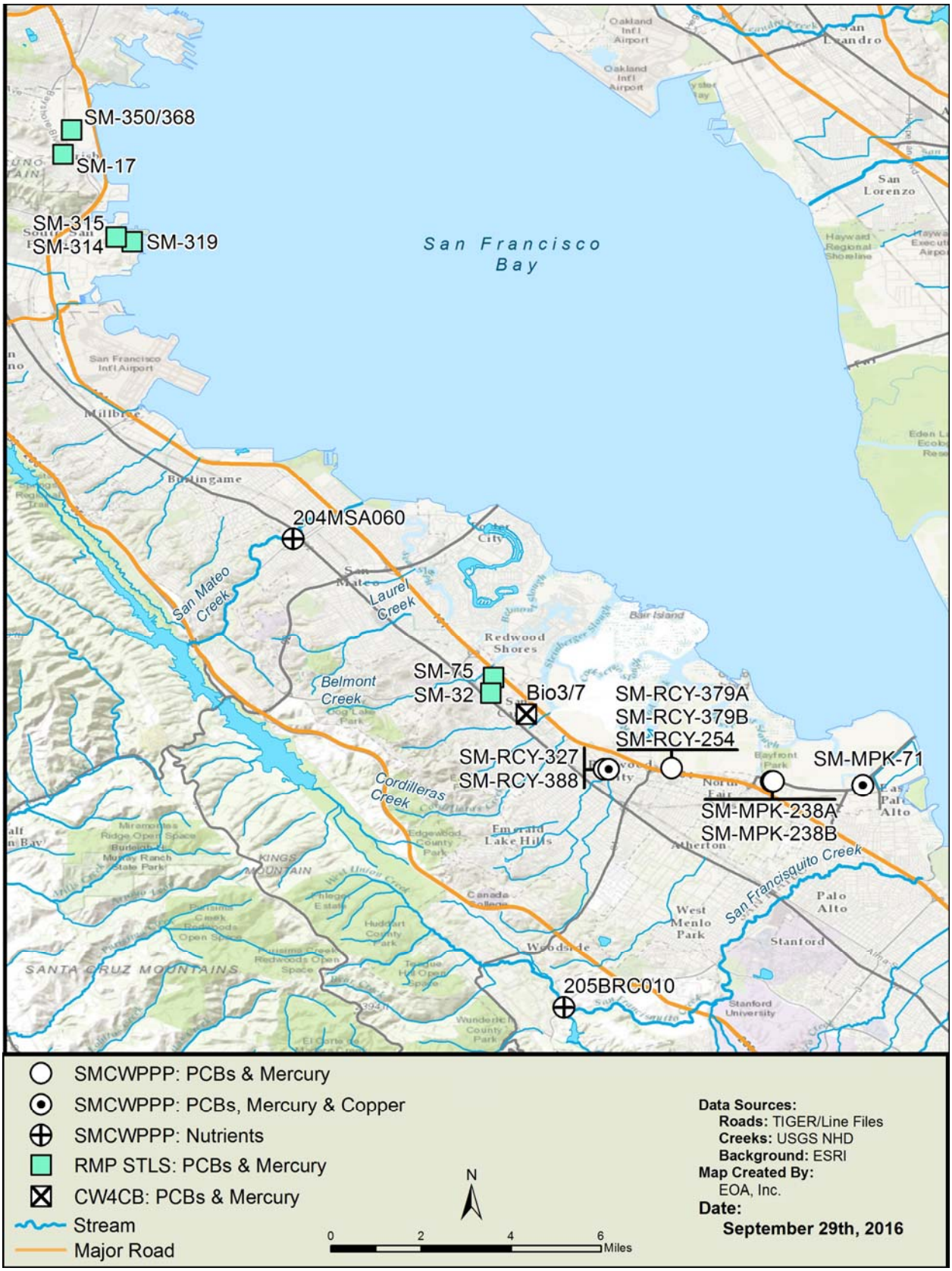

Figure 1. POC Monitoring Stations in San Mateo County, WY 2016.

Table 3. POC Monitoring Stations in San Mateo County, WY 2016.

Organization	Station Code	Sample Date	Latitude	Longitude	Matrix	PCBs	Mercury	Suspended Sediment	Total Copper	Dissolved Copper	Hardness as CaCO3	Nutrients [b]
SMCWPPP	SM-MPK-71	2/17/2016	37.4836	-122.1451	water	x	x	x	x	x	x	
SMCWPPP	SM-RCY-327	2/17/2016	37.4887	-122.2282	water	x	x	x	x	x	x	
SMCWPPP	SM-RCY-388	2/17/2016	37.4888	-122.2266	water	x	x	x	x	x	x	
SMCWPPP	SM-MPK-238A	3/5/2016	37.4848	-122.1744	water	x	x	x				
SMCWPPP	SM-MPK-238B	3/5/2016	37.4849	-122.1738	water	x	x	x				
SMCWPPP	SM-RCY-254	3/5/2016	37.4892	-122.2065	water	x	x	x				
SMCWPPP	SM-RCY-379A	3/5/2016	37.4891	-122.2065	water	x	x	x				
SMCWPPP	SM-RCY-379B	3/5/2016	37.4891	-122.2065	water	x	x	x				
RMP STLS	SM-319	(a)	37.6589	-122.3800	water	x	x	x				
RMP STLS	SM-315	(a)	37.6603	-122.3850	water	x	x	x				
RMP STLS	SM-314	(a)	37.6603	-122.3851	water	x	x	x				
RMP STLS	SM-75	(a)	37.5183	-122.2637	water	x	x	x				
RMP STLS	SM-32	(a)	37.5132	-122.2647	water	x	x	x				
RMP STLS	SM-350/368	(a)	37.6949	-122.3995	water	x	x	x				
RMP STLS	SM-17	(a)	37.6869	-122.4022	water	x	x	x				
SMCWPPP	204MSA060	6/23/2016	37.5628	-122.3282	water							x
SMCWPPP	205BRC010	6/23/2016	37.4117	-122.2412	water							x
CW4CB	Bio3 - Influent	WY 2016 (c)	(c)	(c)	water	x	x	x				
CW4CB	Bio7 - Influent	WY 2016 (c)	(c)	(c)	water	x	x	x				
CW4CB	Bio7 - Effluent	WY 2016 (c)	(c)	(c)	water	x	x	x				

a. Specific sample dates have not yet been provided by the RMP STLS.
b. Ammonia (for ammonium), nitrate, nitrite, total Kjeldahl nitrogen, orthophosphate, and total phosphorus are analyzed concurrently in each nutrient sample.
c. Specific sample dates and locations will be provided in the CW4CB project report, which is anticipated to be available by April 2017.

2.1. PCBs and Mercury

During WY2016 the Program collected eight stormwater runoff samples for PCBs and mercury analysis. An additional seven stormwater runoff samples were collected in San Mateo County through the RMPs Small Tributary Loading Strategy (STLS). These combined 15 samples address Management Questions #1 (Source Identification) and #2 (Contributions to Bay Impairment). Data will also be used by the RMP STLS to improve calibration of the Regional Watershed Spreadsheet Model (RWSM) which is a land use based planning tool for estimation of overall POC loads from small tributaries to San Francisco Bay at a regional scale (i.e., Management Question #4 – Loads and Status).

2.1.1. SMCWPPP WY 2016 Accomplishments and WY 2017 Effort Allocation

PCBs and mercury monitoring by the Program **in WY 2016** was conducted in accordance with the Water Year 2016 Pollutant of Concern Monitoring Plan (SMCWPPP 2016). The primary goal of the monitoring, as described in the Monitoring Plan, was to inform identification of WMAs where control measures could be implemented to comply with MRP requirements for load reductions of PCBs and mercury. WY 2016 PCBs and mercury monitoring was focused on collection of storm composite samples from "catchments of interest" (i.e., catchments containing high interest parcels with land uses associated with PCBs such as old industrial, electrical and recycling). Catchments were identified and prioritized for sampling by evaluating several types of data, including: PCBs and mercury concentrations from prior sediment and water sampling efforts, land use data, municipal storm drain data showing pipelines and access points (e.g., manholes, outfalls, pump stations), catchment areas delineated from municipal storm drain data, and logistical/safety consideration (SMCWPPP 2015).

Composite samples consisting of six to eight aliquots collected during the rising limb and peak of the storm hydrograph (as determined through field observations) were analyzed for the "RMP 40" PCB congeners (method EPA 1668C), total mercury (method EPA 1631E), and SSC (method ASTM D3977-97). A subset of three samples were also analyzed for total and dissolved copper (method EPA 200.8) and hardness (method SM 2340C).

As stated above, WY 2016 PCBs and mercury monitoring conducted by the Program primarily focused on addressing Management Questions #1 (Source Identification) and #2 (Contributions to Bay Impairment), while contributing to the dataset being used to address Management #3 (Loads and Status). A similar focus is planned for **WY 2017**. The Program intends to collect 10 to 15 storm composite samples from catchments of interest, primarily to continue informing identification of WMAs. An additional 40 to 60 sediment samples will be collected within WMAs, primarily to identify specific source properties that may eventually be referred to the Regional Water Board for investigation and abatement by the Regional Water Board or another appropriate regulatory agency with investigation and cleanup authority.

In subsequent years, PCBs and mercury monitoring conducted by the Program will likely include addressing Management Question #3 (Management Action Effectiveness). SMCWPPP is currently working with Bay Area Stormwater Management Agencies Association (BASMAA) partners (i.e., other countywide stormwater programs subject to the MRP) to develop a regional project to design a Monitoring Plan for POC Management Action Effectiveness. The goal is to finalize the Monitoring Plan/study design in WY 2017 and implement the plan in WY 2018. A major consideration for the regional Management Action Effectiveness Monitoring Plan and other future monitoring efforts will be collection of data in support of conducting the Reasonable Assurance Analysis (RAA) that is required by Provision C.12.c.iii.(3) of the MRP and which must be submitted with the 2020 Annual Report (September 30, 2020).

2.1.2. Third-Party WY 2016 Accomplishments and WY 2017 Effort Allocation

The **RMP's STLS** Team typically conducts annual monitoring for POCs region-wide. SMCWPPP is an active participant in the STLS and works with other Bay Area municipal stormwater programs to identify opportunities to direct RMP funds and monitoring activities towards meeting both short- and long-term municipal stormwater permit requirements. Recent years' POC monitoring activities by the STLS focused on pollutant loading monitoring at six region-wide stations and wet weather characterization monitoring in catchments of interest. In **WY 2016**, the STLS Team continued wet weather characterization sampling using a similar approach to the PCBs and mercury sampling that was implemented by the Program.

Seven catchments (i.e., seven storm composite samples) were sampled for PCBs and mercury by the RMP's STLS in San Mateo County in WY 2016.

RMP STLS monitoring in **WY 2017** will continue to focus on wet weather characterization. However, the number of stations in San Mateo County that will be targeted by the STLS Team is yet to be determined. In future years, RMP STLS monitoring is expected to shift towards Management Question #5 (Trends). The STLS Trends Strategy Team, initiated in WY 2015, is currently developing a regional monitoring program to assess trends in POC loading to San Francisco Bay from small tributaries. The STLS Trends Strategy will initially focus on PCBs and mercury, but will not be limited to those POCs. The preliminary design concept includes additional monitoring at one or two of the region-wide loadings stations to gain a better understanding of the variability in PCBs concentrations/loadings in the existing dataset. STLS Trends Strategy monitoring could begin as early as WY 2017 and will likely continue through the Permit term; however, the monitoring design is still being developed.

The **SPoT Monitoring Program** conducts annual dry season monitoring (subject to funding constraints) of sediments collected from a statewide network of large rivers. The goal of the SPoT Program is to investigate long-term trends in water quality (Management Question #5 – Trends). Sites are targeted in bottom-of-the-watershed locations with slow water flow and appropriate micromorphology to allow deposition and accumulation of sediments, including a station near the mouth of San Mateo Creek. In most years, sediments are analyzed for PCBs, mercury, toxicity, pesticides, and organic pollutants (Phillips et al. 2014). In WY 2016, SPoT monitoring in San Mateo Creek did not include PCBs or mercury; however, those constituents are anticipated for WY 2017. The most recent technical report prepared by SPoT program staff was published in 2014 and describes five-year trends from the initiation of the program in 2008 through 2012 (Phillips et al. 2014). An update to the report is anticipated in late 2016.

During WY 2016 the EPA grant-funded **CW4CB** project collected three BMP effectiveness samples at two bioretention facilities along Bransten Road in San Carlos, CA. During storm events, an urban runoff influent sample was collected at the facility designated "Bio3" and paired influent and effluent samples were collected at the facility designated "Bio7." Flow through the bioretention facilities and bypass flows were also measured. Analytes for all three samples included PCBs, mercury and SSC. CW4CB does not plan to collect any additional samples during WY 2017 or subsequent years.

2.2. Copper

In WY 2016, SMCWPPP collected copper samples concurrently with a subset (three) of the PCBs and mercury storm composite samples. The goal of this approach is to address Management Question #4 (Loads and Status) by characterizing copper concentrations in stormwater runoff from highly urban catchments. A similar allocation of effort (i.e., four samples) and sampling approach is planned for WY 2017.

2.3. Nutrients

Nutrients were included in the POC monitoring requirements to support Regional Water Board efforts to develop nutrient numeric endpoints (NNE) for the San Francisco Bay Estuary. The "Nutrient Management Strategy for San Francisco Bay" is part of a statewide initiative to address nutrient over-enrichment in State waters (Regional Water Board 2012). The suite of nutrients required in the MRP (i.e., ammonium, nitrate, nitrite, total Kjeldahl nitrogen, orthophosphate, and total phosphorus) closely reflects the list of analytes measured by the RMP and BASMAA partners at the six regional loading stations (including a San Mateo County station at the Pulgas Creek Pump Station in the City of San

Carlos) monitored in WY 2012 and WY 2013. The prior data were used by the Nutrient Strategy Technical Team to develop and calibrate nutrient loading models.

In WY 2016, POC monitoring for nutrients in San Mateo County was conducted during the dry season at two bottom-of-the-watershed stations with mixed land uses. Nutrient monitoring addresses Management Question #4 (Loads and Status). A similar approach is planned for WY 2017; however, a minimum of four samples will be collected.

2.4. Emerging Contaminants

Emerging contaminant monitoring is being addressed through Program participation in the RMP. The RMP has been investigating Chemicals of Emerging Concern (CECs) since 2001 and established the RMP Emerging Contaminants Work Group (ECWG) in 2006, to identify CECs that have the potential to impact beneficial uses in the Bay and to develop cost-effective strategies to identify and monitor, and minimize impacts. The RMP published a CEC Strategy "living" document in 2013 (Sutton et al. 2013; Sutton and Sedlak 2015) which is scheduled for a full revision in late 2016. The CEC Strategy document guides RMP special studies on CECs using a tiered risk and management action framework.

Details of the emerging contaminant special study are still being developed.

Table 4. Summary of Planned Allocation of POC Monitoring Effort in San Mateo County, WY 2017.

Pollutant of Concern/ Organization	**Planned Number of Samples (WY 2017)**	**Yearly Minimum**	**Management Question Addressed** [a]					**Sample Type and Comments**
			1. Source Identification	**2. Contributions to Bay Impairment**	**3. Management Action Effectiveness**	**4. Loads and Status**	**5. Trends**	
PCBs & Mercury								
SMCWPPP	10 to 15	8	X	X	--	X	--	Stormwater runoff samples primarily to characterize catchments of interest
SMCWPPP	40 to 60		X	--	--	--	--	Urban sediment samples primarily to identify source properties
RMP STLS	4 to 8		X	X	--	X	--	Stormwater runoff samples primarily to characterize catchments of interest
SPoT	1		--	--	--	--	X	Long-term trends monitoring program (sediment samples from creek bed)
Copper								
SMCWPPP	4	2	--	--	--	X	--	Copper analyzed on a subset of PCBs/Hg stormwater runoff samples
Nutrients								
SMCWPPP	4	2	--	--	--	X	--	Water samples collected from bottom-of-watershed stations

a. Individual samples can address more than one Management Question simultaneously.

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APPENDIX B

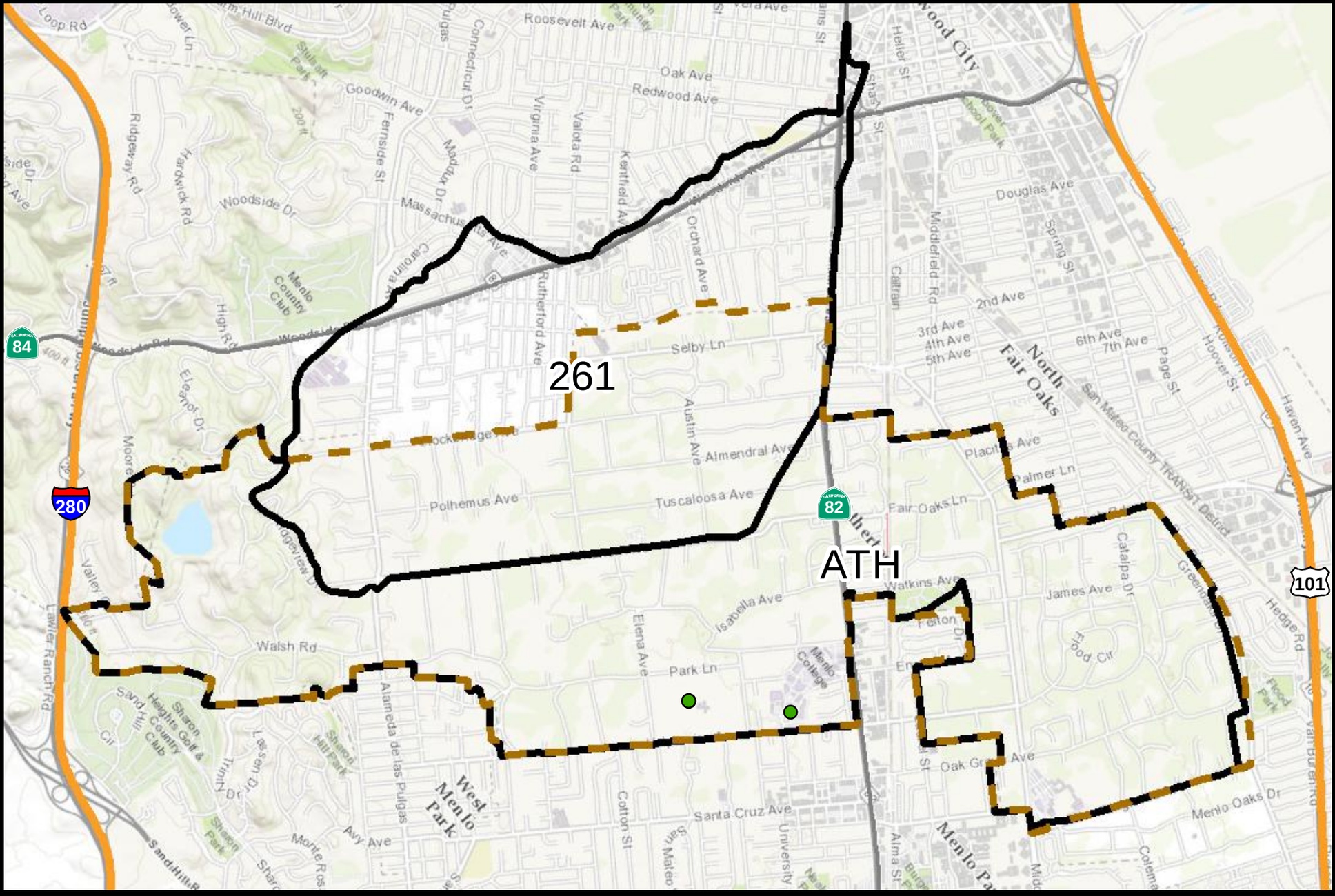


Figure B-1. WMAs and GI/LID in Atherton

Atherton Watershed Management Area Map

- GI/LID Location
- High Interest Areas
- Watershed Management Area (WMA)
- Permittee Boundary

0 0.5 1 2 Miles

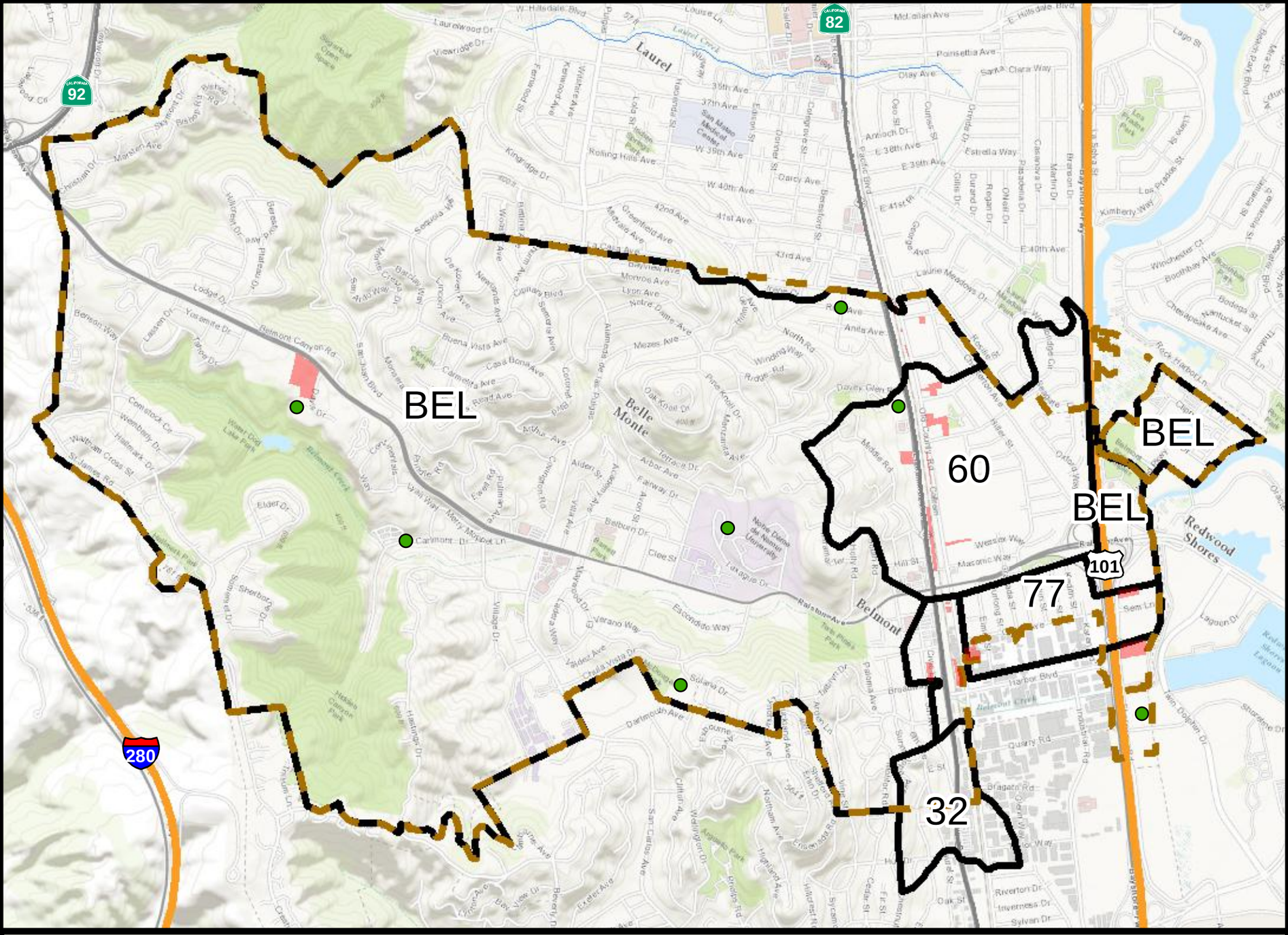


Figure B-2. WMAs and GI/LID in Belmont

Belmont Watershed Management Area Map

GI/LID Location

High Interest Areas

Watershed Management Area (WMA)

Permittee Boundary

N

0 0.25 0.5 1 Miles

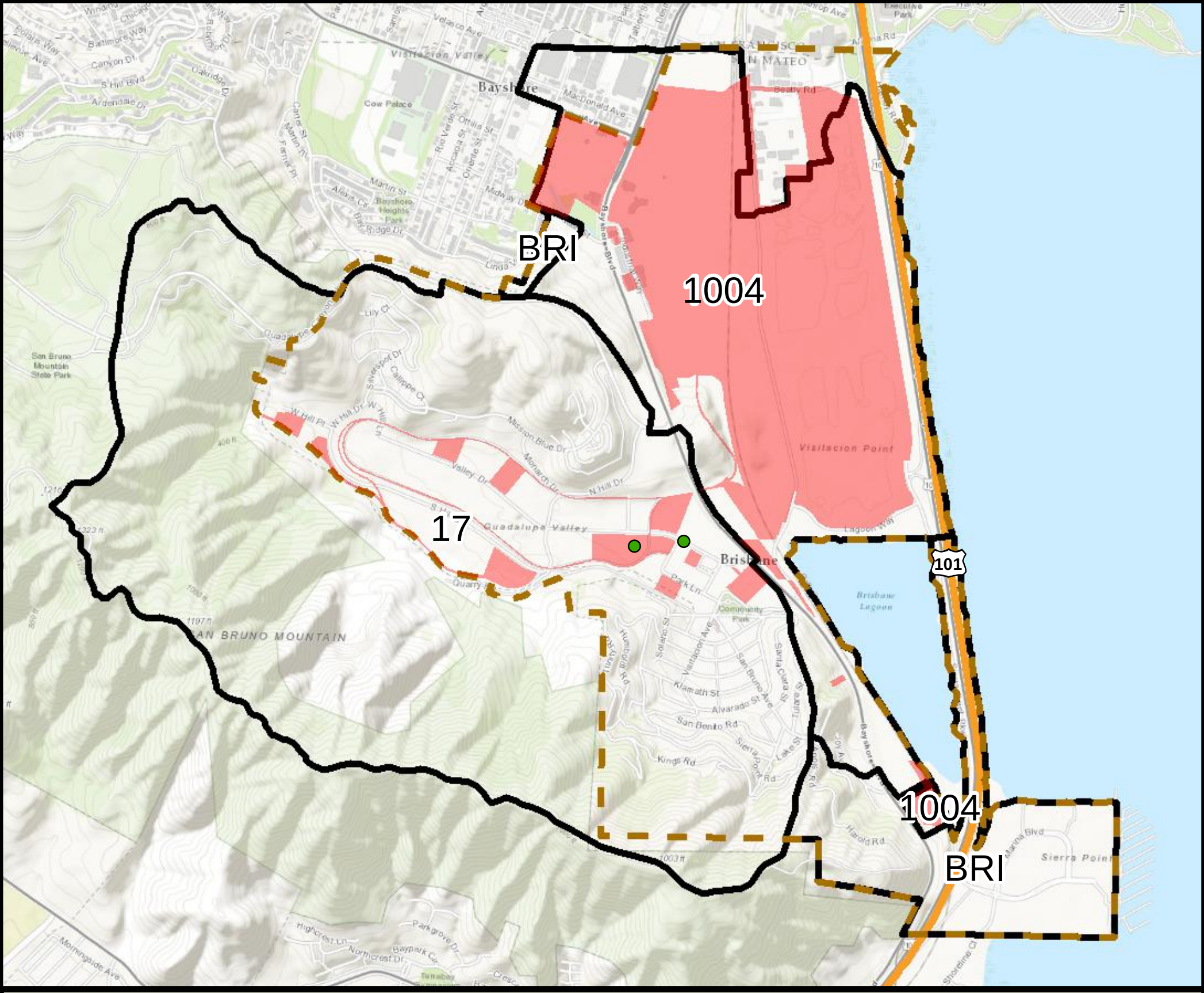


Figure B-3. WMAs and GI/LID in Brisbane

Brisbane Watershed Management Area Map

- GI/LID Location
- High Interest Areas
- Watershed Management Area (WMA)
- Permittee Boundary

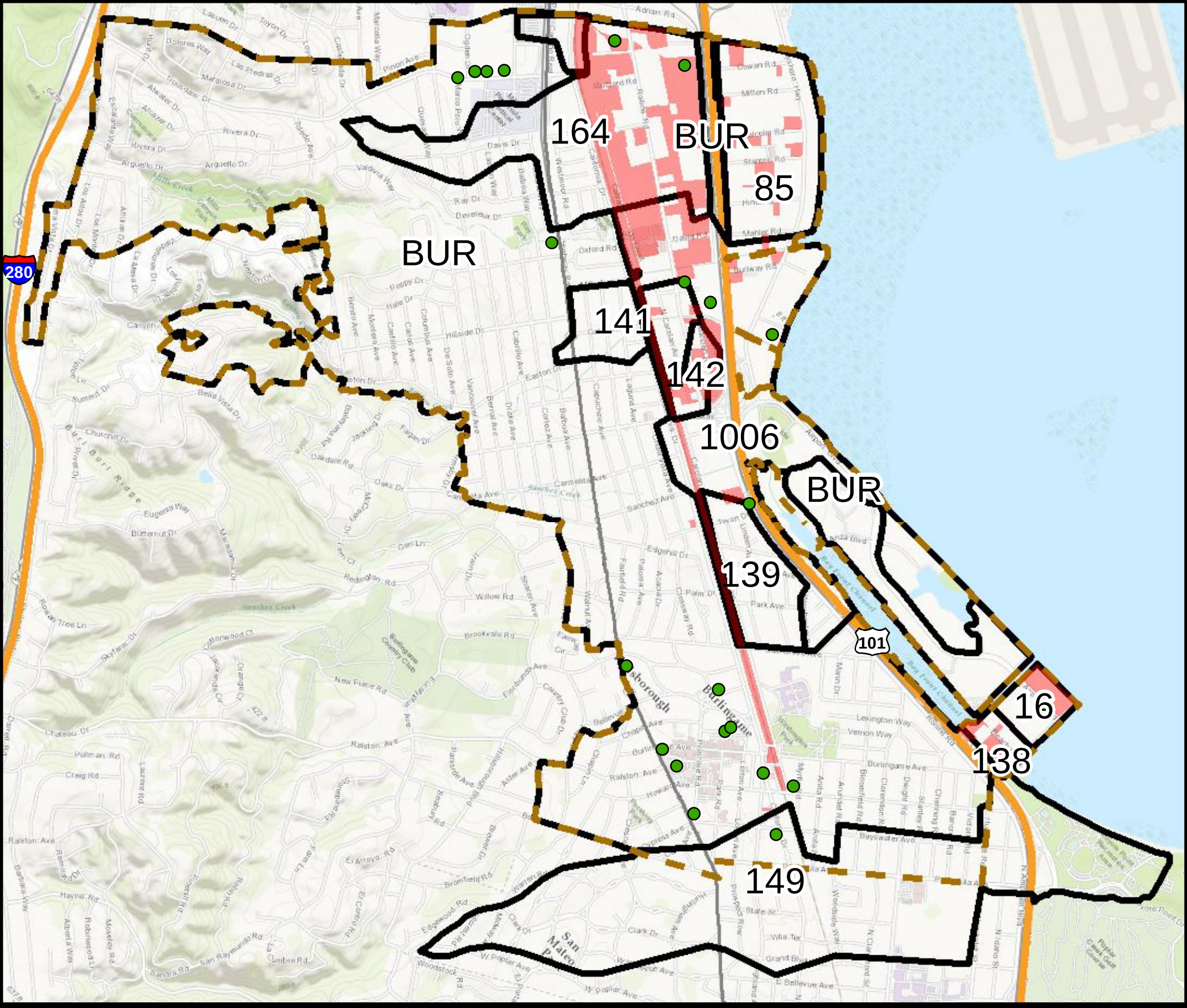


Figure B-4. WMAs and GI/LID in Burlingame

Burlingame Watershed Management Area Map

GI/LID Location

High Interest Areas

Watershed Management Area (WMA)

Permittee Boundary

N

0 0.25 0.5 1 Miles

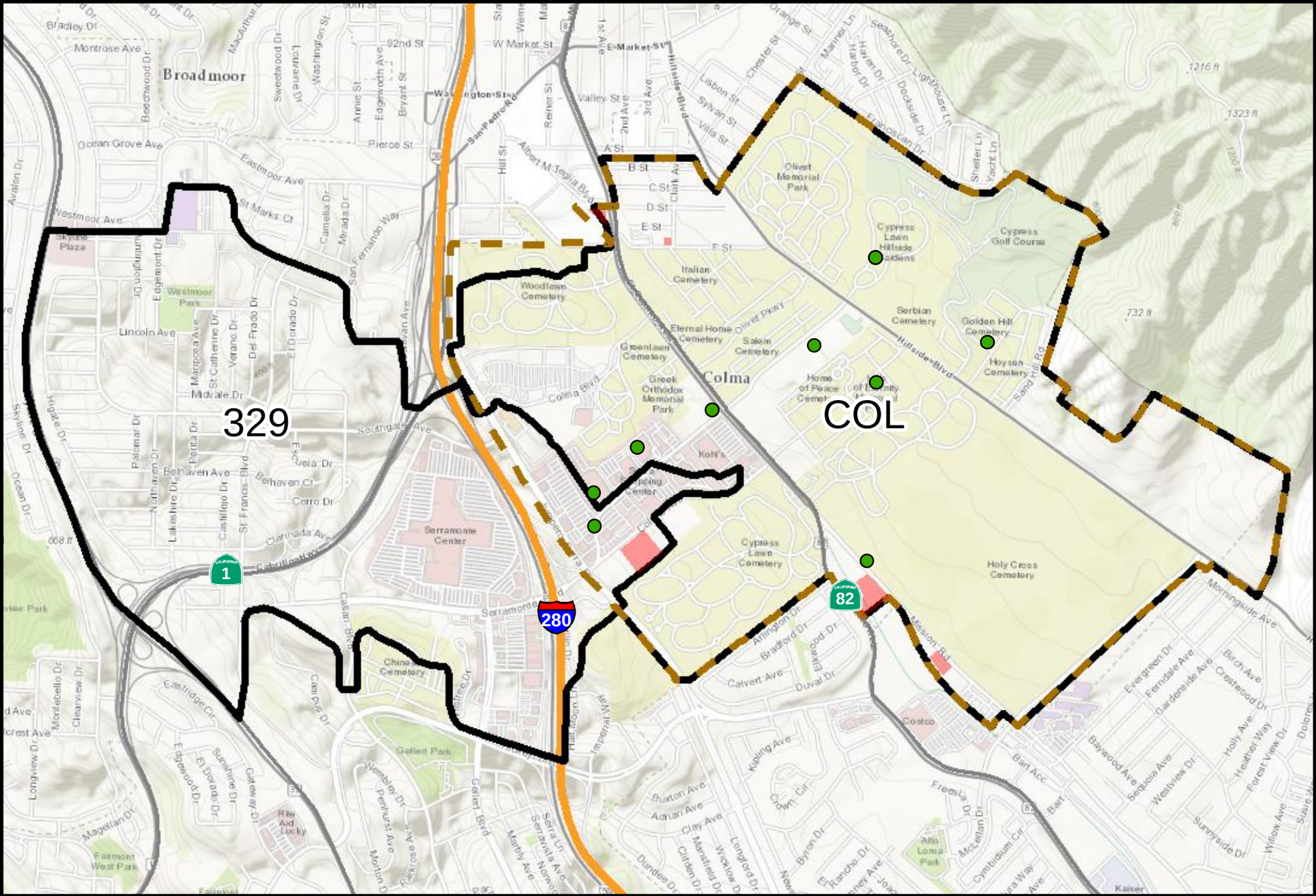


Figure B-5. WMAs and GI/LID in Colma

Colma Watershed Management Area Map

GI/LID Location

High Interest Areas

Watershed Management Area (WMA)

Permittee Boundary

N

0 0.25 0.5 1 Miles

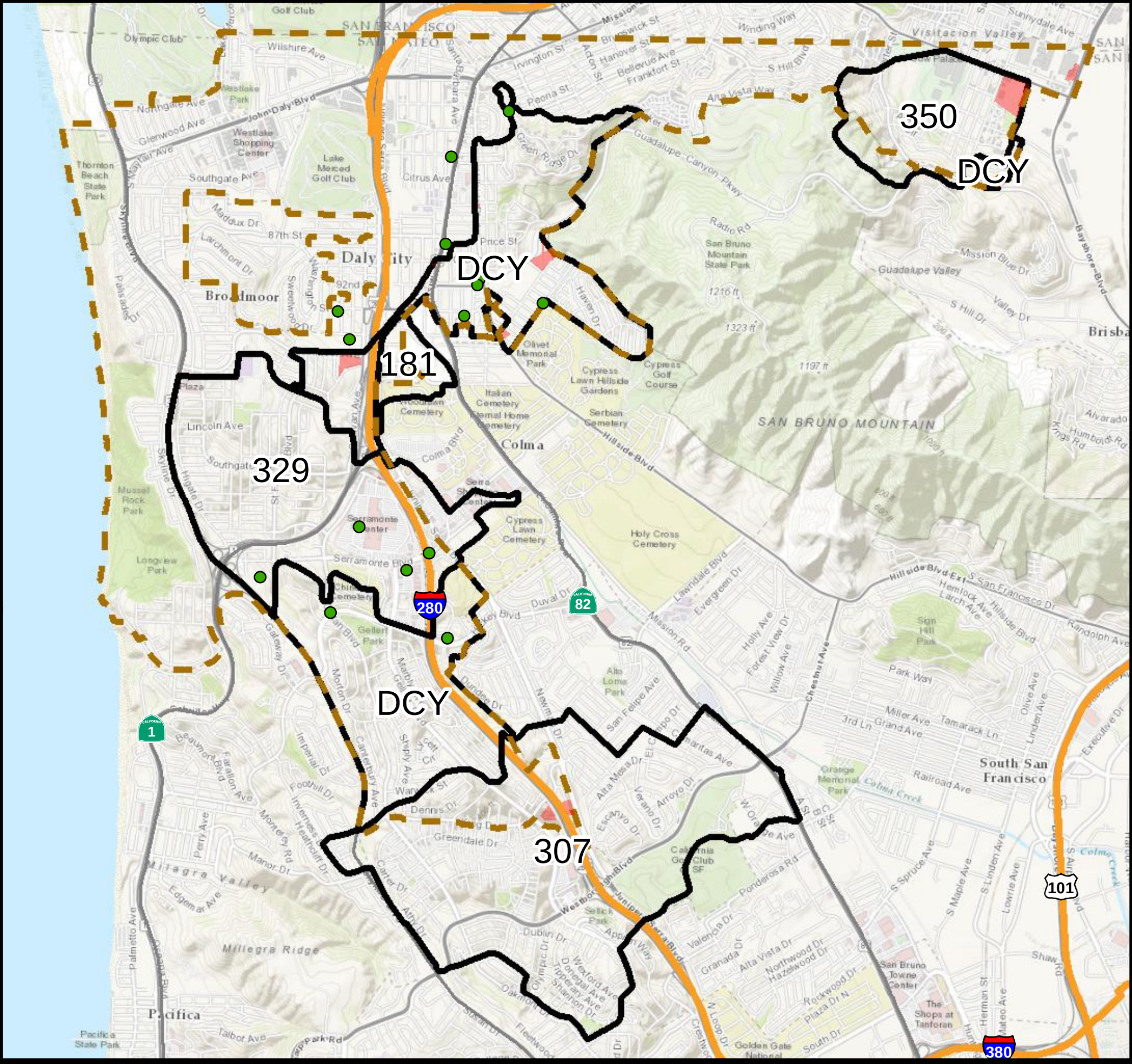


Figure B-6. WMAs and GI/LID in Daly City

Daly City Watershed Management Area Map

- GI/LID Location
- High Interest Areas
- Watershed Management Area (WMA)
- Permittee Boundary

N

0 0.5 1 2 Miles

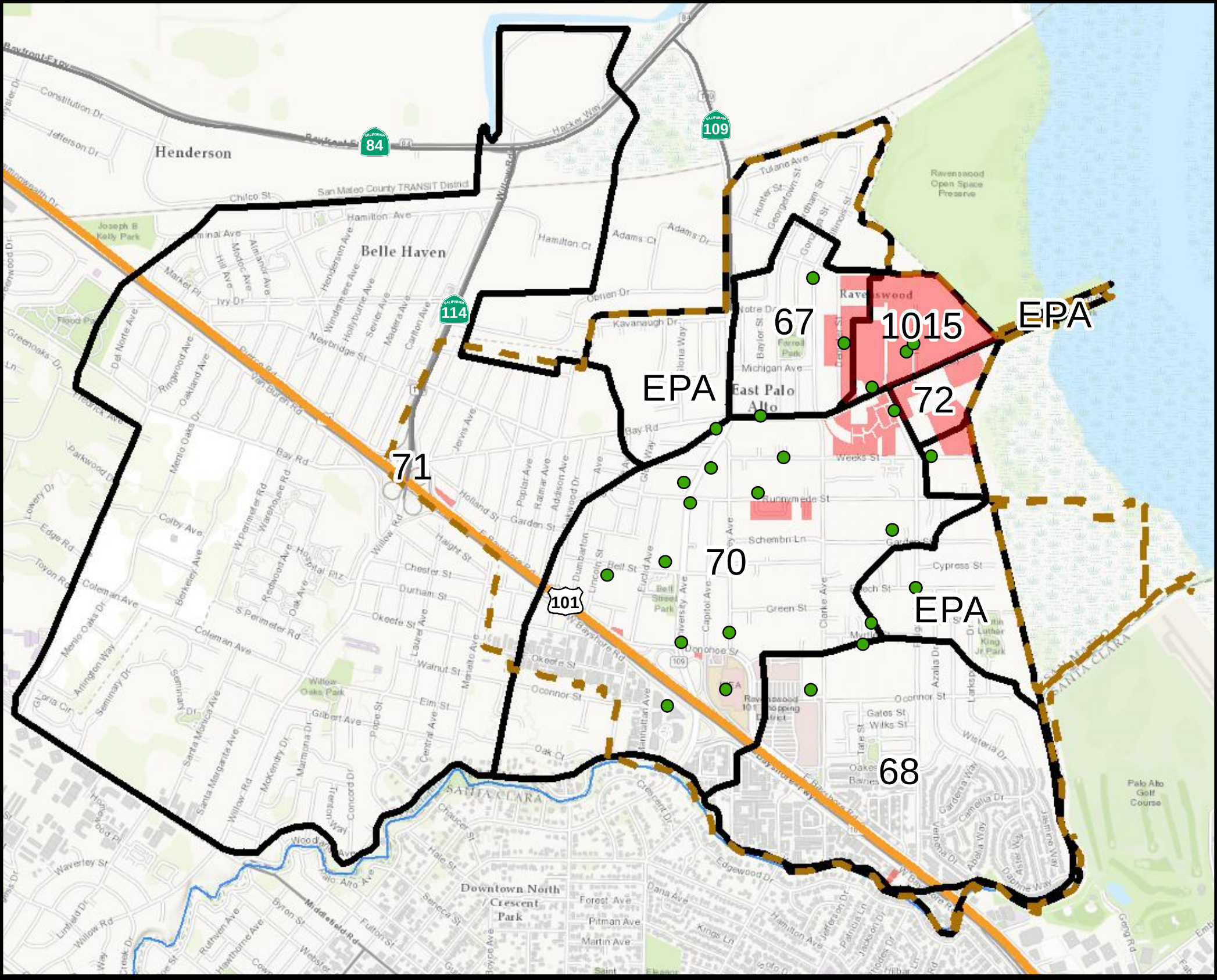


Figure B-7. WMAs and GI/LID in East Palo Alto

East Palo Alto Watershed Management Area Map

- GI/LID Location
- High Interest Areas
- Watershed Management Area (WMA)
- Permittee Boundary

N

0 0.25 0.5 1 Miles

Figure B-8. WMAs and GI/LID in Foster City

Foster City Watershed Management Area Map

GI/LID Location

High Interest Areas

Watershed Management Area (WMA)

Permittee Boundary

N

0 0.25 0.5 1 Miles

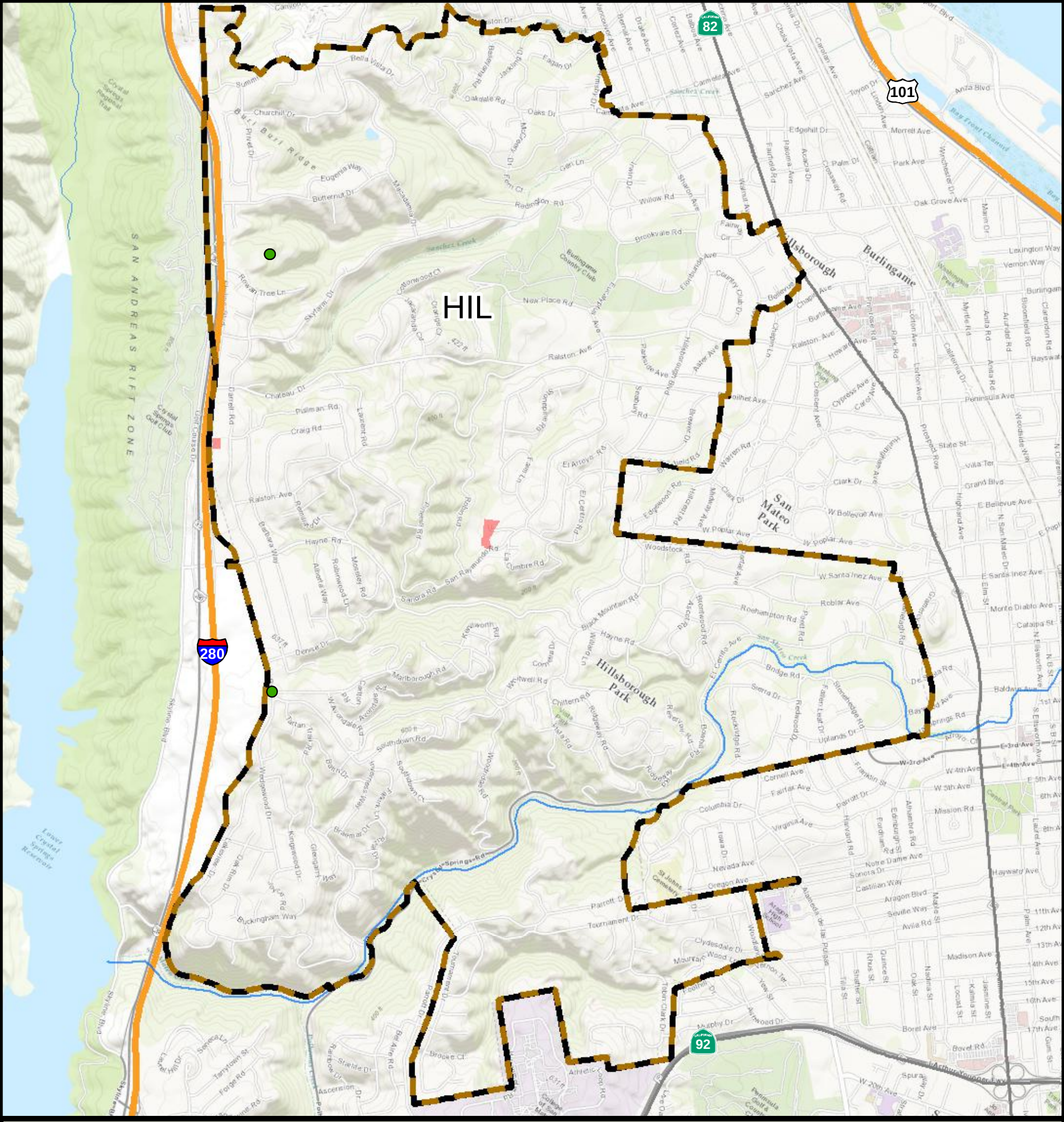


Figure B-9. WMAs and GI/LID in Hillsborough

Hillsborough Watershed Management Area Map

- GI/LID Location
- High Interest Areas
- Watershed Management Area (WMA)
- Permittee Boundary

0 0.25 0.5 1 Miles

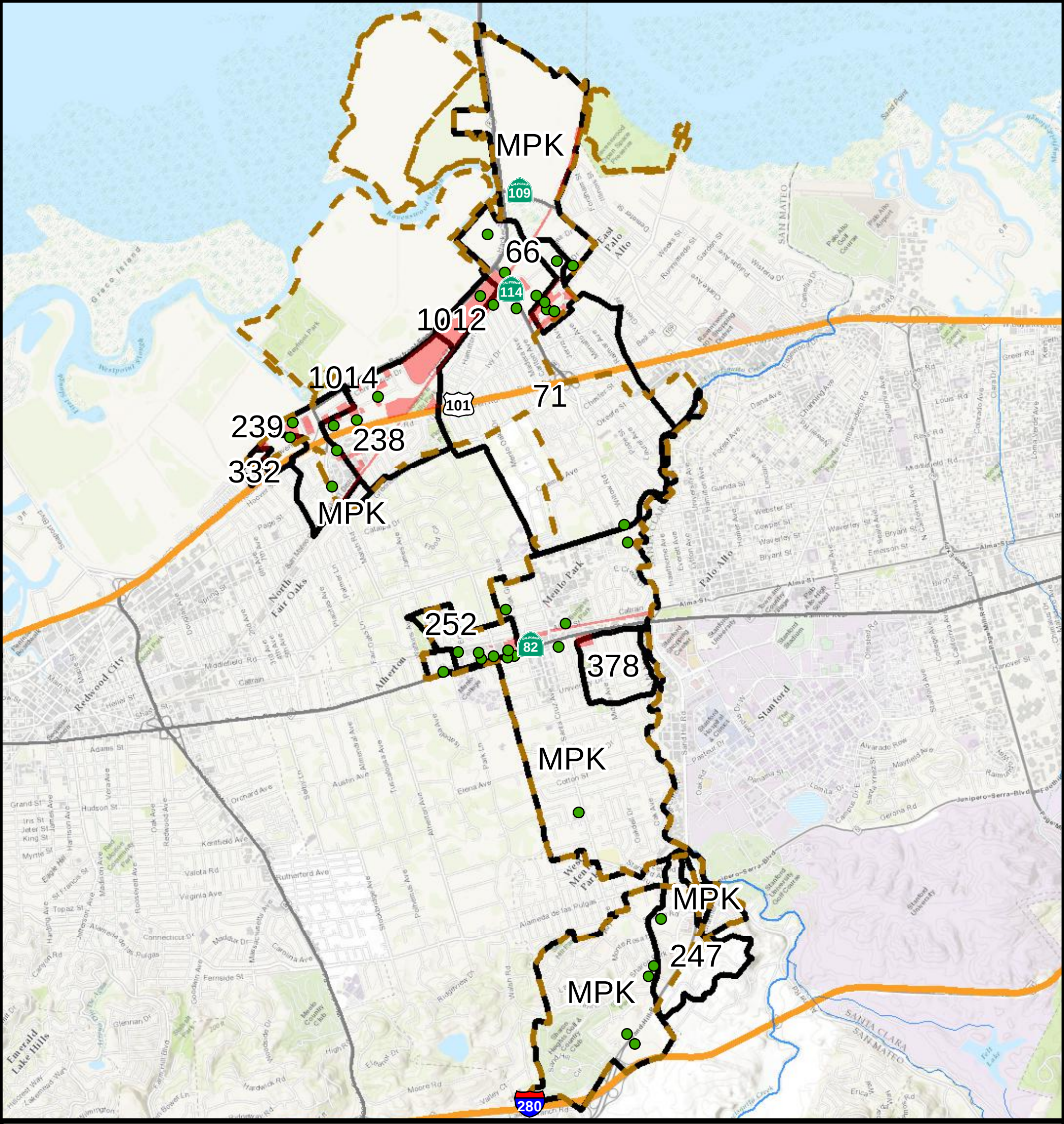


Figure B-10. WMAs and GI/LID in Menlo Park

Menlo Park Watershed Management Area Map

GI/LID Location

High Interest Areas

Watershed Management Area (WMA)

Permittee Boundary

N

0 0.5 1 2 Miles

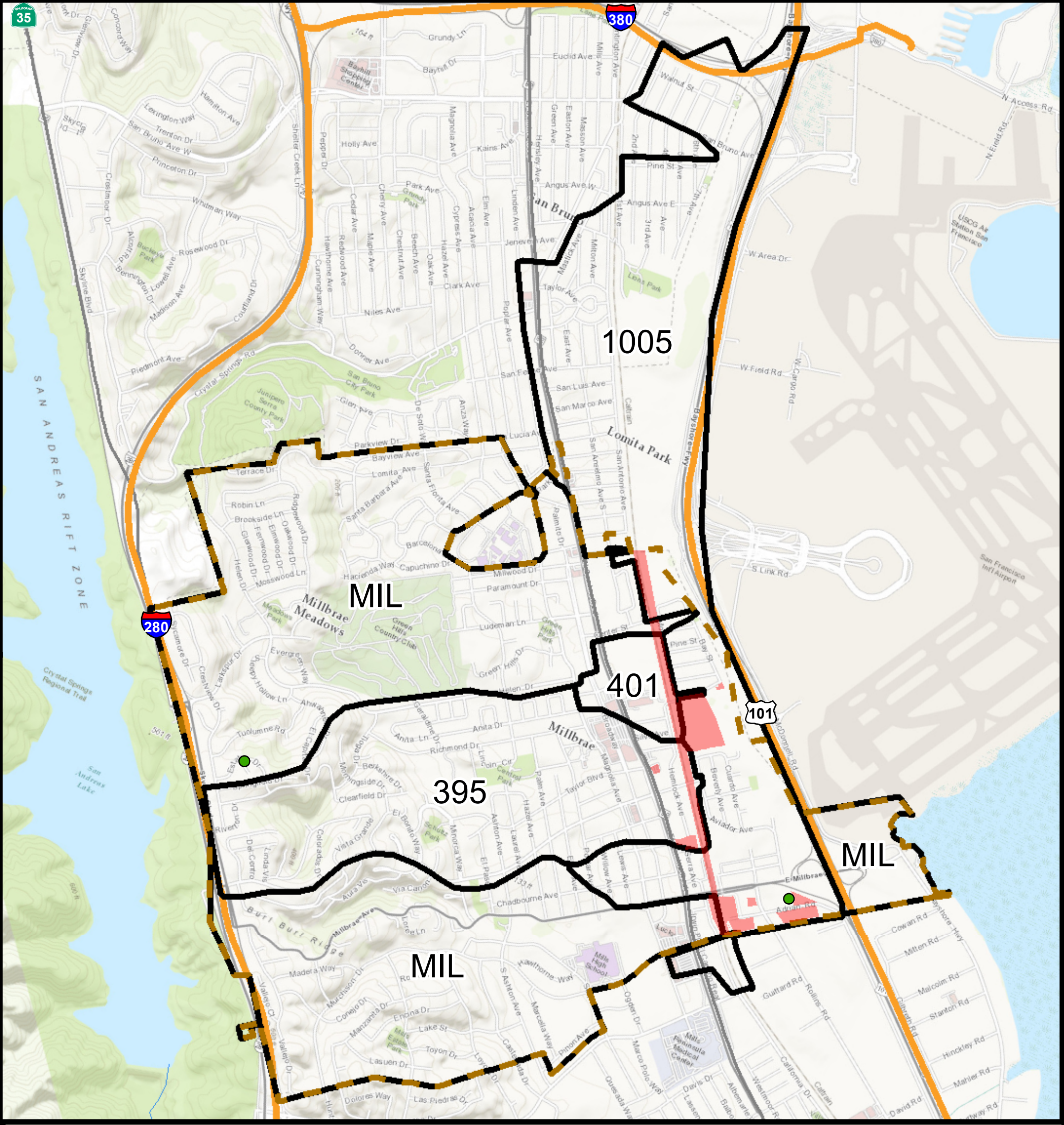


Figure B-11. WMAs and GI/LID in Millbrae

Millbrae Watershed Management Area Map

- GI/LID Location
- High Interest Areas
- Watershed Management Area (WMA)
- Permittee Boundary

N

0 0.25 0.5 1 Miles

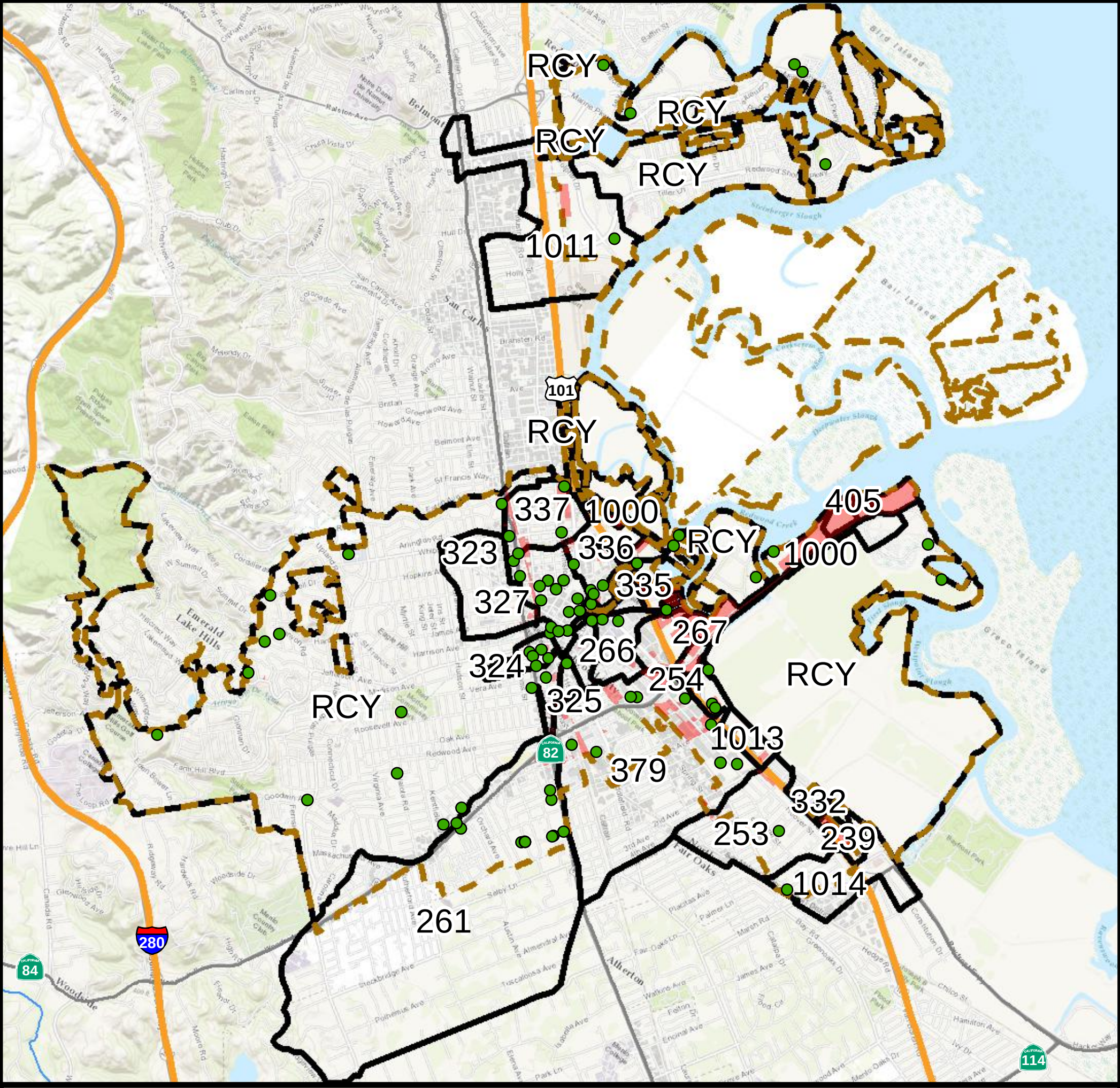


Figure B-13. WMAs and GI/LID in Redwood City

Redwood City Watershed Management Area Map

- GI/LID Location
- High Interest Areas
- Watershed Management Area (WMA)
- Permittee Boundary

N

0 0.5 1 2 Miles

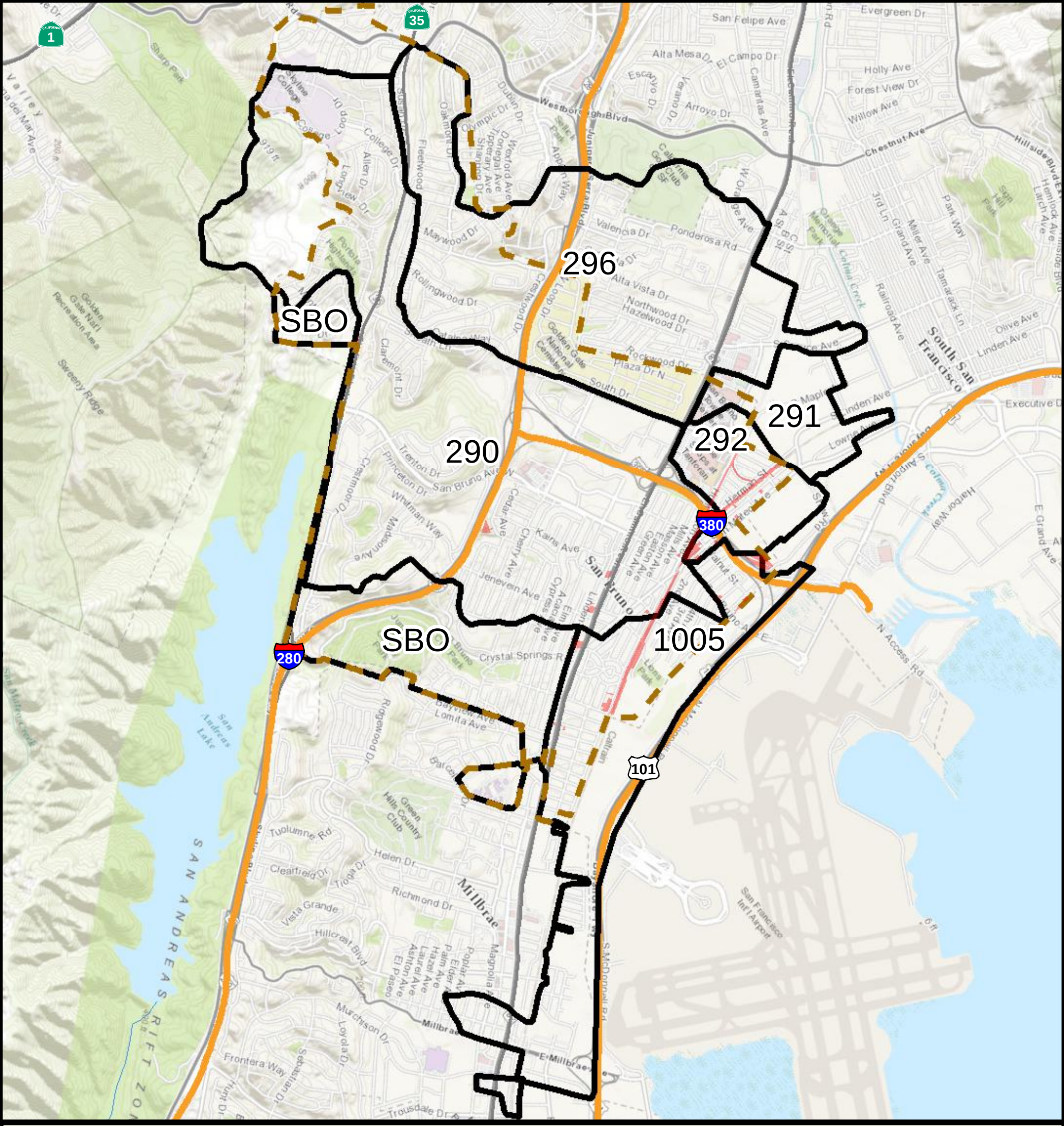


Figure B-14. WMAs and GI/LID in San Bruno

San Bruno Watershed Management Area Map

- GI/LID Location
- High Interest Areas
- Watershed Management Area (WMA)
- Permittee Boundary

N

0 0.5 1 2 Miles

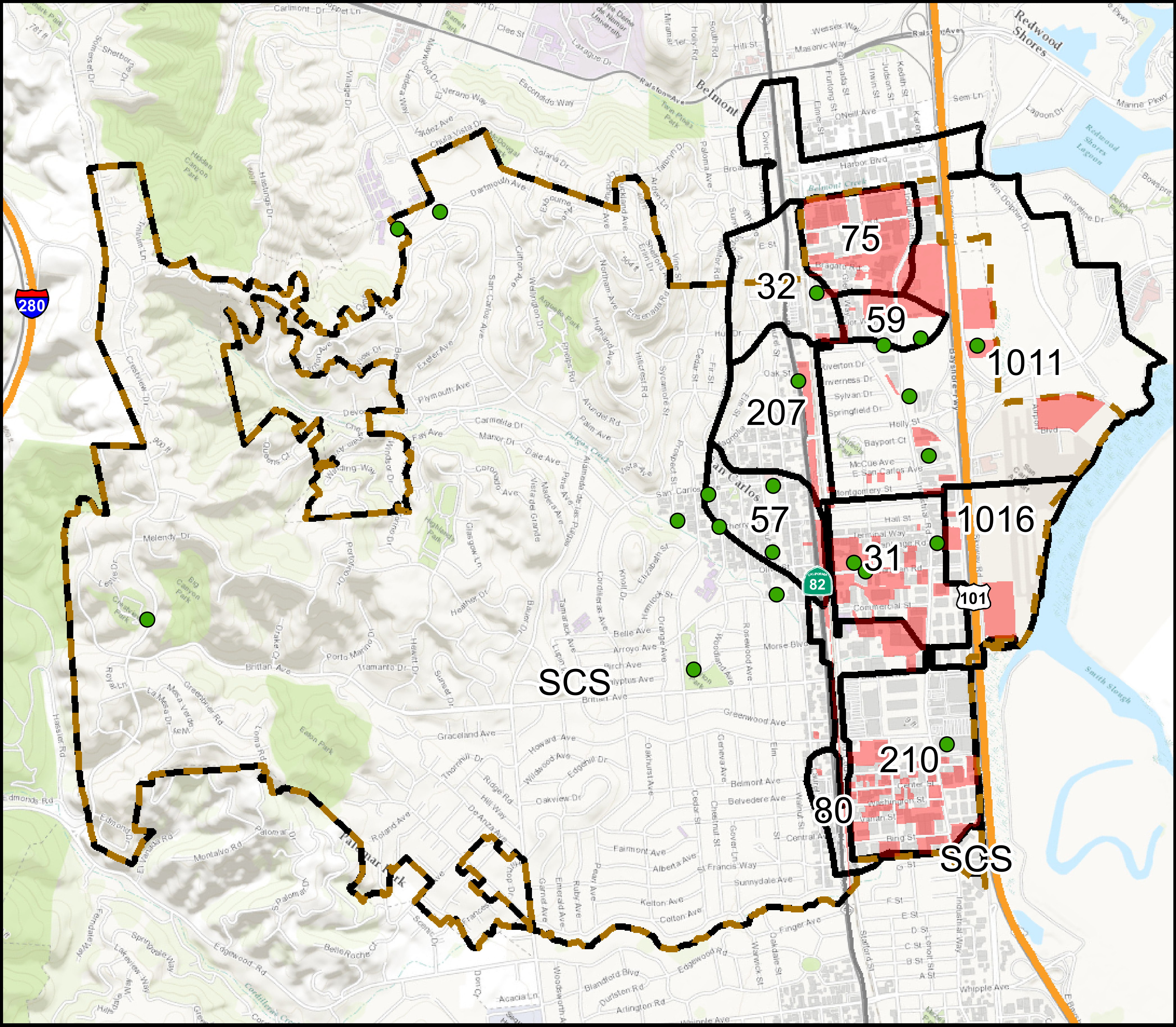


Figure B-15. WMAs and GI/LID in San Carlos

San Carlos Watershed Management Area Map

GI/LID Location

High Interest Areas

Watershed Management Area (WMA)

Permittee Boundary

0 0.25 0.5 1 Miles

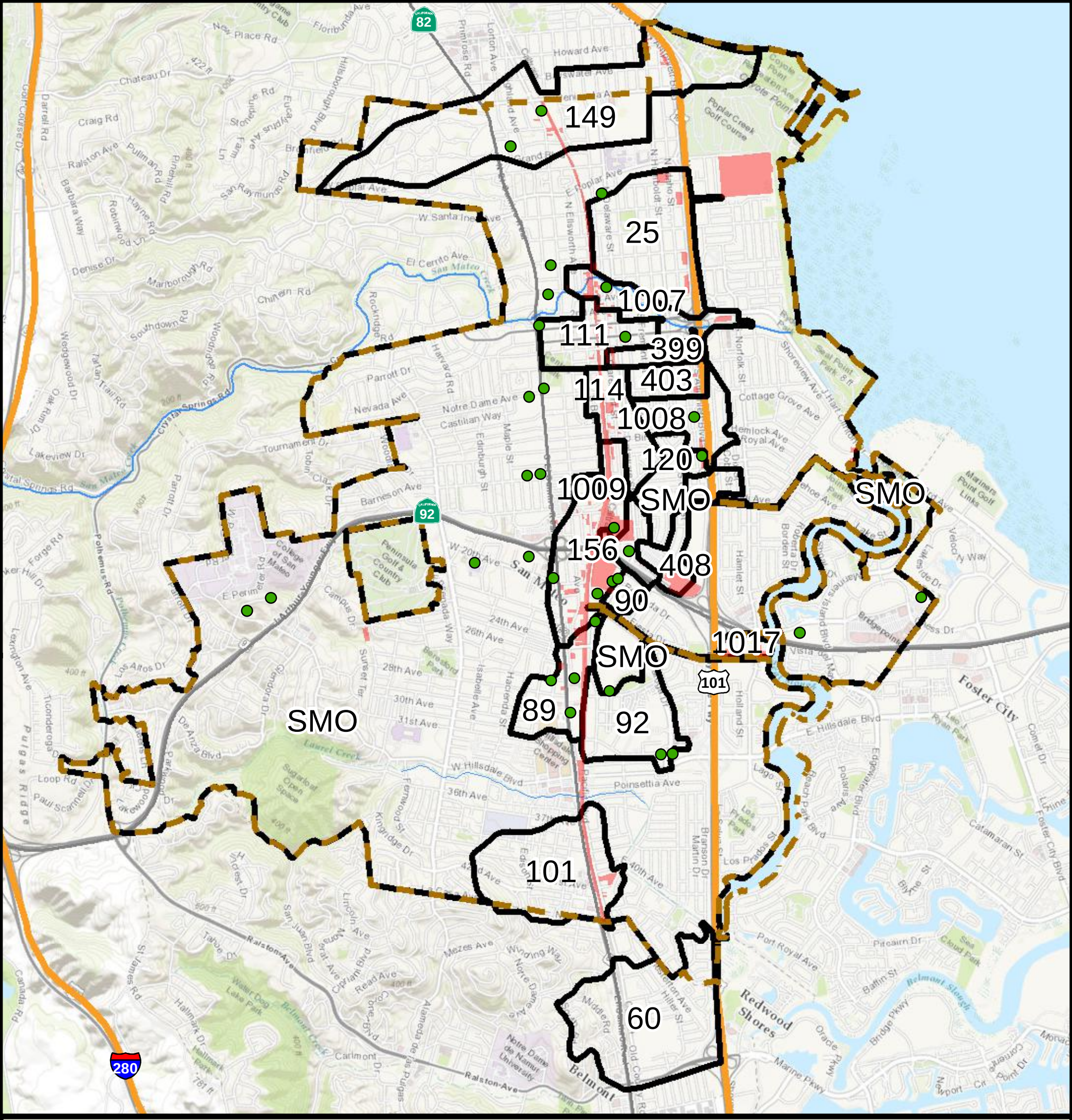


Figure B-16. WMAs and GI/LID in San Mateo (City)

San Mateo Watershed Management Area Map

GI/LID Location

High Interest Areas

Watershed Management Area (WMA)

Permittee Boundary

N

0 0.5 1 2 Miles

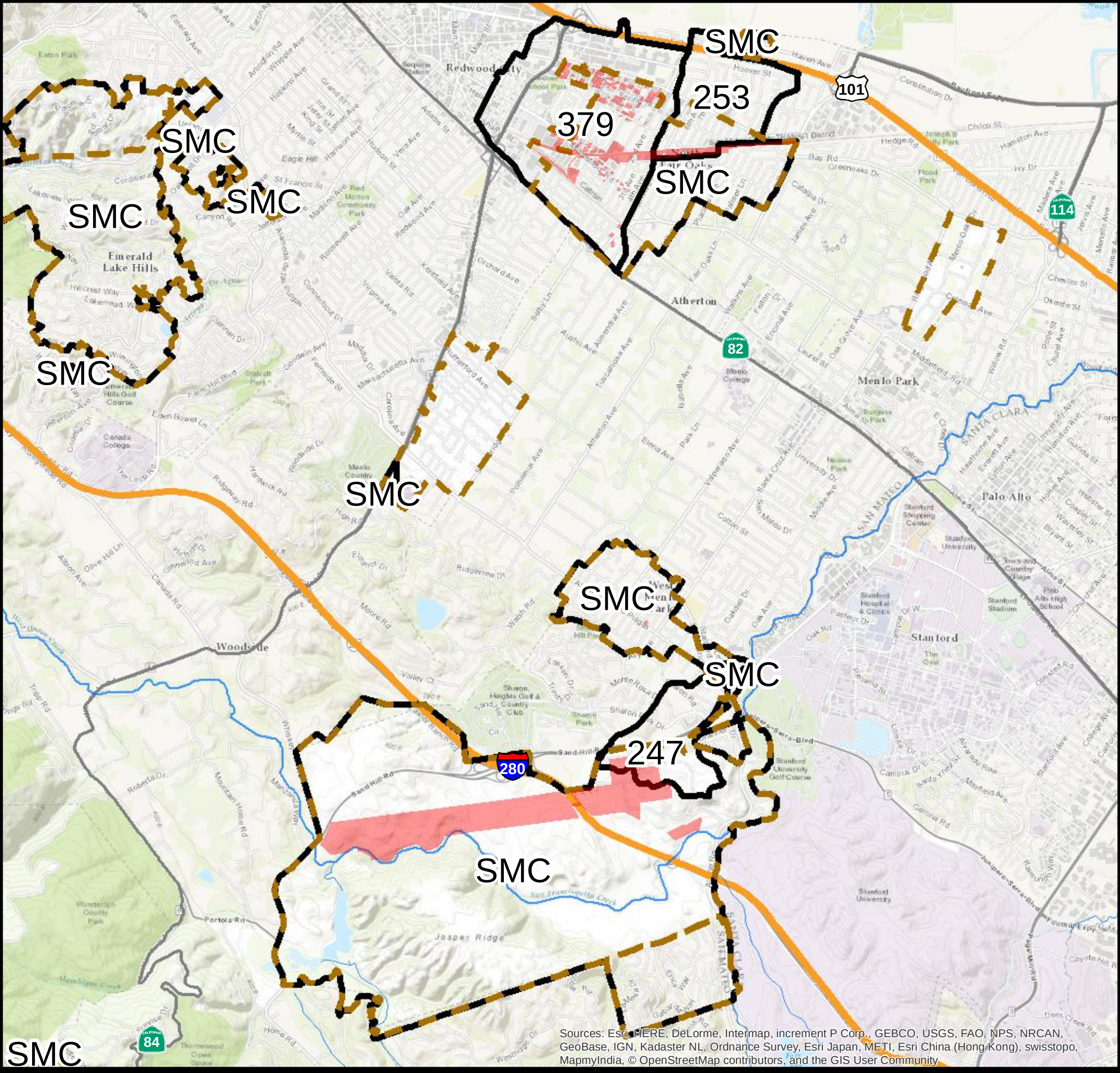


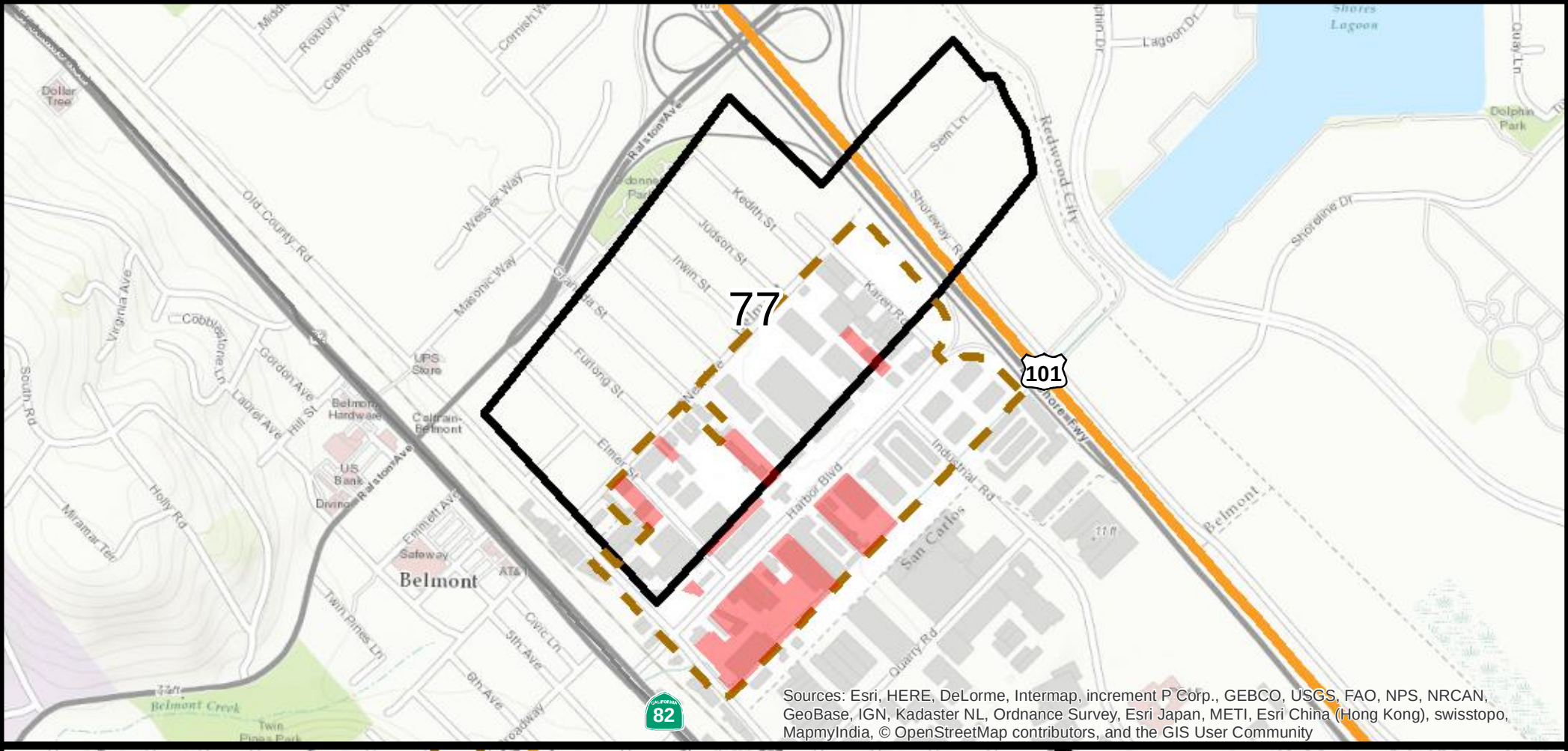
Figure B-17a. WMAs and GI/LID in San Mateo County

San Mateo County Watershed Management Area Map

- GI/LID Location
- High Interest Areas
- Watershed Management Area (WMA)
- Permittee Boundary

N

0 0.5 1 2 Miles



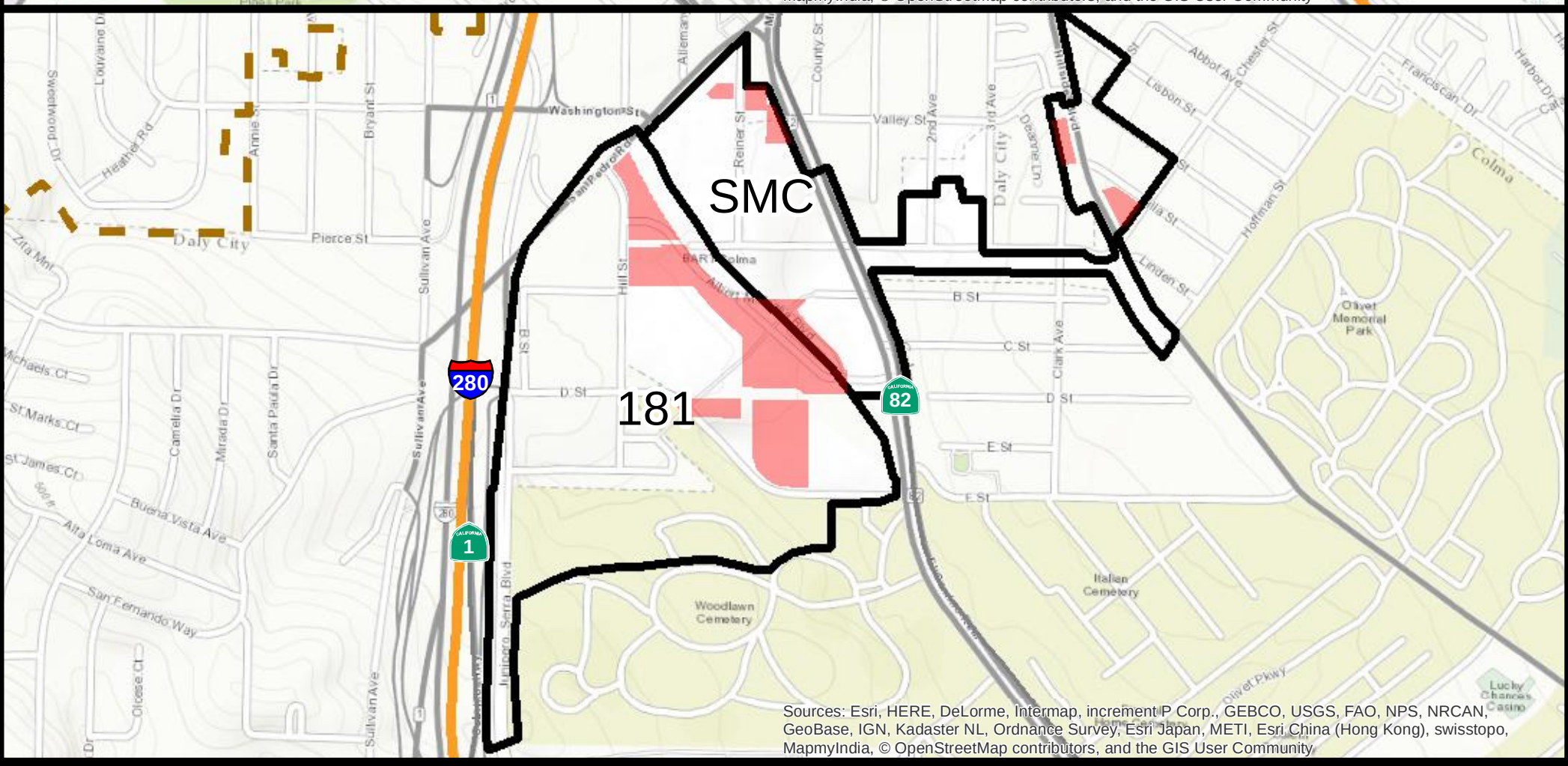


Figure B-17b. WMAs and GI/LID in San Mateo County

San Mateo County Watershed Management Area Map

- GI/LID Location
- High Interest Areas
- Watershed Management Area (WMA)
- Permittee Boundary

N

0 0.1 0.2 0.4 Miles

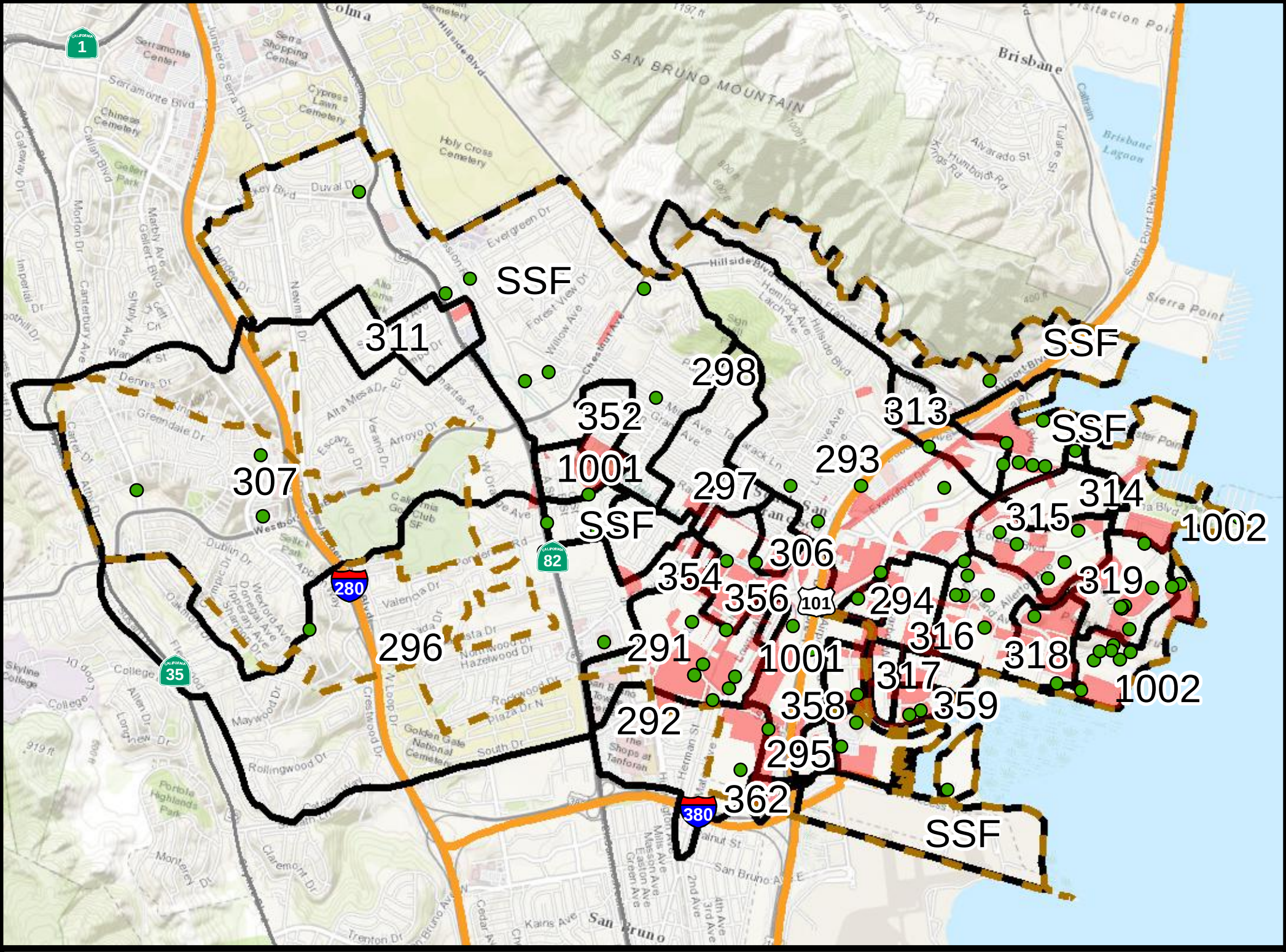


Figure B-18. WMAs and GI/LID in South San Francisco

South San Francisco Watershed Management Area Map

GI/LID Location

High Interest Areas

Watershed Management Area (WMA)

Permittee Boundary

N

0 0.5 1 2 Miles

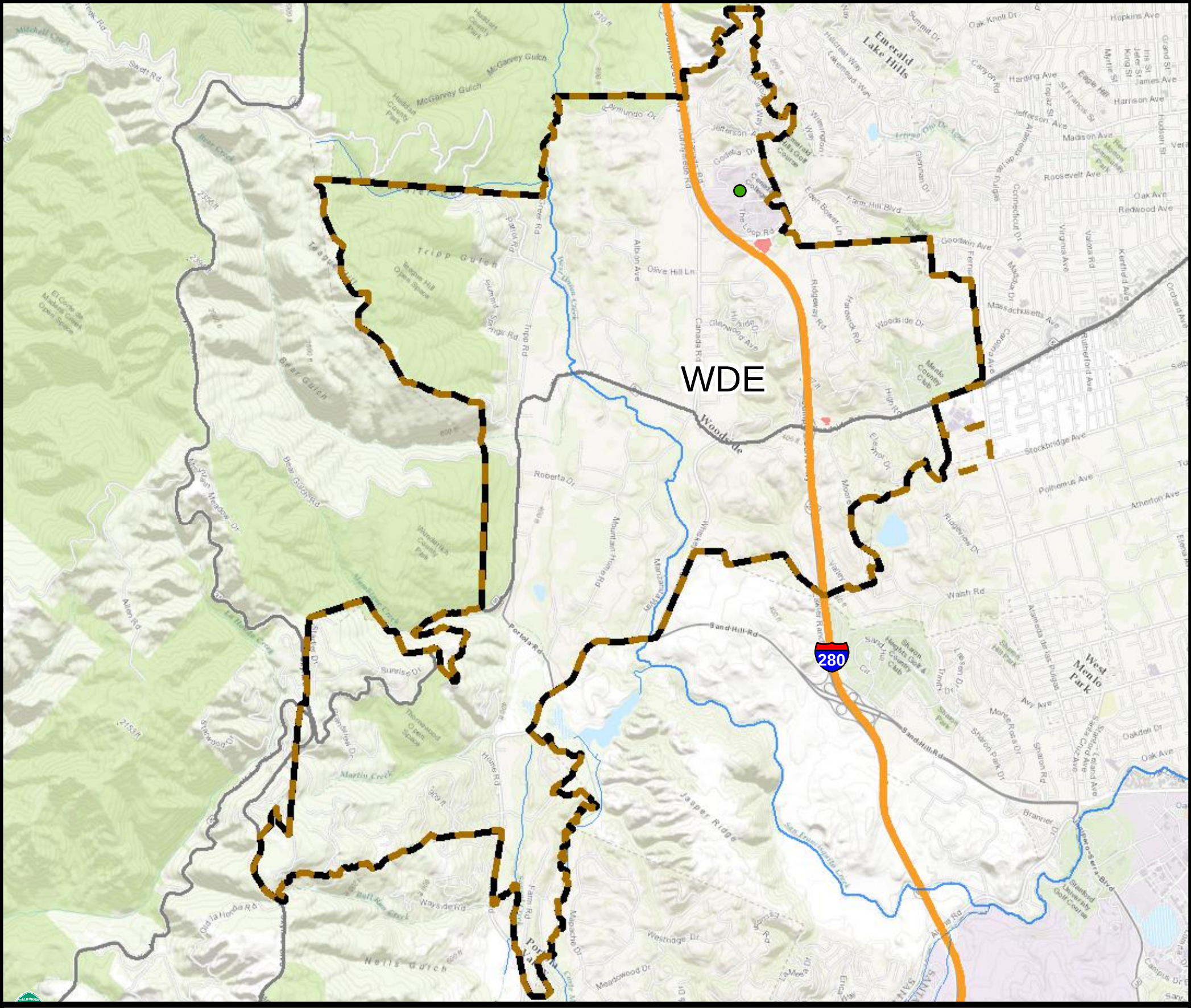


Figure B-19. WMAs and GI/LID in Woodside

Woodside Watershed Management Area Map

GI/LID Location

High Interest Areas

Watershed Management Area (WMA)

Permittee Boundary

0 0.5 1 2 Miles

APPENDIX C

Table C-1. Summary of the information gathered to-date on existing and planned GI stormwater treatment projects in Atherton.

WMA	Public or Private	Construction Status	APN	Project Name	Description of stormwater treatment system(s)	Multiple Addresses/ Parcels?	Geocode Address	Total Site Area (acres)	Area Treated (Acres)	Hydraulic sizing criteria	Date of Construction Completion (Built)	Estimated Completion Date (Planned)	Does or will the facility have infiltration (i.e., lined or unlined)?	Does or will the facility have an underdrain ?
ATH	Private	Built	070-390-010	Sacred Heart Schools Stadium/West fields	Bioretention ponds	Yes	150 Valparaiso Ave., Atherton, CA	61.20	7.60	flow	May-2011		Yes	No
	Private	Built	070-360-070	Menlo School Arts Building	Bioretention ponds		50 Valparaiso Ave., Atherton, CA	43.10	1.05	flow	Sep-2010		Yes	No
	Private	Built	070-390-010	Sacred Heart Schools Lower Schools	Bioretention ponds/Flow through planters	Yes	150 Valparaiso Ave., Atherton, CA		4.40	flow	Oct-2011		Yes	No
	Private	Built	070-390-010	Sacred Heart Schools Science + Life Center	Bioretention ponds	Yes	150 Valparaiso Ave., Atherton, CA		1.16	flow	Jan-2014		Yes	No

Table C-2. Summary of the information gathered to-date on existing and planned GI stormwater treatment projects in Belmont.

WMA	Public or Private	Construction Status	APN	Project Name	Description of stormwater treatment system(s)	Multiple Addresses/ Parcels?	Geocode Address	Total Site Area (acres)	Area Treated (Acres)	Hydraulic sizing criteria	Date of Construction Completion (Built)	Estimated Completion Date (Planned)	Does or will the facility have infiltration (i.e., lined or unlined)?	Does or will the facility have an underdrain ?
60	Private	In Construction		490 El Camino Real	Bioswale/retention		490 El Camino Real, Belmont, CA	1.84	1.84	1.b			Yes	
1011	Private	Built		Nikon Precision	Bioswale/retention		1399 Shoreway Rd, Belmont, CA	5.38	5.38	1.b			Yes	
BEL	Private	Built		Charles Armstrong School	Bioswale/retention		1405 Solano Drive, Belmont, CA						Yes	
	Private	Built		Summerhill Cambridge LLC	Bioswale/retention		2440 Carlmont Drive, Belmont, CA						Yes	
	Private	In Construction		Crystal Springs Uplands School	Bioswale/retention		10 Davis Drive, Belmont, CA	6.64	6.64	1.b			Yes	
	Private	In Construction		Notre Dame de Namur University	Bioswale/retention		1500 Ralston Ave, Belmont, CA	2.21	2.21	1.b			Yes	
	Public	Planned		Ruth Avenue	Bioswale/retention		Ruth Ave, Belmont, CA						Yes	

Table C-3. Summary of the information gathered to-date on existing and planned GI stormwater treatment projects in Brisbane.

WMA	Public or Private	Construction Status	APN	Project Name	Description of stormwater treatment system(s)	Multiple Addresses/ Parcels?	Geocode Address	Total Site Area (acres)	Area Treated (Acres)	Hydraulic sizing criteria	Date of Construction Completion (Built)	Estimated Completion Date (Planned)	Does or will the facility have infiltration (i.e., lined or unlined)?	Does or will the facility have an underdrain ?
17	Private	Built	5180060	DCT	Flow-through Planter(s)		246 Valley Dr., Brisbane, CA		5.80	Flow and Volume Combination	Oct-2013		Yes	Yes
	Private	Built	5190020	Integrated Stone Resourcers	Flow-through Planter(s)		275 Valley Dr., Brisbane CA		3.21	Flow and Volume Combination	Jan-2014		Yes	Yes

Table C-4. Summary of the information gathered to-date on existing and planned GI stormwater treatment projects in Burlingame.

WMA	Public or Private	Construction Status	APN	Project Name	Description of stormwater treatment system(s)	Multiple Addresses/ Parcels?	Geocode Address	Total Site Area (acres)	Area Treated (Acres)	Hydraulic sizing criteria	Date of Construction Completion (Built)	Estimated Completion Date (Planned)	Does or will the facility have infiltration (i.e., lined or unlined)?	Does or will the facility have an underdrain ?
16	Private	Planned			Bioretention		300 Airport Blvd., Burlingame, CA	18.12	14	2.c				
141	Private	Built			Bioretention		1450 Rollins Rd, Burlingame, CA	1.18	0.55	2.c	7/12/2011		Yes	
149	Private	In Construction			Bioretention		85 California Dr, Burlingame, CA	0.506	0.44	2.c			TBD	
164	Private	Built			Bioretention		1855 Rollins Rd, Burlingame, CA	2	0.43	1.b	7/25/2014		Yes	
	Private	In Construction			Bioretention		1811 Adrian Rd, Burlingame, CA	3.19	0.54	3			Yes	
1006	Private	Built			Bioretention		60 Edwards Ct, Burlingame, CA	2.79	1.98	2.c	4/21/2015		Yes	
	Private	Planned			Bioretention	Yes	1008 Rollins Rd, Burlingame, CA	5.4	4.58	2.c			Yes	
	Private	Planned			Bioretention/Rainwater Harvesting		1300 Bayshore Hwy, Burlingame, CA	6.2	2.74	2.c			TBD	
BUR	Private	Built			Flow-through Planter(s)		120 Primrose Rd, Burlingame, CA	0.34	0.27	2.c	7/1/2014		Yes	
	Private	Built			Flow-through Planter(s)		1800 Trousdale, Burlingame, CA	0.5	0.32	2.c	9/21/2015		Yes	
	Private	Built			Flow-through Planter and Media Vault		1450 Howard Ave, Burlingame, CA	3.44	3.14	2.c	10/15/2011		Yes	
	Private	Built			Kristar Bioretention Media Vault		260 El Camino Real, Burlingame, CA	0.32	0.07	1.b	2/22/2010			
	Private	Built			Vortex Hydrodynamic Separator		1818 Trousdale, Burlingame, CA	1	1.00		5/13/2015		Yes	
	public	Built	029-152-300	Sustainable Streets and Parking Lot Demonstration	rain garden (bioretention without underdrain) and curb extension		1227 Donnelly Ave, Burlingame, CA		1.32	flow	Jan-2011		Yes	
	Private	In Construction			Bioretention and flow-through planter		1600 Trousdale, Burlingame, CA	1	0.75	2.c			Yes	
	Private	In Construction			Media Filter(s)		225 California Dr, Burlingame, CA	0.402	0.395	2.c				
	Private	Planned		Peninsula Wellness Community	TBD		Trousdale and Marco Polo, Burlingame, CA	8.72	8.72				TBD	
	Private	Planned			Dry Well		556 El Camino Real, Burlingame, CA	0.346	0.195	TBD			TBD	
	Private	Planned			Flow-through Planter(s)		988 Howard Ave, Burlingame, CA	0.352	0.24	2.c			Yes	
	Private	Planned			Flow-through Planter(s)	Yes	1132 Douglas Ave, Burlingame, CA	0.355	0.29	TBD			TBD	
	Private	Planned			TBD		1214 Donnelly Ave, Burlingame, CA	0.36	0.36	TBD			TBD	
	Private	Planned			TBD		1509 El Camino Real, Burlingame, CA	0.446	0.45	TBD			TBD	

Table C-5. Summary of the information gathered to-date on existing and planned GI stormwater treatment projects in Colma.

WMA	Public or Private	Construction Status	APN	Project Name	Description of stormwater treatment system(s)	Multiple Addresses/ Parcels?	Geocode Address	Total Site Area (acres)	Area Treated (Acres)	Hydraulic sizing criteria	Date of Construction Completion (Built)	Estimated Completion Date (Planned)	Does or will the facility have infiltration (i.e., lined or unlined)?	Does or will the facility have an underdrain ?
329	Private	Built	008-373-550	Vivana Fair (Retail Development)	Infiltration Basin		990 Serramonte Blvd, Colma, CA	0.65	0.65	1.b	Sep-2010		Yes	no
COL	Private	Built	011-360-420	Cypress Lawn Cemetery Development Phase III	Infiltration Basin		1701 Hillside Blvd, Colma, CA	0.69	0.69	1.b	Nov-2010		Yes	No
	Private	Built	011-360-490	Cypress Lawn Cemetery Development Phase IV	Bioretention		1701 Hillside Blvd, Colma, CA	5.17	5.17	2.c	Jun-2014		Yes	yes
	Private	Built	008-373-200	Lexus of Serramonte (Auto dealership Renovation)	bio-retention, media filter		700 Serramonte Blvd, Colma, CA	4.13	4.13	1.b	Nov-2010		Yes	Yes
	Private	Built	008-373-490	Target Expansion Project	bio-retention, tree well filter, CDS unit		5001 Junipero Serra Blvd, Colma, CA	8.55	8.55	2.c	Oct-2010		Yes	Yes
	Public	Built		Hillside Blvd (Hoffman St to Serramonte Blvd)	bio-retention/rain gardens		Hoffman St, Colma, CA		0.93	2.c	Apr-2015		Yes	yes
	Public	Planned	011-341-340	CarMax Dealership (auto dealership construction)	Bioretention		445 Serramonte Blvd, Colma, CA	8.88		2.c		Oct-2017	Yes	yes
	Public	Planned	011-370-221	Colma Veterans Housing (housing project)	Bioretention	Yes	1690 Mission Rd, Colma, CA	2.23		2.c		Dec-2018	Yes	yes
	Public	Planned	011-360-170	Golden Hill Memorial (cemetery construction)	Bioretention		2099 Hillside Blvd, Colma, CA	0.68		2.c		n/a	Yes	yes
	Public	Planned	011-341-140, 011-341-850	Hills of Eternity (cemetery expansion)	Bioretention	Yes	1299 El Camino Real, Colma, CA	1.01		2.c		Jun-2017	Yes	no
	Public	Planned	008-392-320	Town Hall Renovation (public facility renovation)	Bioretention		1198 El Camino Real, Colma, CA	1.72		2.c		Oct-2017	Yes	yes

Table C-6. Summary of the information gathered to-date on existing and planned GI stormwater treatment projects in Daly City.

WMA	Public or Private	Construction Status	APN	Project Name	Description of stormwater treatment system(s)	Multiple Addresses/ Parcels?	Geocode Address	Total Site Area (acres)	Area Treated (Acres)	Hydraulic sizing criteria	Date of Construction Completion (Built)	Estimated Completion Date (Planned)	Does or will the facility have infiltration (i.e., lined or unlined)?	Does or will the facility have an underdrain ?
329	Private	Built		Gellert Marketplace Redevelopment	Biotreatment	Yes	301 Gellert Boulevard, Daly City, CA	6.83	6.83	2.c	Mar-2015			
	Private	Built		Serramonte Shopping Center (Dick's Sporting Goods)	Biotreatment	Yes	64 Serramonte Center, Daly City, CA	79.70	79.70	2.c	Mar-2014			
	Private	Planned	008-345-020	Crestview Estates	Bioretention		60 Christopher Court, Daly City, CA	14.04	14.04	3				
	Private	Planned	091-240-070, -090, -100, -110, -120, -130, -150, -160, -170, -180, -190, -210, -220, -230, -250, -260, -270, -280, -300, -320, and -330	Shopping Center Expansion	Biotreatment	Yes	3 Serramonte Boulevard , Daly City, CA	72.40	72.40	Flow and Volume Combination				
DCY	Private	Built		Shell Gas Station Remodel	Biotreatment		950 Hillside Boulevard, Daly City, CA	0.44	0.44	flow	Dec-2013			
	Private	Planned	006-392-050, 060,-070, -080; and 006-393-080, -090, -190 & -200	Garden Valley Residential Subdivision	Biotreatment	Yes	317 Second Ave, Daly City, CA	1.77	1.77	2.c				
	Private	Planned	091-611-040	Shell Gasoline Station	Bioretention		390 Hickey Boulevard, Daly City, CA	0.71	0.71	2.c				
	Private	Planned	006-493-190 and -200	Steak and Shake Restaurant	Biotreatment	Yes	362 East Market St, Daly City, CA	0.58	0.58	flow				
	Private	Planned	003-090-040 and 003-211-310	Wellington Heights	Bioretention	Yes	387 Peoria St, Daly City, CA	4.90	4.90	2.c				
	Private	unknown		Columbarium Building for the Chinese Cemetery	Biotreatment		Callan Blvd and Hickey Blvd, Daly City, CA	35.00	35.00	2.c				
Drains to Ocean	Private	Built		CVS Pharmacy	Biotreatment; flow through planter		165 Pierce St, Daly City, CA	1.15	1.15	2.c	Sep-2013			
	Private	Built		Taco Bell Restaurant	Bioretenion; flow through planters		7255 Mission St, Daly City, CA	0.44	0.44	flow	Jul-2013			
	Private	Planned		Family Housing	Bioretention		6800 Mission St, Daly City, CA	0.79	0.79	2.c				
	Private	Planned	006-344-020, 006-344-110, 006-344-160, and 006-344-170	Nursery Residential Subdivision	Biotreatment	Yes	515 Washington St, Daly City, CA	1.72	1.72	4% rule				

Table C-7. Summary of the information gathered to-date on existing and planned GI stormwater treatment projects in East Palo Alto.

WMA	Public or Private	Construction Status	APN	Project Name	Description of stormwater treatment system(s)	Multiple Addresses/ Parcels?	Geocode Address	Total Site Area (acres)	Area Treated (Acres)	Hydraulic sizing criteria	Date of Construction Completion (Built)	Estimated Completion Date (Planned)	Does or will the facility have infiltration (i.e., lined or unlined)?	Does or will the facility have an underdrain ?
67	Private	Built		Pitcher Drilling	Bioretention		218 Demeter, East Palo Alto, CA	1.20	1.20	Volume	3/1/2014			Yes
	Public	Planned		*Northern Portion East of Illinois Ave north of Demeter/Pulgas/Tara Rd roadway ends*	Vegetation based/bioswales	Yes	Illinois Ave, East Palo Alto, CA	TBD		Fit to site maximum extent practicable (no missed opportunities)		unknown	Yes	Yes
68	Private	Built		Cummings Park	vegetaed swale, vortex separator, storm drain inserts		1765 E. Bayshore Rd, East Palo Alto, CA							
	Public	Built		SUHSD Myrtle Street School Expansion	Bioretention		980 Myrtle St, East Palo Alto, CA	1.77		Volume				
70	Private	Built		First Free Wesleyan Tongan Church	treatment trench system; pervious pavement;		432 Bell St, East Palo Alto, CA	0.61	0.61	Volume	6/26/2014			
	Private	Built		Four Seasons Hotel; University Circle	Media Filter(s)	Yes	2050 University Ave, East Palo Alto, CA							
	Private	Built		Garden School	Bioswale(s)	Yes	1063 Garden Ave, East Palo Alto, CA	2.58	2.58		FY2011-12			
	Private	Built		Ikea	Vegetated Swale, sand filters, filtration tanks		1700 East Bayshore Rd, East Palo Alto, CA							
	Private	Built		La Estrellita Market	Bioswale(s)		2387 University Ave, East Palo Alto, CA							
	Private	Built		YMCA	2 Vortsentry DVS vault systems, treatment trench, pump system		555 Bell St, East Palo Alto, CA							
	Public	Built		East Palo Alto Academy	Bioswale(s)		1039 Myrtle St, East Palo Alto, CA				FY2011/12			
	Public	Built		MPFPD Fire Station #2	Stormwater detention vault; trench drain; valved catch basin; backflow preventer		2290 University Ave, East Palo Alto, CA	0.57			6/6/2013			
	Public	Planned		Bay Road	Vegetation based/bioswales	Yes	Bay Road, East Palo Alto, CA	TBD		Fit to site maximum extent practicable (no missed opportunities)		Dec-2019	No	yes
	Public	Planned		Cooley Landing	Partial Bioswale	Yes	Cooley Landing Park, East Palo Alto, CA	TBD		Fit to site maximum extent practicable (no missed opportunities)		2016/2017	No	yes
	Public	Planned		Ravenswood Business District	Vegetation based/bioswales	Yes	Bay Rd, East Palo Alto, CA	TBD		Fit to site maximum extent practicable (no missed opportunities)		unknown	No	yes
	Public	Planned		Weeks Street	Vegetation based/bioswales	Yes	Weeks St, East Palo Alto, CA	TBD		Fit to site maximum extent practicable (no missed opportunities)		unknown	No	yes
	Private	unknown		2331 University Clarum Homes	bioretention and pervious pavement		2331 University Ave, East Palo Alto, CA	0.87	0.87					
	Private	unknown		Blue Jay Court Development		Yes	765 Runnymede St, East Palo Alto, CA							
	Private	unknown		MidPen Senior Housing w/ EPA Can DO	Infiltration trench and permeable joint pavement		2358 University Ave, East Palo Alto, CA	0.75	0.75					
	Private	unknown		Montage/ Edenbridge DBK Homes	Bioretention		2485 PULGAS Ave, East Palo Alto, CA	4.98	4.98					
	Private	unknown		Sobrato Projects			2100 University Ave, East Palo Alto, CA	2.95	2.95					
1015	Private	Built		151 & 264 Tara Road	Vegetated Swale, sand filters, filtration tanks	Yes	151 Tara Rd, East Palo Alto, CA							
	Private	Built		Ravenswood Family Health Center	Bioretention and flow-through planter		1885 Bay Rd, East Palo Alto, CA 94303	2.70	2.70	Volume	4/9/2015			
	Public	Planned		Tara Road	Vegetation based/bioswales	Yes	Tara Rd, East Palo Alto, CA	TBD		Fit to site maximum extent practicable (no missed opportunities)		unknown	No	yes
EPA	Private	Built		1160 Weeks St Subdivision	Bioretention; pervious pavement; self retaining areas.	Yes	1163 Weeks St, East Palo Alto, CA	0.62	0.62	Volume	9/2/2014			
	Private	Built		Pulgas Avenue Mixed-Use Project	sand filters		Pulgas Ave, East Palo Alto, CA							
	Public	Planned		Pulgas Avenue	Vegetation based/bioswales	Yes	Pulgas Ave, East Palo Alto, CA	TBD		Fit to site maximum extent practicable (no missed opportunities)		unknown	No	yes

Table C-8. Summary of the information gathered to-date on existing and planned GI stormwater treatment projects in Foster City.

WMA	Public or Private	Construction Status	APN	Project Name	Description of stormwater treatment system(s)	Multiple Addresses/ Parcels?	Geocode Address	Total Site Area (acres)	Area Treated (Acres)	Hydraulic sizing criteria	Date of Construction Completion (Built)	Estimated Completion Date (Planned)	Does or will the facility have infiltration (i.e., lined or unlined)?	Does or will the facility have an underdrain ?
1010	Private	Built		Carl's Jr.	Bioretention		1141 Triton Drive, Foster City, CA	0.797	0.80	2.c			Yes	No
	Private	Built		Gilead NLB-1	Bioretention		368 Lakeside Drive, Foster City, CA	4.54	4.54	2.c	Aug-2013		Yes	No
	Private	Built		Gilead-New Parking Garage	Bioretention		309 Lakeside Drive, Foster City, CA	3.53	3.53	2.c		Winter 2016	Yes	No
	Private	Built		Gilead-New Surface Parking Lot	Bioretention		303 Welocity Way, Foster City, CA	2.22	2.22	2.c	Jan-2014		Yes	No
	Private	Built		Gilead-Replace Existing Builidng & Parking Garage	Bioretention		355 Lakeside Drive, Foster City, CA	4	4.00	2.c			Yes	No
	Private	In Construction		Gilead-New Building with Annex	Bioretention		309 Lakeside Drive, Foster City, CA	3.7	3.70	2.c		Winter 2016	Yes	No
	Private	In Construction		Waverly	infiltration trench; flow-through planter; pervious surface	Yes	1166 Triton Dr, Foster City, CA	6.59	6.59	3		Fall 2016	Yes	No
FCY	Private	Built		North Peninsula Jewish Campus - Parking lot expansion	Bioretention		800 Foster City Blvd, Foster City, CA	1.8	1.80		Aug-2013		Yes	No
	Private	Built		Triton Pointe	Flow-through Planters, Bioretention	Yes	558 Pilgrim Drive, Foster City, CA	4.51	4.51	2.c	Jun-2016		Yes	No
	Public	Built		City Hall	flow-through planter treatment device		610 Foster City Blvd, Foster City, CA	3.1			Sep-2004		Yes	No
	Private	In Construction		Foster Square-Atria Senior	flow-through planter ; media filter		710 Foster City Blvd, Foster City, CA	1.32	1.32	3		Winter 2016	Yes	No
	Private	In Construction		Foster Square-For sale Condos	infiltration trench; flow-through planter; pervious surface		710 Foster City Blvd, Foster City, CA	12.37	12.37	3		Winter 2016 /Spring 2017	Yes	No
	Private	In Construction		Foster Square-MidPen Affordable	flow-through planter; media filter		710 Foster City Blvd, Foster City, CA	0.52	0.52	3		Fall 2016	Yes	No
	Private	In Construction		Town Place Suites	Bioretention		1299 Chess Drive, Foster City, CA	1.69	1.69	2.c		Fall 2016	Yes	No

Table C-9. Summary of the information gathered to-date on existing and planned GI stormwater treatment projects in Hillsborough.

WMA	Public or Private	Construction Status	APN	Project Name	Description of stormwater treatment system(s)	Multiple Addresses/ Parcels?	Geocode Address	Total Site Area (acres)	Area Treated (Acres)	Hydraulic sizing criteria	Date of Construction Completion (Built)	Estimated Completion Date (Planned)	Does or will the facility have infiltration (i.e., lined or unlined)?	Does or will the facility have an underdrain ?
HIL	Private	Built	028-320-180	The Nueva School	Bioretention		6565 Skyline Blvd, Hillsborough, CA		0.10	4% Rule	Mar-2016		No	Yes
	Private	Built	028-320-180	The Nueva School	Pervious Concrete		6565 Skyline Blvd, Hillsborough, CA		0.06	4% Rule	Mar-2016		No	Yes
	Public	In Construction	031-263-150	Vista Tank	Pervious Pavers		Black Mountain Rd and Marlborough Rd, Hillsborough, CA		0.02	None		Sep-2016	Yes	no

Table C-10. Summary of the information gathered to-date on existing and planned GI stormwater treatment projects in Menlo Park.

WMA	Public or Private	Construction Status	APN	Project Name	Description of stormwater treatment system(s)	Multiple Addresses/ Parcels?	Geocode Address	Total Site Area (acres)	Area Treated (Acres)	Hydraulic sizing criteria	Date of Construction Completion (Built)	Estimated Completion Date (Planned)	Does or will the facility have infiltration (i.e., lined or unlined)?	Does or will the facility have an underdrain ?
66	Private	Built	055421190	1055 O'BRIEN DR	Flow-through Planter(s)		1055 O'BRIEN DR, Menlo Park, CA	1.50	1.30	Area	Nov-2013		No	Yes
	Private	Built	55433340	20 KELLY CT	Bioswale(s)		20 KELLY CT, Menlo Park, CA	1.57	1.68	Area	Nov-2015		No	Yes
	Private	Planned		1080 O'BRIEN	TBD		1080 O'BRIEN, Menlo Park, CA			TBD			TBD	TBD
	Private	Planned		1315 O'BRIEN	BIORETENTION, FLOW THRU PLANTER, SELF RETAINING		1315 O'BRIEN, Menlo Park, CA	1.66	0.97	Area			No	Yes
71	Private	Built	055411150	1 HACKER WAY	Bioretention 1-21, SILVA CELLS 1-7		1 HACKER WAY, Menlo Park, CA	57.04	47.46	Area	Jun-2012		No	Yes
	Private	Built	062272800	100 MIDDLEFIELD RD	FLTR UNIT #1 #2, P1-P5 GRASS FLTRS, VEG SW 1, 2		100 MIDDLEFIELD RD, Menlo Park, CA	0.50	0.45	Area	May-2011		No	Yes
	Private	Built	055412050	1520 WILLOW RD	DETENTION BASIN		1520 WILLOW RD, Menlo Park, CA	4.26	2.61	Area	Jun-2000		No	Yes
	Private	Built	055440230	960 HAMILTON AVE	Flow-through Planter(s)		960 HAMILTON AVE, Menlo Park, CA	3.52	2.94	Area	Mar-2008		No	Yes
	Private	Planned		1221-1225 WILLOW ROAD	Bioretention	Yes	1221 WILLOW Rd, Menlo Park, CA	2.84	2.08	Area			No	Yes
	Private	Planned		777 HAMILTON	TBD		777 HAMILTON, Menlo Park, CA			TBD			TBD	TBD
238	Private	Built	055243050	162 JEFFERSON DR	Bioretention A-F, PUMPS 1-6		162 JEFFERSON DR, Menlo Park, CA	1.17	1.03	Area	Dec-2015		No	Yes
	Private	Planned		100 INDEPENDENCE DR	BIORETENTION, SELF-RETAINING, MECHANICAL		100 INDEPENDENCE DR, Menlo Park, CA	3.59	2.71	Area			No	Yes
	Private	Planned		190 INDEPENDENCE DR	BIORETENTION, SELF-RETAINING, MECHANICAL		190 INDEPENDENCE DR, Menlo Park, CA	3.51	2.75	Area			No	Yes
239	Private	Planned		3639 HAVEN AVE	TBD		3639 HAVEN AVE, Menlo Park, CA			TBD			TBD	TBD
247	Private	Planned		350 SHARON PARK	TBD		350 SHARON PARK, Menlo Park, CA			TBD			TBD	TBD
252	Private	Built	061422480	1460 EL CAMINO REAL	CDS Unit(s)		1460 EL CAMINO REAL, Menlo Park, CA	0.86	0.86	Area	Dec-2014		No	Yes
	Private	Built	061422490	1489 SAN ANTONIO ST	CDS Unit(s)		1489 SAN ANTONIO ST, Menlo Park, CA	0.69	0.65	Area	Feb-2015		No	Yes
	Private	Planned		1300 EL CAMINO	BIORETENTION, FLOW THRU PLANTERS		1300 EL CAMINO, Menlo Park, CA	7.41	6.44	Area			No	Yes
	Private	Planned		133 ENCINAL	TBD		133 ENCINAL, Menlo Park, CA			TBD			TBD	TBD
	Private	Planned		1400 EL CAMINO	CDS Unit; flow-through platers		1400 EL CAMINO , Menlo Park, CA	0.52	0.52	Area			No	Yes
1012	Private	Planned		FACEBOOK MPK 21	TBD		1 Facebook Way, Menlo Park, CA 94025			TBD			TBD	TBD
1014	Private	Built	055251200	4085 CAMPBELL AVE	Bioretention 1 THROUGH 4		4085 CAMPBELL AVE, Menlo Park, CA	2.83	2.53	Area	Oct-2013		No	Yes
	Private	Planned		1020 MARSH ROAD	BIORETENTION, TREE CREDITS, SELF-RETAINING AREAS		1020 MARSH Rd, Menlo Park, CA	3.10	1.10	Area			No	Yes
	Private	Planned		3645 HAVEN AVE	Flow-through Planter(s)		3645 HAVEN AVE, Menlo Park, CA	5.19	3.88	TBD			TBD	TBD
MPK	Private	Built	071033230	1100 ELDER AVE	CDS, Bioretention, grass buffers, swales, trench drain		1100 ELDER AVE, Menlo Park, CA	9.35	4.46	Area	Dec-2012		No	Yes
	Private	Built	61370040	1250 LAUREL ST	Bioretention		1250 LAUREL ST, Menlo Park, CA	0.55	0.39	Area	Unknown		No	Yes
	Private	Built	060343040	1706 EL CAMINO REAL	Bioretention 1-6		1706 EL CAMINO REAL, Menlo Park, CA	0.64	0.61	Area	Jul-2013		No	Yes
	Private	Built	074270280	2400 SAND HILL RD	Bioretention 1-4		2400 SAND HILL RD, Menlo Park, CA	12.99	5.87	Area	Sep-2015		No	Yes
	Private	Built	074270260	2484 SAND HILL RD	FILTERRA UNIT		2484 SAND HILL RD, Menlo Park, CA	4.40	2.15	Area	Sep-2012		No	Yes
	Private	Built	074260690	2800 SAND HILL RD	Bioretention		2800 SAND HILL RD, Menlo Park, CA	2.84	1.50	Area	Apr-2015		No	Yes
	Private	Built	074470110	2825 SAND HILL RD	Bioretention 1, 2		2825 SAND HILL RD, Menlo Park, CA	15.82	12.71	Area	Nov-2008		No	Yes

WMA	Public or Private	Construction Status	APN	Project Name	Description of stormwater treatment system(s)	Multiple Addresses/ Parcels?	Geocode Address	Total Site Area (acres)	Area Treated (Acres)	Hydraulic sizing criteria	Date of Construction Completion (Built)	Estimated Completion Date (Planned)	Does or will the facility have infiltration (i.e., lined or unlined)?	Does or will the facility have an underdrain ?
MPK	Private	Built	062390600	700 ALMA ST	FLOW-THRU PLANTERS 1-10, LS AREAS, TREE POD BIOFLT		700 ALMA ST, Menlo Park, CA	29.40	11.27	Area	Sep-2010		No	Yes
	Private	Built	062580010	807 PAULSON CIR	VEGETATED SWALE (S1), SHALLOW GRAVEL BASIN (UG DTNTN)		807 PAULSON CIR, Menlo Park, CA	0.17	0.07	Area	Dec-2008		No	Yes
	Private	Planned		1275 EL CAMINO	BIORETENTION, FLOW THRU PLANTERS		1275 EL CAMINO , Menlo Park, CA	0.38	0.38	Area			No	Yes
	Private	Planned		1295 EL CAMINO	Flow-through Planter(s); Pervious pavement		1295 EL CAMINO, Menlo Park, CA			Area			No	Yes
	Private	Planned		1430 O'BRIEN	TBD		1430 O'BRIEN, Menlo Park, CA			TBD			TBD	TBD
	Private	Planned		2131 SAND HILL ROAD	TBD		2131 SAND HILL Rd, Menlo Park, CA			TBD			TBD	TBD
	Private	Planned		650 LIVE OAK	TBD		650 LIVE OAK, Menlo Park, CA			TBD			TBD	TBD

Table C-11. Summary of the information gathered to-date on existing and planned GI stormwater treatment projects in Millbrae.

WMA	Public or Private	Construction Status	APN	Project Name	Description of stormwater treatment system(s)	Multiple Addresses/ Parcels?	Geocode Address	Total Site Area (acres)	Area Treated (Acres)	Hydraulic sizing criteria	Date of Construction Completion (Built)	Estimated Completion Date (Planned)	Does or will the facility have infiltration (i.e., lined or unlined)?	Does or will the facility have an underdrain ?
1005	Private	Built	024-361-070	Wilson Plaza	Bioswale(s)		350 Adrian Rd, Millbrae, CA	4.20	4.20	Volume	Jan-2007		No	No
MIL	Private	Built	021-500-190	Millbrae Estates	Bioswale(s)	Yes	1 Estates Drive, Millbrae, CA	10.7	10.7	Volume	Jan-2009		Yes	No
			021-500-280				1 Lantos Court, Millbrae, CA							
			021-500-230				10 Estates Drive, Millbrae, CA							
			021-500-140				11 Estates Drive, Millbrae, CA							
			021-500-240				12 Estates Drive, Millbrae, CA							
			021-500-370				1370 Tuolumne Drive, Millbrae, CA							
			021-500-360				15 Estates Drive, Millbrae, CA							
			021-500-250				16 Estates Drive, Millbrae, CA							
			021-500-350				17 Estates Drive, Millbrae, CA							
			021-500-130				19 Estates Drive, Millbrae, CA							
			021-500-200				2 Estates Drive, Millbrae, CA							
			021-500-290				2 Lantos Court, Millbrae, CA							
			021-500-120				21 Estates Drive, Millbrae, CA							
			021-500-310				22 Estates Drive, Millbrae, CA							
			021-500-110				23 Estates Drive, Millbrae, CA							
			021-500-100				25 Estates Drive, Millbrae, CA							
			021-500-320				26 Estates Drive, Millbrae, CA							
			021-500-090				27 Estates Drive, Millbrae, CA							
			021-500-330				28 Estates Drive, Millbrae, CA							
			021-500-180				3 Estates Drive, Millbrae, CA							
			021-500-270				3 Lantos Court, Millbrae, CA							
			021-500-340				30 Estates Drive, Millbrae, CA							
			021-500-400				33 Estates Drive, Millbrae, CA							
			021-500-070				35 Estates Drive, Millbrae, CA							
			021-500-060				37 Estates Drive, Millbrae, CA							
			021-500-050				39 Estates Drive, Millbrae, CA							
			021-500-040				41 Estates Drive, Millbrae, CA							
			021-500-030				43 Estates Drive, Millbrae, CA							
			021-500-020				45 Estates Drive, Millbrae, CA							
			021-500-010				47 Estates Drive, Millbrae, CA							

WMA	Public or Private	Construction Status	APN	Project Name	Description of stormwater treatment system(s)	Multiple Addresses/ Parcels?	Geocode Address	Total Site Area (acres)	Area Treated (Acres)	Hydraulic sizing criteria	Date of Construction Completion (Built)	Estimated Completion Date (Planned)	Does or will the facility have infiltration (i.e., lined or unlined)?	Does or will the facility have an underdrain ?
MIL	Private	Built	021-500-170	Millbrae Estates	Bioswale(s)	Yes	5 Estates Drive, Millbrae, CA	10.7	10.7	Volume	Jan-2009		Yes	No
			021-500-260				5 Lantos Court, Millbrae, CA							
			021-500-210				6 Estates Drive, Millbrae, CA							
			021-500-300				6 Lantos Court, Millbrae, CA							
			021-500-160				7 Estates Drive, Millbrae, CA							
			021-500-220				8 Estates Drive, Millbrae, CA							
			021-500-150				9 Estates Drive, Millbrae, CA							

Table C-13. Summary of the information gathered to-date on existing and planned GI stormwater treatment projects in Redwood City.

WMA	Public or Private	Construction Status	APN	Project Name	Description of stormwater treatment system(s)	Multiple Addresses/ Parcels?	Geocode Address	Total Site Area (acres)	Area Treated (Acres)	Hydraulic sizing criteria	Date of Construction Completion (Built)	Estimated Completion Date (Planned)	Does or will the facility have infiltration (i.e., lined or unlined)?	Does or will the facility have an underdrain ?
253	Private	Built	055-043-830	RC 62	Bioretention		1022 10th Ave, Redwood City, CA	0.45	0.45	4% rule	Sep-2015	-	No	
254	Private	Built	054-030-190,230,250	RC 17	Landscaping		1703 East Bayshore Rd, Redwood City, CA	4.43	4.43	flow	Aug-2007	-	Yes	yes
	Private	Built	054-030-120 through 054-030-140	RC 63	Bioretention	Yes	1775 East Bayshore Rd, Redwood City, CA	1.98	1.98	4% rule	Aug-2014	-	No	Yes
	Private	Built	054-030-050	RC 64	Bioretention		1831 East Bayshore Rd, Redwood City, CA	1.93	1.93	4% rule	Sep-2014	-	No	Yes
261	Private	Built	059-172-410 through 059-172-460	RC 11	Infiltration basin	Yes	71 Oakwood Dr, Redwood City, CA	0.38	0.38	Volume	May-2007	-	Yes	Yes
	Private	Built	059-172-470 through 059-172-510	RC 12	Infiltration basin	Yes	75 Oakwood Dr, Redwood City, CA	0.36	0.36	Volume	Sep-2007	-	Yes	Yes
	Private	Built	059-072-430, 059-072-440	RC 3	CDS Unit(s)	Yes	910 Woodside Rd , Redwood City, CA	0.31	0.31	flow	Jan-2005	-		
	Private	Built	059-240-920	RC 31	Media Filter(s)		885 Woodside Rd, Redwood City, CA	0.70	0.70	flow	Jul-2009	-	No	
	Private	Built	059-162-090	RC 36	Biortention treatment area, pump and detention system		2580 El Camino Real, Redwood City, CA	2.51	2.51	Flow and Volume Combination	Oct-2014	-	yes	yes
	Private	Built	059-172-070, 059-172-370 & 059-172-380	RC 49	Bioretention	Yes	2808 El Camino Real, Redwood City, CA	1.08	1.08	4% rule	Oct-2015	-	Yes	Yes
	Private	Built	059-131-260	RC 54	Bioretention		318 W Oakwood Blvd, Redwood City, CA	0.10	0.10	4% rule	Oct-2015	-	Yes	Yes
	Private	Built	059-131-270	RC 55	Bioretention		18 Rossi Lane, Redwood City, CA	0.10	0.10	4% rule	Jul-2016	-	Yes	Yes
	Private	Built	059-131-290	RC 57	Bioretention		68 Rossi Lane, Redwood City, CA	0.10	0.10	4% rule	Jul-2016	-	Yes	Yes
	Private	Built	059-131-310	RC 59	Bioretention		328 W Oakwood, Redwood City, CA	0.10	0.10	4% rule	Oct-2015	-	Yes	Yes
	Private	Planned	059-131-280	RC 56	Bioretention		28 Rossi Lane, Redwood City, CA	0.10	0.10	4% rule		2016	Yes	Yes
	Private	Planned	059-131-300	RC 58	Bioretention		38 Rossi Lane, Redwood City, CA	0.10	0.10	4% rule		2016	Yes	Yes
	Private	Planned	053-372-150	RC 82	Bioretention		2215 El Camino Real, Redwood City, CA	0.86	0.86	Flow and Volume Combination		2018	No	Yes
	Public	Planned	093-520-020	RC 93	Swales and Vegetated Basins		Linden St and Park St, Redwood City, CA	0.27		flow		2017	Yes	No
266	Private	Built	052-434-030	RC 2	CDS Unit(s)		1135 Veterans Blvd , Redwood City, CA	0.44	0.44	flow	Dec-2004	-		
	Private	Built	052-376-030, & 053-202-140	RC 44	Kristar upflo vault, kristar trench drain filter, filterra bioretention system, stormwater	Yes	1100 Veterans Blvd, Redwood City, CA	6.12	6.12	flow/volume based & 4% rule	Sep-2014	-	Yes	Yes
	Private	Built	052-392-580	RC 47	Bioretention areas, permeable pavers		1300 Maple, Redwood City, CA	4.65	4.65	flow/volume based & 4% rule	Mar-2016	-	Yes	Yes
324	Private	Built	053-173-220	RC 41	Media Filter(s)		145 Monroe St, Redwood City, CA	2.24	2.24	flow	Dec-2015	-	No	
	Private	Built	053-093-150	RC 8	CDS/Vort/Sentry Vortec	Yes	1250 El Camino Real, Redwood City, CA	0.64	0.64	flow	Nov-2005	-		
	Private	Planned	053-171-120	RC 67	Media Filter(s)		103 Wilson St, Redwood City, CA	1.14	1.14	flow		2017	No	
	Private	Planned	053-174-090 through 053-174-120	RC 75	Media Filters and Vault Detention System	Yes	1305 El Camino Real, Redwood City, CA	0.72	0.72	flow		2017	No	
	Private	Planned	053-176-010, & 053-176-110 through 053-176-160	RC 89	Media Filter(s)	Yes	1409 El Camino Real, Redwood City, CA	1.52	1.52	flow		2018	No	
325	Public	Planned	Street Segment	RC 90	Bioretention	Yes	1204 Middlefield Rd, Redwood City, CA	4.16		flow		2018	Yes	Yes
327	Private	Built	052-191-010	RC 35	Bioretention		602 El Camino Real, Redwood City, CA	0.16	0.16	Flow and Volume Combination	Oct-2011	-	yes	no
	Private	Built	052-326-100	RC 37	Media Filter(s)		201 Marshall St, Redwood City, CA	0.70	0.70	flow	Sep-2014	-	No	
	Private	Built	052-346-190	RC 45	Flow-Through Planters, Media Filter		525 Middlefield Rd, Redwood City, CA	2.40	2.40	Flow and Volume Combination	Mar-2016	-	No	Yes

WMA	Public or Private	Construction Status	APN	Project Name	Description of stormwater treatment system(s)	Multiple Addresses/ Parcels?	Geocode Address	Total Site Area (acres)	Area Treated (Acres)	Hydraulic sizing criteria	Date of Construction Completion (Built)	Estimated Completion Date (Planned)	Does or will the facility have infiltration (i.e., lined or unlined)?	Does or will the facility have an underdrain ?
327	Private	Built	052-331-140	RC 46	Media Filters (Contech Stormfilter)		755 Brewster Ave, Redwood City, CA	0.53	0.53	flow	Mar-2016	-	No	
	Private	Built	052-334-160	RC 53	Media Filter(s)		601 Brewster Ave, Redwood City, CA	0.83	0.83	flow	Mar-2016	-	No	
	Private	Planned	052-335-030	RC 76	Media Filter(s)		550 Allerton, Redwood City, CA	0.32	0.32	flow		2017	No	
	Private	Planned	052-347-030, 052-347-040, 052-347-130 & 052-347-140	RC 79	Bioretention	Yes	601 Marshall St, Redwood City, CA	0.69	0.69	Flow and Volume Combination		2018	No	Yes
	Private	Planned	052-373-040	RC 81	Media Filter & Flow-through Planter		603 Jefferson, Redwood City, CA	0.52	0.52	4% rule and flow/volume based		2018	No	Yes
	Private	Planned	052-325-140	RC 88	Media Filter(s)		801 Brewster Ave, Redwood City, CA	1.68	1.68	flow		2018	No	
336	Private	Built	052-386-070	RC 29	Media filter system, Vegetated swale		949 Veterans Blvd, Redwood City, CA	0.90	0.90	flow	Oct-2009	-	Yes	yes
	Private	Built	052-284-450	RC 40	Biortention areas, media filters		640 Veterans Boulevard, Redwood City, CA	3.60	3.60	flow/volume based & 4% rule	Jan-2015	-	No	Yes
	Private	Built	052-383-250	RC 43	Bioretention areas, media filter		333 Main St, Redwood City, CA	2.28	2.28	flow-based for media filter, volume based for bioretention	Feb-2014	-	No	Yes
	Private	Planned	052-386-060	RC 85	Media Filter & Flow-through Planter		849 Veterans Blvd, Redwood City, CA	1.14	1.14	4% rule		2017	No	Yes
337	Private	Built	052-082-550	RC 1	CDS Unit(s)		490 El Camino Real, Redwood City, CA	0.90	0.90	flow	Dec-2004	-		
	Private	Built	052-103-090	RC 38	Bioretention		1826 Industrial Way, Redwood City, CA	1.35	1.35	Flow and Volume Combination	Sep-2012	-	No	yes
	Private	Built	052-261-640	RC 4	Storm Ceptor		585 Whipple Ave , Redwood City, CA	0.53	0.53	flow	Dec-2006	-		
	Private	Planned	052-251-090	RC 69	Bioretention		575 El Camino Real, Redwood City, CA	0.61	0.61	4% rule		2017	Yes	Yes
379	Private	Built	054-133-200, 054-133-190, 054-141-250	RC 14	Vegetated swales, media filters, bioretention areas, detention pipes	Yes	420 BRoadway, Redwood City, CA	11.54	11.54	Flow and Volume Combination	Jul-2007	-	unknown	Yes
	Private	Built	053-390-010 and 053-390-020	RC 23	Media Filter System, Buffer Strip, Oil/Water Separater	Yes	2300 Middlefield Rd, Redwood City, CA	13.65	13.65	flow	Jul-2008	-	Yes	no
	Private	Built	053-375-070 and 053-375-080	RC 5	CDS Unit(s)	Yes	1204 Shasta St , Redwood City, CA	0.22	0.22	flow	Aug-2006	-		
	Private	Built	054-023-120	RC 61	Bioretention area and pervious pavers		1050 Broadway, Redwood City, CA	2.75	2.75	4% rule	Jun-2015	-	Yes	Yes
	Private	Built	054-040-410	RC 65	Bioretention		1061 Douglas Ave, Redwood City, CA	2.35	2.35	4% rule	Sep-2014	-	Yes	Yes
	Private	Planned	054-062-130	RC 72	Bioretention		740 Bay Rd, Redwood City, CA	0.63	0.63	4% rule	Mar-2016		No	
	Private	Planned	054-141-230, 054-150-120, 054-150-140 through 054-150-170, & 054-150-999	RC 80	Bioretention	Yes	425 Broadway, Redwood City, CA	19.71	19.71	4% rule and flow/volume based		2019	No	Yes
	Private	Planned	054-062-120	RC 86	Bioretention		720 Bay Rd, Redwood City, CA	0.32	0.32	4% rule		2017	No	Yes
388	Private	Built	052-377-120	RC 52	Media Filters (Contech Stormfilter)		601 Main St, Redwood City, CA	1.19	1.19	flow	Jun-2015	-	No	
1000	Public	Built	054-300-530	RC 42	Bioretention	Yes	460 Seaport Court, Redwood City, CA 94063	1.66		4% rule	Apr-2014	-	Yes	Yes
1011	Private	Built	095-222-230 and 095-222-270	RC 33	Bioretention	Yes	200 Redwood Shores Parkway, Redwood City, CA	0.67	0.67	4% rule	Aug-2011	-	No	yes
1014	Private	Built	055-215-010, 055-215-020 & 055-215-180	RC 71	Bioretention	Yes	3636 Florence St, Redwood City, CA	1.09	1.09	4% rule	Jul-2016	-	Yes	Yes
RCY	Private	Built	057-313-400 through 057-313-450	RC 10	Retention (NO TREATMENT INCLUDED)	Yes	Toyon Way, Redwood City, CA	1.28	1.28	flow	Oct-2005	-	No	
	Private	Built	054-330-290	RC 13	Storm Filter		1500 Seaport Blvd, Redwood City, CA	2.00	2.00	flow	Jun-2008	-		
	Private	Built	054-320-310 and 054-320-330	RC 15	Media Filter(s)	Yes	800 Chesapeake Dr, Redwood City, CA	4.79	4.79	flow	Jul-2007	-		
	Private	Built	054-300-680	RC 16	Bioretention		1529 Seaport Blvd , Redwood City, CA	21.08	21.08	flow	Sep-2007	-	Yes	yes
	Private	Built	059-081-750	RC 18	Landscaping		1616 Gordon St, Redwood City, CA	0.36	0.36	flow	Dec-2007	-	Yes	no

WMA	Public or Private	Construction Status	APN	Project Name	Description of stormwater treatment system(s)	Multiple Addresses/ Parcels?	Geocode Address	Total Site Area (acres)	Area Treated (Acres)	Hydraulic sizing criteria	Date of Construction Completion (Built)	Estimated Completion Date (Planned)	Does or will the facility have infiltration (i.e., lined or unlined)?	Does or will the facility have an underdrain ?
RCY	Private	Built	052-372-160	RC 19	Bioretention		990 Veterans Blvd, Redwood City, CA	0.76	0.76	Flow and Volume Combination	Dec-2006	-	Yes	yes
	Private	Built	052-366-120	RC 21	Carbon Filtration System		2107 BRoadway, Redwood City, CA	2.70	2.70	flow	Dec-2004	-		
	Private	Built	114-520-010 through 114-520-080	RC 22	Media Filter(s)	Yes	122 Lincoln Ave, Redwood City, CA	0.30	0.30	flow	Jan-2008	-		
	Private	Built	068-320-410	RC 25	Bioretention areas, Kristar Systems		4200 Farm Hill Blvd, Redwood City, CA	1.39	1.39	4% rule, flow based	Mar-2009	-	Yes	yes
	Private	Built	058-060-080	RC 26	Media Filter(s)		170 Alameda De Las Pulgas, Redwood City, CA	11.10	11.10	flow	Oct-2007	-		
	Private	Built	058-060-080	RC 26A	Media filter and detention system		170 Alameda De Las Pulgas, Redwood City, CA	0.40	0.40	flow	Apr-2008	-		
	Private	Built	055-010-200, 055-010-280, 134-211-110 through 134-211-130,	RC 27	Bioretention	Yes	3401 East Bayshore Rd, Redwood City, CA	1.27	1.27	4% rule	Oct-2009	-	Yes	yes
	Private	Built	095-460-230	RC 28	Vegetated swale, drain inlet		225 Shearwater Parkway, Redwood City, CA	6.98	6.98	flow	Aug-2010	-	Yes	no
	Private	Built	114-790-010 through 114-790-040, 114-630-010 through 114-630-050, 114-760-010 through 114-760-050, 114-610-010 through 114-610-060, 114-620-010 through 114-620-100, 114-650-010 through 114-650-060, 114-660-010 through 114-660-060, 114-670-010 through 114-670-100, 114-590-010 through 114-670-130, 114-560-010 through 114-560-070, 114-570-010 through 114-570-100, 114-580-010 through 114-580-120, 114-700-010 through 114-700-120, 114-710-010 through 114-710-060, 114-690-010 through 114-690-100, 114-680-010 through 114-680-090, 114-720-010 through 114-720-040, 114-730-010 through 114-730-090, 114-750-010 through 114-750-120	RC 32	Vegetated Swales	Yes	3 Bremerton Circle, Redwood City, CA 94065	12.33	12.33	4% rule	May-2011	-	No	Yes
	Private	Built	114-800-010 through 114-800-140	RC 34	Bioretention areas, detention system	Yes	One Marina, Redwood City, CA	0.75	0.75	Flow and Volume Combination	Oct-2011	-	No	yes
	Private	Built	114-810-010 through 114-810-140, 114-840-010 through 114-840-160, 114-850-010 through 114-850-160, 114-870-010 through 114-870-160, 114-880-010 through 114-880-160, 114-900-010 through 114-900-030, 114-910-010 through 114-910-160, 114-920-010 through 114-920-160, 114-930-010 through 114-930-160, 114-940-060 through 114-940-060, 114-950-010 through 114-950-160, 114-960-010 through 114-960-030, 114-970-010 through 114-970-070	RC 39	Bioretention	Yes	One Marina, Redwood City, CA	9.16	9.16	flow/volume based & 4% rule	Jan-2015	-	No	Yes
	Private	Built	059-215-250 through 059-215-290	RC 48	Bioretention areas, permeable pavers	Yes	1410 Valota, Redwood City, CA	0.72	0.72	4% rule	Jan-2015	-	Yes	Yes

WMA	Public or Private	Construction Status	APN	Project Name	Description of stormwater treatment system(s)	Multiple Addresses/ Parcels?	Geocode Address	Total Site Area (acres)	Area Treated (Acres)	Hydraulic sizing criteria	Date of Construction Completion (Built)	Estimated Completion Date (Planned)	Does or will the facility have infiltration (i.e., lined or unlined)?	Does or will the facility have an underdrain ?
RCY	Private	Built	117-160-010 through 117-160-070, 117-150-010 through 117-150-070, 117-140-010 through 117-140-070, 117-130-010 through 117-130-070, 117-120-010 through 117-120-080, 117-110-010 through 117-110-040, 117-100-010 through 117-100-040, 117-080-010 through 117-080-160, 117-070-010 through 117-070-070, 117-060-010 through 117-060-070, & 052-531-220, including Los 3C-3G	RC 51	Bioretention	Yes	One Marina, Redwood City, CA	6.58	6.58	Flow and Volume Combination	Nov-2014	-	No	Yes
	Private	Built	052-363-200	RC 66	Media Filters & Bio-retention Areas		900 Middlefield Rd, Redwood City, CA 94063	2.29	2.29	flow-based & 4% rule	Oct-2015	-	No	
	Private	Built	068-330-310	RC 7	Vegetated swales with check dams, and detention structures		3910 Bret Harte , Redwood City, CA	4.40	4.40	flow	Sep-2005	-	Yes	No
	Private	Built	057-184-200, 093-411-040, 057-211-010	RC 9	CDS Unit(s)	Yes	3201 Oak Knoll, Redwood City, CA	1.37	1.37	flow	Apr-2006	-		
	Public	Built	095-162-020	RC 20	Vortex Separator, Bio-swales		399 Marine Parkway, Redwood City, CA	3.55		Flow and Volume Combination	Dec-2008	-	Yes	Yes
	Public	Built	095-030-090	RC 50	Bioretention		710 Bair Island Rd, Redwood City, CA 94063	0.74		flow/volume based & 4% rule	Oct-2014	-	Yes	Yes
	Private	Planned	052-531-130	RC 60	Bioretention		710 Bair Island Rd, Redwood City, CA 94063	1.73	1.73	Flow and Volume Combination		2016	Yes	Yes
	Private	Planned	059-450-010 through 059-450-120	RC 70	Bioretention area and pervious pavers	Yes	1675 Kentfield Ave, Redwood City, CA	1.00	1.00	4% rule		2016	Yes	Yes
	Private	Planned	052-540-090, 052-540-090, & 095-030-170	RC 73	Bioretention area and pervious pavers	Yes	1 Uccelli Blvd, Redwood City, CA	10.11	10.11	flow/volume based & 4% rule		2017	Yes	Yes
	Private	Planned	052-365-150	RC 74	Media Filter & Flow-through Planter		815 Hamilton, Redwood City, CA	0.40	0.40	flow-based & 4% rule		2017	No	Yes
	Private	Planned	057-195-170 through 057-195-200	RC 77	Vegetated swales and detention pipe	Yes	718 Canyon , Redwood City, CA	0.81	0.81	Flow and Volume Combination		2017	No	
	Private	Planned	053-131-160 & 053-131-170	RC 78	Media Filter & Flow-through Planter		2075 Broadway St, Redwood City, CA	0.70	0.70	Flow and Volume Combination		2018	No	Yes
	Private	Planned	052-064-100 & 052-064-110	RC 83	Bioretention	Yes	150 El Camino Real, Redwood City, CA	0.44	0.44	Flow and Volume Combination		2018	No	Yes
	Private	Planned	095-040-200 & 095-040-999	RC 84	Bioretention	Yes	275 Oracle Parkway, Redwood City, CA	4.28	4.28	4% rule and flow/volume based		2017	No	Yes
	Private	Planned	095-291-140	RC 87	Bioretention		797 Redwood Shores Parkway, Redwood City, CA	0.69	0.69	4% rule		2017	No	Yes
	Public	Planned	Street Segment	RC 91	Bioretention	Yes	2715 Goodwin Ave, Redwood City, CA	3.32		flow		2017	Yes	Yes
	Public	Planned	053-182-030	RC 92	Swales and Vegetated Basins		76 Maple St, Redwood City, CA 94063	0.33		flow		2018	Yes	No
	Public	Planned	057-221-390, 057-222-340, & 093-421-010	RC 94	Swales and Vegetated Basins	Yes	3600 Glenwood Ave, Redwood City, CA	0.76		flow		2018	Yes	No
	Public	Planned	058-221-090 & 058-221-150	RC 95	Bioretention	Yes	939 Valota Rd, Redwood City, CA	0.85		flow		2017	Yes	Yes

Table C-15. Summary of the information gathered to-date on existing and planned GI stormwater treatment projects in San Carlos.

WMA	Public or Private	Construction Status	APN	Project Name	Description of stormwater treatment system(s)	Multiple Addresses / Parcels?	Geocode Address	Total Site Area (acres)	Area Treated (Acres)	Hydraulic sizing criteria	Date of Construction Completion (Built)	Estimated Completion Date (Planned)	Does or will the facility have infiltration (i.e., lined or unlined)?	Does or will the facility have an underdrain ?
31	public	Built	N/A	Bransten Road Green Street Project	bioretention units - some with underdrains, some without		Bransten Rd, San Carlos, CA	0.54		Volume	2/1/2014		No	Yes
	private	Under Construction	046-131-580	1026 Bransten - Cemex	Rainwater harvesting for industrial use		1026 Bransten Road	0.44		1.b		2017		
	private	Under Construction	046100360	Honda Dealership	bioretention area		767 Industrial Road	2.62		2.c		2017		
32	private	Unknown		G.W. Williams Business Park Expansion PLN2011-00019	Contech media filters	Yes	285 Old County Rd, San Carlos, CA	1.45	1.45					
57	private	In Construction	50153310	777 Walnut Street Condominiums PLN2014-00024	Media Filter		777 Walnut St, San Carlos, CA	0.374	0.37	2.a		Unknown		
	private	Planned	050132260, 050132180, 050132170, 050132140	Wheeler Plaza PLN2015-00009	Media Filter vault; flow-thru planter; self-treating area		1245 San Carlos Ave, San Carlos, CA	2.14	2.14	Flow based combination		Unknown		
	private	Planned	50123170	1525 San Carlos	Flow-thru planter		1525 San Carlos Avenue	0.299		2.c		Unknown	Unknown	Unknown
59	private	Built	046051070 , 046051020	Palo Alto Medical Facility (PAMF)	vegetated swale, bio-retention facility, media filters		301 Industrial Rd, San Carlos, CA				6/9/2014			
207	private	In Construction	050055020, 050076050, 050076070, 050076040	Transit Village	Bioretention, self-treating area, self-retaining area.	Yes	325 El Camino Real, San Carlos, CA 94070	6.246	6.25	2.c		Unknown		
210	public	Built		San Carlos Market Place	CDS Unit(s)	Yes	1133 Industrial Rd, San Carlos, CA							
1011	private	Built	046051060	In N Out Burger PLN2010-00038, PLN2010-00276	Filterra Bioretention Units (infiltration basin, flow-through planter)		445 Industrial Rd, San Carlos, CA	0.98	0.98		6/14/2011			
	private	Built	46081310	Lyngso	bioretention, flow-through planter		345 Shoreway Rd, San Carlos, CA	5.28	5.28	2.c	10/19/2015			
	private	Built	046054450, 046054440, 046054420 , 046054410	Orchard Supply	Bioretention		360 Industrial Rd, San Carlos, CA	4.458	4.46	2.c	5/23/2016			
	private	Under Construction	046090290, 046090210 , 046090220	Landmark Hotel	Flow-thru planters		595 Industrial/850 E San Carlos Avenue	4.42		3		2017		
SCS	public	Built	050301010, 051321190	Burton Park Phase II	Bioretention		Burton Park, San Carlos, CA				2014-2015			
	public	Built	050520020	Crestview Park	Bioretention		1000 Crestview Drive, San Carlos, CA	6.78		Flow	11/3/2013			
	public	In Construction	049072410, 049072420, 049072430, 049072440	17 Cranfield Avenue	Bioretention		17 Cranfield Ave, San Carlos, CA	0.89		2.c		Unknown		
	private	Unknown		Mirabel Place 7 home subdivision PLN2010-00002	pervious pavement with retention and underdrains		665 Prospect, San Carlos, CA	0.6	0.60					
	private	Under Construction	050163490, 050163480, 050163470, 050163460	1336 Arroyo Development	Bioretention, flow-thru planter		1336 Arroyo Avenue	0.71		2.c		Unknown		
	private	Planned	049161020	Gateway San Carlos	bioretention area		2811 San Carlos Avenue	1.95		2.c		2017		
	private	Under Construction	050141410	1501 Cherry	flow-thru planters		1501 Cherry Street	0.535		2.c		2017		

Table C-16. Summary of the information gathered to-date on existing and planned GI stormwater treatment projects in San Mateo.

WMA	Public or Private	Construction Status	APN	Project Name	Description of stormwater treatment system(s)	Multiple Addresses/ Parcels?	Geocode Address	Total Site Area (acres)	Area Treated (Acres)	Hydraulic sizing criteria	Date of Construction Completion (Built)	Estimated Completion Date (Planned)	Does or will the facility have infiltration (i.e., lined or unlined)?	Does or will the facility have an underdrain ?
89	Private	Built	039-381-010	Fire Station 23	Bioretention		31 W. 27th Ave, San Mateo, CA	0.56	0.47	2.c			Yes	Yes
	Private	Built	039-351-250	Peninsula Station	Bioretention	Yes	2905 S. El Camino Real, San Mateo, CA	0.99	0.89	2.c	9/27/2010		No	Yes
	Private	Built	039-351-230	Peter Pan BMW	Unknown		2695 S. El Camino Real, San Mateo, CA	2.8	2.5	1.b	pre 2009-10 rpt		Yes	Yes
	Private	In Construction	040-030-280	Bay Meadows Phase 2	Detention/Infiltration Pond		2750 S Delaware St, San Mateo, CA 94403	83	83	2.c		unknown		
90	Private	Built	035-320-120	Delaware Pacific	6 Biofiltration / Bioretention planters		1990 S. Delaware St., San Mateo, CA	1.12	0.77	2.c	9/15/2013		No	Yes
92	Private	Built	040-030-140	San Mateo Police Station -	Swales/contech storm filter		200 Franklin Pkwy, San Mateo, CA	2.12	1.9	2.c	pre 2009-10 rpt		No	Yes
111	Private	Built	034-189-080	602 E. 4th Avenue	Bioswale(s)		602 E. 4th Av, San Mateo, CA	0.27	0.25	2.c	pre 2009-10 rpt		No	Yes
	Private	Planned	unknown	221 S. El Camino Real SPAR	Contech Engineered Solutions, LLC Media Filtration Sys, SPECIAL PROJECT		221 S. El Camino Real, San Mateo, CA	0.28	0.28	2.c		unknown	No	No
120	Private	Built	035-066-440	Chen Warehouse	Bioswale(s)		1300 S. Amphlett Blvd, San Mateo, CA	0.46	0.46	2.c	pre 2009-10 rpt		No	Yes
149	Private	Built	032-121-240	888 San Mateo	Bioretention		888 N. San Mateo Drive, San Mateo, CA	3.08	2.63	1.b	12/4/2014		No	Yes
	Private	Built	123-740-030	Prospect Court -	Bioswales/pavers	Yes	630 Prospect Row, San Mateo, CA	0.55	0.55	2.c			Yes	Yes
156	Private	In Construction	035-201-020	1830 S. Delaware St			1830 S. Delaware St, San Mateo, CA	3.31	3.12	2.c		Summer 2017	Yes	Yes
1007	Private	Built	034-158-160	Claremont Townhomes	Bioretention/detention		21 S. Claremont , San Mateo, CA	0.36	0.27	2.c	9/27/2010		No	Yes
1008	Private	Built	(28 APNs)	San Mateo Times Redevelopment	Unknown		1080 S. Amphlett Boulevard, San Mateo, CA	3.53	2.52	2.c	2/13/2014		Yes	Yes
1009	Private	Built	035-320-470	2000 S. Delaware Housing	5 Biotetention areas (flow-through planters) and multiple (13) Self-treating Landscape areas (DMA-13)		2000 S. Delaware St, San Mateo, CA	2.1	1.99	2.c	11/5/2013		No	Yes
	Private	Built	035-320-450	Mode Apartments in San Mateo (formerly Delaware St. Apts.)	1 Contech Stormfilter & 1 Bioretention area		2090 S. Delaware St, San Mateo, CA	2.38	2.07	2.c	1/15/2015		Yes	Yes
	Private	In Construction	035-200-180	Station Park Green	Bioretention		1700 S. Delaware, San Mateo, CA	11.98	8.03	2.c		unknown	Yes	Yes
	Private	Planned	unknown	Espresso Lane	Bioretention		1990 South El Camino Real, San Mateo, CA	0.32	0.28	2.c		unknown	Yes	Yes
SMO	Private	Built	034-383-460	Barneson Townhomes	Bioswales/pavers	Yes	88 Barneson Av, San Mateo, CA	0.47	0.25	2.c	4/26/2010		Yes	Yes
	Private	Built	035-465-040	Chess Drive Commercial	Unknown		2001 Chess Drive, San Mateo, CA	0.74	0.7	2.c				
	Private	Built	040-010-190	Kaiser Medical Offices	Bioretention		1000 Franklin Parkway, San Mateo, CA	4.22	3.06	2.c	5/12/2011		Yes	Yes
	Private	Built	039-030-410	Polo Court	Unknown		1950 Elkhorn Court, San Mateo, CA	3.95	3.05	2.c	11/10/2015		Yes	Yes
	Private	Built	039-040-170	Serra High School	Bioretention		451 W. 20th Ave, San Mateo, CA	12.8	0.63	2.c	6/11/2012		No	Yes
	Private	Built	041-361-120-3 and 041-361-130-	SM Executive Park	Bioswale(s)		3000 Clearview Way, San Mateo, CA	22	1.15	2.c	9/27/2010		Yes	Yes
	Private	Built	032-313-010 & 034-141-020	St. Matthews Episcopal School	15 Second Ave: 3 bioretention, 1 infiltration trench. 16 Baldwin: 1 bioretention area, 1 infiltration trench	Yes	16 Baldwin Ave, San Mateo, CA	2.86	1.83	2.c	9/14/2015		Yes	Yes
	Private	Built	034-383-370	Sun Barneson HOA	Grass Swales/Biotetention Area		10 Barneson Ave, San Mateo, CA	0.44	0.39	2.c	12/29/2015		Yes	Yes
	Private	In Construction	039-386-010	Nueva High School	Unknown		131 E. 28th Ave, San Mateo, CA	2.76	2.02	2.c		unknown		

WMA	Public or Private	Construction Status	APN	Project Name	Description of stormwater treatment system(s)	Multiple Addresses/ Parcels?	Geocode Address	Total Site Area (acres)	Area Treated (Acres)	Hydraulic sizing criteria	Date of Construction Completion (Built)	Estimated Completion Date (Planned)	Does or will the facility have infiltration (i.e., lined or unlined)?	Does or will the facility have an underdrain ?
SMO	Private	In Construction	041-361-120-3 and 041-361-130-2	SM Executive Park II	Grass Swales	Yes	3155 Clearview Wy, San Mateo, CA	3.58	2.61	2.c		unknown	No	Yes
	Private	In Construction	unknown	St. Matthews	Unknown		1 Notre Dame Ave, San Mateo, CA	7.15	0.7	2.c		unknown		
	Private	In Construction	032-311-120 & 032-311-130	Tilton Avenue Residences	Bioretention	Yes	120 Tilton Ave, San Mateo, CA	0.77	0.56	2.c		unknown	No	Yes
	Private	Planned	unknown	Cal Water New Office	Unknown		341 N. Delaware St, San Mateo, CA	3.29	1.07	3		unknown		
	Private	unknown	unknown	Central Park South	Bioretention		885 S. El Camino Real, San Mateo, CA	1.84	1.39	2.c				
	Private	unknown	unknown	Century Centre Parking Structure	Bioretention		1400 Fashion Island Boulevard, San Mateo, CA	6.55	1	2.c				

Table C-18. Summary of the information gathered to-date on existing and planned GI stormwater treatment projects in South San Francisco.

WMA	Public or Private	Construction Status	APN	Project Name	Description of stormwater treatment system(s)	Multiple Addresses/ Parcels?	Geocode Address	Total Site Area (acres)	Area Treated (Acres)	Hydraulic sizing criteria	Date of Construction Completion (Built)	Estimated Completion Date (Planned)	Does or will the facility have infiltration (i.e., lined or unlined)?	Does or will the facility have an underdrain ?
291	Private	Built		220 S. Linden	Vortex Separator; Vegetated Swale		220 South Linden Ave., South San Francisco, CA				2009		No	No
	Private	Built		A Silvestri Co.	Vortex Separator		149 South Linden Ave., South San Francisco, CA				Nov-2005		No	No
	Private	Built		Compass Transportation	Vortex Separator; Vegetated Swale		160 South Linden Ave., South San Francisco, CA			3	2010		No	Yes
	Private	Built		Linden Station	Vortex Separator; Vegetated Swale		160 South Linden Ave., South San Francisco, CA			vault	2011		No	
	Private	unknown		230 South Maple			230 South Maple Ave., South San Francisco, CA						No	
	Private	unknown		Central Concrete	Vortex Separator; Vegetated Swale		1305 San Mateo Ave, South San Francisco, CA						No	No
	Private	unknown		Planet Pooch	Detention Basin		113 South Linden Ave., South San Francisco, CA						No	
	Private	unknown		Royal Auto	Oil/Grit separator and/or Water Quality Inlets		1331 San Mateo Ave., South San Francisco, CA						No	No
292	Private	Built		Fed Ex	Vegetated Swale		1070 San Mateo Ave, South San Francisco, CA			2.c	2012		No	
293	Private	Built		Lowe's of SSF	Oil/Grit separator and/or Water Quality Inlets	Yes	600 Dubuque, South San Francisco, CA				2005		No	No
	Public	Built		Miller Parking Garage	Oil/Grit separator and/or Water Quality Inlets		329 Miller Ave., South San Francisco, CA		0.56		2008		No	No
	Private	Planned		175 Sylvester Rd	Bioretention		175 Sylvester Rd, South San Francisco, CA			3		Dec-2016	No	Yes
	Private	Planned		211 Airport	Bioretention Facility; Vault-based Media Filter		211 Airport, South San Francisco, CA			2.c		proposed 2017	No	Yes
	Private	unknown		681 Gateway	Vortex Separator		681 Gateway Blvd, South San Francisco, CA						No	
	Private	unknown		Flyers	Vortex Separator		176 Gateway Blvd, South San Francisco, CA						No	No
296	Private	Built		Southwood Shopping Center	Drain Inserts - not installed		667 El Camino Real, South San Francisco, CA						No	No
	Private	Planned		180 El camino Real	Bioretention		180 El Camino, South San Francisco, CA			2.c		proposed 2018	No	Yes
	Private	unknown		Dollar Tree Store			555 El Camino Real, South San Francisco, CA						No	No
306	Private	Built		Zarc Recycling	Vegetated Swale		26 South Linden Ave, South San Francisco, CA		0.59		2008		No	No
307	Private	Built		Seafood City	Bioretention		3581 Gellert, South San Francisco, CA			2.c	Jul-2014		No	Yes
	Private	Built		SSF City Lights (Marbella)	Vortex Separator	Yes	2200 Gellert Blvd., South San Francisco, CA				2005		No	
	Private	Built		Westborough Shopping Center	Media Filter(s)		2234 Westborough Blvd., South San Francisco, CA			2.c	2010		No	Yes
	Private	unknown		Westborough Hills Plaza	2 Vortex Separators; Oil/Grit separator and/or Water Quality Inlets		3569 Callan Blvd, South San Francisco, CA						No	
313	Private	Built		101 Oyster Point	Bioretention		101 Oyster Point, South San Francisco, CA			3	Jun-2014		No	Yes
	Private	Planned		900 Dubuke			900 dubuke, South San Francisco, CA			2.c		Dec-2016	No	Yes
315	Private	Built		Genentech Childcare Center	CDS units; drain inserts		444 Allerton Ave., South San Francisco, CA		1.47		Jul-1905		No	No
	Private	unknown		Genentech Building-56	Vortex Separator		500 Forbes Blvd, South San Francisco, CA						No	
	Private	unknown		Genentech Lower Campus Parking	Vortex Separator		543 Forbes Blvd., South San Francisco, CA						No	
	Private	unknown		Genentech, Inc.	Vortex Separator		460 Forbes Blvd, South San Francisco, CA						No	
	Public	unknown		Genentech Fitness Center	Bioswale(s)		435 Forbes Blvd., South San Francisco, CA						No	No
316	Private	Built		180 Kimball Way	Vortex Separator, Drain Inserts; Vegetated Swale		180 Kimball Way, South San Francisco, CA			Uknown	2009		No	

WMA	Public or Private	Construction Status	APN	Project Name	Description of stormwater treatment system(s)	Multiple Addresses/ Parcels?	Geocode Address	Total Site Area (acres)	Area Treated (Acres)	Hydraulic sizing criteria	Date of Construction Completion (Built)	Estimated Completion Date (Planned)	Does or will the facility have infiltration (i.e., lined or unlined)?	Does or will the facility have an underdrain ?
316	Private	Built		Onyx	Vegetated Swale		249 East Grand, South San Francisco, CA				2004		No	
	Private	Built		ONYX			269 East Grand Ave, South San Francisco, CA			1.b	2006 & 2012		No	
	Private	Built		Takeda Biosciences	Vortex Separator		285 East Grand Ave., South San Francisco, CA				2008		No	
	Private	unknown		Cytokinetics Bldg. 1	Drain Inserts; Media Filter		280 East Grand Ave., South San Francisco, CA						No	No
	Private	unknown		Portola Biotechnology	Drain Inserts		270 East Grand Ave., South San Francisco, CA						No	No
318	Private	unknown		Alexandria Properties	Vortex Separator; Vegetated Swale	Yes	400 East Jamie Court, South San Francisco, CA						No	
	Private	unknown		Genentech			345 East Grand Ave., South San Francisco, CA						No	
319	Private	Built		Genentech B 20-25	1000: catch basin media filter, 1200: 1 media filter, 1500: catch basin filter and vortex separator. 2 bioswales between	Yes	1000 Grandview Dr., South San Francisco, CA			2.c			No	
	Private	Built		Genentech B-31	Vegetated Swale		1531 Grandview Dr., South San Francisco, CA						No	
	Private	Built		GENENTECH b-35	Bioretention		1475 Grandview, South San Francisco, CA			3	May-2014		No	Yes
	Private	Built		Genentech Hilltop Parking	Vortex Separator; Vegetated Swale		900 Grandview Dr., South San Francisco, CA				May-2005		No	
	Private	Built		Genentech, Inc. B-3B	Vortex Separator		44 DNA Way, South San Francisco, CA				Aug-2008		No	
	Private	unknown		Genentech	Oil/Grit separator and/or Water Quality Inlets		353 Point San Bruno, South San Francisco, CA						No	
	Private	unknown		Genentech B 24/Pedestrian Walkway	Vortex Separator		1600 Grandview, South San Francisco, CA						No	
	Private	unknown		Genentech B-32	Vegetated Swale		1541 Grandview Dr., South San Francisco, CA						No	
	Private	unknown		Genentech B-33	Vortex Separator; Vegetated Swale		1633 Grandview Dr., South San Francisco, CA						No	
	Private	unknown		Genentech B-39	Vortex Separator; Media Filter		501 Grandview Dr., South San Francisco, CA						No	
	Private	unknown		Genentech B-51	Vortex Separator; Vegetated Swale		642 Forbes Blvd., South San Francisco, CA						No	No
	Private	unknown		Genentech B-55 parking lot	Oil/Grit separator and/or Water Quality Inlets		1650 Grandview Dr., South San Francisco, CA						No	
	Private	unknown		Genentech B-9A		Yes	640 Forbes Blvd., South San Francisco, CA						No	
	Private	unknown		Genentech Bldg. 3	Vortex Separator		451 DNA Way, South San Francisco, CA						No	
	Private	unknown		Genentech Building-28	Vortex Separator		550 Grandview Drive, South San Francisco, CA						No	
357	Private	Planned		127 W harris	Bioretention		127 W Harris, South San Francisco, CA			2.c		proposed 2017	No	Yes
358	Private	unknown		Dudley Perkins	Vortex Separator, Drain Inserts; Vegetated Swale		333 Corey Way, South San Francisco, CA						No	
359	Private	Built		240 Littlefield Ave	Vortex Separator; Vegetated Swale		240 Littlefield Ave, South San Francisco, CA			2.c	2011		No	
	Private	unknown		Federal Express Ground	Media Filter(s)		222 Littlefield Ave., South San Francisco, CA						No	
362	Private	unknown		360 Shaw Road	Vortex Separator		360 Shaw Rd, South San Francisco, CA						No	No
1001	Private	Built		401 and 421 South Canal St.	Vortex Separator	Yes	401 South Canal, South San Francisco, CA				2006		No	No
	Private	Built		Park and fly	Bioretention		160 Produce, South San Francisco, CA			3	Apr-2014		No	Yes
	Private	Planned		180 S airport			180 S airport, South San Francisco, CA			2.c		proposed 2017	No	Yes
	Private	unknown		Costco Gas Station	Oil/Grit separator and/or Water Quality Inlets		479 S. Airport Blvd., South San Francisco, CA						No	No
	Private	unknown		Costco Wholesale	Drain Inserts		451 S. Airport Blvd, South San Francisco, CA						No	No

WMA	Public or Private	Construction Status	APN	Project Name	Description of stormwater treatment system(s)	Multiple Addresses/ Parcels?	Geocode Address	Total Site Area (acres)	Area Treated (Acres)	Hydraulic sizing criteria	Date of Construction Completion (Built)	Estimated Completion Date (Planned)	Does or will the facility have infiltration (i.e., lined or unlined)?	Does or will the facility have an underdrain ?
1001	Private	unknown		Valero	Oil/Grit separator and/or Water Quality Inlets		300 South Airport Blvd, South San Francisco, CA						No	No
	Private	unknown		Wolfgangs Doggie Care	Detention Basin		242 Shaw Rd., South San Francisco, CA						No	
1002	Private	Built		Blue Line Transfer Station	Bioretention		500 E. Jamie Court, South San Francisco, CA			2.c	2014		No	Yes
	Private	Built		Britannia Oyster Pt. (AMGEN)	Vortex Separator; Vegetated Swale	Yes	1180 Veterans Blvd., South San Francisco, CA						No	
	Private	Built		ELAN	Vortex Separator; Vegetated Swale		180 Oyster Pt. Blvd., South San Francisco, CA		1.77		May-2007		No	No
	Private	Built		ELAN	Vortex Separator; Vegetated Swale		200 Oyster Pt. Blvd., South San Francisco, CA		1.80		May-2007		No	
	Private	Built		Kaiser Med. Office Bldg.	Vortex Separator		220 Oyster Pt. Blvd., South San Francisco, CA		1.30	1A	2009		No	No
	Private	unknown		Bay Trail Genentech	Vortex Separator; Vegetated Swale		DNA Way and Forbes, South San Francisco, CA						No	No
	Private	unknown		ELAN	Drain Inserts		1000 Gateway Blvd, South San Francisco, CA						No	
	Private	unknown		Genentech			620 East Grand Ave., South San Francisco, CA						No	
	Private	unknown		Genentech Parking Garage	Vortex Separator		450 East Grand Ave., South San Francisco, CA						No	No
	Private	unknown		Genentech, Inc. B-41	Vortex Separator, Drain Inserts; Vegetated Swale		470 East Grand Ave., South San Francisco, CA						No	
	Private	unknown		Genentech, Inc. B-42			475 East Grand Ave., South San Francisco, CA						No	
	Private	unknown		Genentech, Inc. B-43			465 East Grand Ave., South San Francisco, CA						No	
	Private	unknown		Genentech, Inc. B-44	3 Drain Inserts; 2 vegetated swales		455 East Grand Ave., South San Francisco, CA						No	
	Public	unknown		Oyster Point Marina	Vegetated Swale		95 Harbor Master Rd, South San Francisco, CA						No	
SSF	Private	Built		Britannia Oyster Pt. - II	Vortex Separator; Vegetated Swale		333 Oyster Pt. Blvd., South San Francisco, CA				May-2008		No	
	Private	Built		Centennial Tower	Vortex Separator; Oil/Grit separator and/or Water Quality Inlets; Up-flow Filter; Bioretention Facilities are planned but	Yes	1 Tower Place, South San Francisco, CA		about		2009		No	Yes
	Private	Built		Linear Park	Vortex Separator; Vegetated Swale	Yes	149 W Orange Ave., South San Francisco, CA				2008		No	No
	Private	Built		Mid Peninsula Housing	Vegetated Swale		636 El Camino Real, South San Francisco, CA				2009		No	Yes
	Private	Built		Oak Ave. Housing	Vortex Separator		99 Oak Ave., South San Francisco, CA				2004		No	
	Private	Built		Park Station	Oil/Grit separator and/or Water Quality Inlets; Detention Basin		1488 El Camino Real, South San Francisco, CA		2.52		2008		No	
	Public	Built		orange park picnic area	Drain Inserts	Yes	orange Park, South San Francisco, CA				2007		No	No
	Public	Built		Stonegate Estates	Vegetated Swale	Yes	Hillside Blvd. and Stonegate, South San Francisco, CA				2004		No	
	Private	Planned		City Ventures	Bioretention Facility; Media Filter Vault		1256 Mission , South San Francisco, CA			2.c		proposed 2017	No	Yes
	Private	Planned		Miller Senior Housing	Media Filter(s)		Miller Ave, South San Francisco, CA			vault		Sep-2016	No	No
	Private	unknown		Safe Harbor Shelter	CDS units; drain inserts		295 North Access Rd., South San Francisco, CA						No	
	Private	unknown		Santo Christo Society	Vortex Separator		41 Oak Ave, South San Francisco, CA						No	
	Private	unknown		Xtra-Oil (Chevron)	Bioretention Facility; Vortex Separator		110 Hickey Blvd, South San Francisco, CA						No	No

Table C-20. Summary of the information gathered to-date on existing and planned GI stormwater treatment projects by WMA

Permittee	WMA also includes these Permittees:	WMA ID	WMA Total Acres	Percentage of WMA by Land-Use Classification					GI/LID projects built or planned in the WMA?	Private Projects						Public Projects					
										Built			Planned/Unknown			Built			Planned/Unknown		
				High Interest	Other Old Urban	Open Space	New Urban	Other		Count	Total Site Area (Acres)	Treated Area (Acres)	Count	Total Site Area (Acres)	Treated Area (Acres)	Count	Total Site Area (Acres)	Treated Area (Acres)	Count	Total Site Area (Acres)	Treated Area (Acres)
Atherton		ATH	2,315	0.0%	95.1%	4.9%	0.0%	0.0%	Yes	2	104.30	14.21									
Belmont	San Mateo	60	298	1.9%	84.6%	0.5%	13.0%	0.0%	Yes				1	1.84							
Belmont	Unincorporated SM County	77	86	4.7%	88.8%	0.3%	6.2%	0.0%	No												
Belmont	Redwood City & San Carlos	1011	507	12.3%	50.4%	9.8%	19.9%	7.6%	Yes	1	5.38										
Belmont		BEL	2,511	0.2%	74.0%	24.2%	1.6%	0.0%	Yes	2			2	8.85					1		
Brisbane		17	1,639	3.4%	28.6%	68.0%	0.0%	0.0%	Yes	2		9.01									
Brisbane		1004	804	70.0%	10.8%	19.2%	0.0%	0.0%	No												
Brisbane		BRI	245	0.2%	17.4%	57.0%	25.4%	0.0%	No												
Burlingame		16	24	31.4%	0.0%	68.6%	0.0%	0.0%	Yes				1	18.12	14.00						
Burlingame		85	121	10.4%	89.2%	0.4%	0.0%	0.0%	No												
Burlingame		138	15	29.9%	50.0%	20.1%	0.0%	0.0%	No												
Burlingame		139	63	3.0%	97.0%	0.0%	0.0%	0.0%	No		11.57	6.76									
Burlingame		141	62	6.9%	92.6%	0.4%	0.0%	0.0%	Yes	1	1.18	0.55									
Burlingame		142	20	44.3%	55.7%	0.0%	0.0%	0.0%	No												
Burlingame	San Mateo	149	480	1.1%	98.0%	0.9%	0.0%	0.0%	Yes				1	0.51	0.44						
Burlingame		164	241	32.6%	67.4%	0.0%	0.0%	0.0%	Yes	1	2.00	0.43	1	3.19	0.54						
Burlingame		1006	313	16.4%	68.1%	4.7%	10.8%	0.0%	Yes	1	2.79	1.98	2	11.60	7.32						
Burlingame		BUR	1,827	0.5%	94.6%	3.8%	1.2%	0.0%	Yes	5	5.60	3.80	8	11.98	1.87	1		1.32			
Colma	Daly City	329	806	0.5%	91.2%	8.3%	0.0%	0.0%	Yes	1	0.65										
Colma		COL	1,139	0.4%	15.3%	84.3%	0.0%	0.0%	Yes	4	18.55					1		0.93	5	14.51	
Daly City	Colma	329							Yes	2	86.53		2	86.44							
Daly City	Unincorporated SM County	181	75	15.6%	64.3%	20.1%	0.0%	0.0%	No												
Daly City		350	317	4.9%	59.9%	35.2%	0.0%	0.0%	No												
Daly City	Colma	DCY	1,096	1.0%	84.7%	14.3%	0.0%	0.0%	Yes	1	0.44		5	42.96							
East Palo Alto		67	95	12.0%	75.4%	12.6%	0.0%	0.0%	Yes	1	1.20								1		
East Palo Alto		68	317	0.2%	95.6%	4.3%	0.0%	0.0%	Yes	1						1	1.77				
East Palo Alto		70	490	3.3%	93.8%	2.9%	0.0%	0.0%	Yes	6	3.19		5	9.55		2	0.57		4		
East Palo Alto		72	26	44.4%	47.0%	8.6%	0.0%	0.0%	No												
East Palo Alto		1015	52	92.7%	6.7%	0.6%	0.0%	0.0%	Yes	2	2.70								1		
East Palo Alto		EPA	274	1.4%	79.0%	19.2%	0.4%	0.0%	Yes	2	0.62								1		
Foster City		1010	273	3.1%	36.4%	10.9%	49.7%	0.0%	Yes	5	15.09		2	10.29							
Foster City		FCY	2,065	0.0%	60.4%	8.5%	31.1%	0.0%	Yes	2	6.31		4	15.90		1	3.10				
Hillsborough		HIL	3,974	0.1%	84.4%	15.5%	0.0%	0.0%	Yes	2		0.16							1		0.02
Menlo Park		66	64	29.8%	35.5%	1.0%	33.6%	0.0%	Yes	2	3.07	2.97	2	1.66	0.97						
Menlo Park	East Palo Alto	71	1,394	1.6%	92.4%	2.0%	4.0%	0.0%	Yes	4	65.32	53.46	2	2.84	2.08						
Menlo Park		238	345	24.3%	74.5%	1.3%	0.0%	0.0%	Yes	1	1.17	1.03	2	7.09	5.46						
Menlo Park	Redwood City	239	36	29.2%	70.8%	0.0%	0.0%	0.0%	Yes				1								
Menlo Park	Unincorporated SM County	247	239	8.5%	90.6%	0.9%	0.0%	0.0%	Yes				1								
Menlo Park		252	108	4.9%	93.9%	1.2%	0.0%	0.0%	Yes	2	1.55	1.51	3	7.93	6.96						
Menlo Park	Redwood City	332	17	5.1%	94.9%	0.0%	0.0%	0.0%	No												
Menlo Park		378	138	2.9%	96.8%	0.3%	0.0%	0.0%	No												
Menlo Park		1012	54	84.2%	15.8%	0.0%	0.0%	0.0%	Yes				1								
Menlo Park	Redwood City	1014	176	10.5%	89.1%	0.4%	0.0%	0.0%	Yes	1	2.83	2.53	2	8.29	4.98						
Menlo Park		MPK	2,487	1.2%	83.7%	13.7%	1.4%	0.0%	Yes	9	76.17	39.03	5	0.38	0.38						
Millbrae		395	480	1.6%	93.6%	4.8%	0.0%	0.0%	No												
Millbrae		401	52	12.6%	85.0%	2.3%	0.0%	0.0%	No												
Millbrae	San Bruno	1005	791	7.4%	64.7%	26.7%	0.0%	1.2%	Yes	1	4.20										
Millbrae		MIL	1,309	0.2%	85.2%	12.7%	0.0%	1.9%	Yes	1	10.70										
Portola Valley		PVY	5,790	0.0%	50.8%	35.6%	13.6%	0.0%	No												
Redwood City	Unincorporated SM County	253	280	5.8%	93.3%	1.0%	0.0%	0.0%	Yes	1	0.45										
Redwood City		254	39	10.6%	82.7%	6.1%	0.5%	0.0%	Yes	3	8.34										
Redwood City	Atherton	261	1,679	0.2%	99.2%	0.6%	0.0%	0.0%	Yes	10	5.74		3	1.06					1	0.27	
Redwood City		266	91	4.1%	91.8%	0.3%	3.8%	0.0%	Yes	3	11.21										
Redwood City		267	75	20.9%	53.8%	2.0%	23.3%	0.0%	No												
Redwood City		269	45	9.2%	0.0%	16.4%	74.3%	0.0%	No												
Redwood City		323	185	0.9%	99.1%	0.0%	0.0%	0.0%	No												
Redwood City		324	44	2.0%	97.6%	0.4%	0.0%	0.0%	Yes	2	2.88		3	3.38							
Redwood City		325	21	4.8%	95.2%	0.0%	0.0%	0.0%	Yes										1	4.16	
Redwood City		327	126	5.1%	94.0%	0.8%	0.0%	0.0%	Yes	5	4.62		4	3.21							
Redwood City		333	15	29.4%	17.8%	0.0%	52.8%	0.0%	No												
Redwood City		334	19	18.3%	32.8%	10.1%	38.8%	0.0%	No												
Redwood City		335	24	0.0%	96.3%	3.7%	0.0%	0.0%	No												
Redwood City		336	66	6.6%	92.7%	0.7%	0.0%	0.0%	Yes	3	6.78		1	1.14							
Redwood City		337	138	11.5%	88.5%	0.0%	0.0%	0.0%	Yes	3	2.78		1	0.61							
Redwood City	Unincorporated SM County	379	802	13.7%	85.4%	0.8%	0.0%	0.0%	Yes	5	30.51		3	20.66							
Redwood City		388	42	1.4%	98.6%	0.1%	0.0%	0.0%	Yes	1	1.19										
Redwood City		405	22	100.0%	0.0%	0.0%	0.0%	0.0%	No												
Redwood City		407	18	52.9%	19.6%	8.8%	18.7%	0.0%	No												
Redwood City		1000	148	75.3%	4.5%	8.6%	11.6%	0.0%	Yes							1	1.66				
Redwood City	Belmont/San Carlos	1011	507	12.3%	50.4%	9.8%	19.9%	7.6%	Yes	1	0.67										
Redwood City		1013	40	9.4%	76.3%	14.4%	0.0%	0.0%	No												
Redwood City	Menlo Park	1014	176	10.5%	89.1%	0.4%	0.0%	0.0%	Yes	1	1.09										

Permittee	WMA also includes these Permittees:	WMA ID	WMA Total Acres	Percentage of WMA by Land-Use Classification					GI/LID projects built or planned in the WMA?	Private Projects						Public Projects					
										Built			Planned/Unknown			Built			Planned/Unknown		
				High Interest	Other Old Urban	Open Space	New Urban	Other		Count	Total Site Area (Acres)	Treated Area (Acres)	Count	Total Site Area (Acres)	Treated Area (Acres)	Count	Total Site Area (Acres)	Treated Area (Acres)	Count	Total Site Area (Acres)	Treated Area (Acres)
Redwood City		RCY	6,030	0.1%	63.9%	15.3%	20.7%	0.0%	Yes	19	89.35		9	20.17		2	4.29		4	5.26	
Redwood City	Unincorporated SM County	SMC	18,203	3.7%	32.8%	42.6%	0.5%	20.4%	Yes	1	1.27										
Redwood City	Woodside	WDE		0.1%	55.4%	39.9%	4.6%	0.0%	Yes	1	1.39										
San Bruno		290	2,017	0.5%	75.6%	23.9%	0.1%	0.0%	No												
San Bruno	South San Francisco	291	194	33.1%	65.4%	1.5%	0.0%	0.0%	No												
San Bruno	South San Francisco	292	220	16.9%	82.6%	0.5%	0.0%	0.0%	No												
San Bruno	South San Francisco	296	1,272	0.6%	76.9%	22.6%	0.0%	0.0%	No												
San Bruno		SBO	542	0.0%	74.2%	25.8%	0.0%	0.0%	No												
San Carlos		31	99	27.2%	72.5%	0.3%	0.0%	0.0%	Yes				2	3.06	3.06	1	0.54				
San Carlos	Belmont	32	67	3.3%	96.4%	0.4%	0.0%	0.0%	Yes				1	1.45	1.45						
San Carlos		57	63	5.6%	92.3%	2.1%	0.0%	0.0%	Yes				3	2.81	2.81						
San Carlos		59	28	32.1%	67.9%	0.0%	0.0%	0.0%	Yes	1											
San Carlos		75	66	58.3%	41.7%	0.0%	0.0%	0.0%	No												
San Carlos		80	21	4.7%	95.3%	0.0%	0.0%	0.0%	No												
San Carlos		207	82	8.2%	89.6%	2.2%	0.0%	0.0%	Yes				1	6.25	6.25						
San Carlos		210	141	23.2%	76.8%	0.0%	0.0%	0.0%	Yes							1					
San Carlos	Redwood City	1011	507	12.3%	50.4%	9.8%	19.9%	7.6%	Yes	3	10.72		1	4.42							
San Carlos		1016	142	19.1%	43.9%	3.4%	0.0%	33.6%	No												
San Carlos		SCS	2,517	0.1%	84.8%	15.1%	0.0%	0.0%	Yes				4	3.80		2	6.78		1	0.89	
City of San Mateo		25	219	2.9%	97.1%	0.0%	0.0%	0.0%	No												
City of San Mateo		89	98	10.3%	88.4%	1.2%	0.0%	0.0%	Yes	3	4.35	3.86	1	83.00	83.00						
City of San Mateo		90	21	1.4%	98.6%	0.0%	0.0%	0.0%	Yes	1	1.12	0.77									
City of San Mateo		92	136	2.7%	97.1%	0.3%	0.0%	0.0%	Yes	1	2.12	1.90									
City of San Mateo		101	221	4.3%	95.7%	0.0%	0.0%	0.0%	No												
City of San Mateo		111	95	4.8%	93.3%	1.9%	0.0%	0.0%	Yes	1	0.27	0.25	1	0.28	0.28						
City of San Mateo		114	85	9.3%	90.7%	0.0%	0.0%	0.0%	No												
City of San Mateo		120	10	4.9%	95.1%	0.0%	0.0%	0.0%	Yes	1	0.46										
City of San Mateo	Burlingame	149	480	1.1%	98.0%	0.9%	0.0%	0.0%	Yes	2	3.63	3.18									
City of San Mateo		156	40	17.0%	82.4%	0.6%	0.0%	0.0%	Yes				1	3.31	3.12						
City of San Mateo		399	32	4.6%	95.3%	0.2%	0.0%	0.0%	No												
City of San Mateo		403	48	1.4%	98.6%	0.0%	0.0%	0.0%	No												
City of San Mateo		408	43	16.3%	81.9%	1.7%	0.0%	0.0%	No												
City of San Mateo		1007	87	8.4%	89.9%	1.7%	0.0%	0.0%	Yes	1	0.36	0.27									
City of San Mateo		1008	111	0.5%	98.3%	1.2%	0.0%	0.0%	Yes	1	3.53	2.52									
City of San Mateo		1009	175	24.3%	75.3%	0.4%	0.0%	0.0%	Yes	2	4.48	4.06	2	12.30	8.31						
City of San Mateo		1017	19	21.3%	78.0%	0.7%	0.0%	0.0%	No												
City of San Mateo		SMO	5,800	0.9%	85.2%	9.4%	4.4%	0.0%	Yes	8	47.48	11.06	7	25.94	9.35						
South San Francisco	San Bruno	291	194	33.1%	65.4%	1.5%	0.0%	0.0%	Yes	4			4								
South San Francisco	San Bruno	292	220	16.9%	82.6%	0.5%	0.0%	0.0%	Yes	1											
South San Francisco		293	654	8.9%	76.7%	14.4%	0.0%	0.0%	Yes	1			4			1					
South San Francisco		294	67	31.2%	68.7%	0.1%	0.0%	0.0%	No												
South San Francisco		295	25	11.7%	70.2%	4.3%	0.0%	13.7%	Yes	1			2								
South San Francisco		297	30	6.7%	93.1%	0.2%	0.0%	0.0%	No												
South San Francisco		298	122	2.7%	87.1%	10.2%	0.0%	0.0%	No												
South San Francisco		306	37	18.4%	81.6%	0.0%	0.0%	0.0%	Yes	1											
South San Francisco	Daly City	307	1,277	0.4%	84.1%	14.8%	0.7%	0.0%	Yes	3			1								
South San Francisco		311	111	2.8%	95.9%	1.3%	0.0%	0.0%	No												
South San Francisco		313	77	14.3%	82.1%	3.6%	0.0%	0.0%	Yes	1			1								
South San Francisco		314	66	5.4%	89.0%	5.6%	0.0%	0.0%	No												
South San Francisco		315	108	31.8%	68.2%	0.0%	0.0%	0.0%	Yes	1			3						1		
South San Francisco		316	117	21.9%	77.8%	0.3%	0.0%	0.0%	Yes	4			2								
South San Francisco		317	32	27.4%	72.5%	0.0%	0.0%	0.0%	No												
South San Francisco		318	70	45.4%	53.8%	0.8%	0.0%	0.0%	Yes				2								
South San Francisco		319	99	31.2%	68.8%	0.0%	0.0%	0.0%	Yes	5			10								
South San Francisco		352	40	16.7%	82.8%	0.5%	0.0%	0.0%	No												
South San Francisco		354	10	44.7%	54.8%	0.5%	0.0%	0.0%	No												
South San Francisco		356	10	18.0%	80.8%	1.2%	0.0%	0.0%	No												
South San Francisco		357	17	18.5%	78.2%	3.3%	0.0%	0.0%	Yes				1								
South San Francisco		358	32	21.8%	77.8%	0.3%	0.0%	0.0%	Yes				1								
South San Francisco		359	23	51.2%	48.8%	0.0%	0.0%	0.0%	Yes	1			1								
South San Francisco		362	18	51.6%	45.3%	0.9%	0.0%	2.1%	Yes				1								
South San Francisco		1001	439	27.3%	66.8%	5.7%	0.0%	0.2%	Yes	2			5								
South San Francisco		1002	316	22.5%	70.2%	5.4%	1.8%	0.0%	Yes	5			8						1		
South San Francisco		SSF	1,554	0.2%	75.1%	11.6%	1.4%	11.7%	Yes	6			5			2					