



Stormwater Control Measures Plan for PCBs and Mercury in the Santa Clara Valley

Version 1.0 (2016-2020)

Submitted in Compliance with NPDES Permit No. CAS612008 - Provisions C.11.a.iii(2)/C.12.a.iii(2) by the Santa Clara Valley Urban Runoff Pollution Prevention Program on behalf of all Permittees in Santa Clara County

September 2016

This report is submitted by the agencies participating in the



City of Campbell
City of Cupertino
City of Los Altos
Town of Los Altos Hills
Town of Los Gatos

City of Milpitas
City of Monte Sereno
City of Mountain View
City of Palo Alto
City of San Jose

City of Santa Clara
City of Saratoga
City of Sunnyvale
County of Santa Clara
Santa Clara Valley Water District

Prepared for:

Santa Clara Valley Urban Runoff Pollution Prevention Program (SCVURPPP)

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APPENDIX A. PRELIMINARY WATERSHED MANAGEMENT AREAS AND EXISTING GREEN INFRASTRUCTURE FACILITIES

LIST OF ABBREVIATIONS

| | |
|----------|--|
| BASMAA | BAY AREA STORMWATER MANAGEMENT AGENCIES ASSOCIATION |
| CW4CB | CLEAN WATERSHEDS FOR A CLEAN BAY |
| CWA | CLEAN WATER ACT |
| FY | FISCAL YEAR |
| GI | GREEN INFRASTRUCTURE |
| HHW | HOUSEHOLD HAZARDOUS WASTE |
| LID | LOW IMPACT DEVELOPMENT |
| MIP | MODEL IMPLEMENTATION PROCESS |
| MRP | MUNICIPAL REGIONAL PERMIT |
| MS4 | MUNICIPAL SEPARATE STORM SEWER SYSTEM |
| NPDES | NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM |
| O&M | OPERATION AND MAINTENANCE |
| PPM | PARTS PER MILLION |
| PCBs | POLYCHLORINATED BIPHENYLS |
| POC | POLLUTANT OF CONCERN |
| POTW | PUBLICLY OWNED TREATMENT WORKS |
| RAA | REASONABLE ASSURANCE ANALYSIS |
| SFEP | SAN FRANCISCO ESTUARY PARTNERSHIP |
| SCVURPPP | SANTA CLARA VALLEY URBAN RUNOFF POLLUTION PREVENTION PROGRAM |
| TMDL | TOTAL MAXIMUM DAILY LOAD |
| USEPA | UNITED STATES ENVIRONMENTAL PROTECTION AGENCY |
| WMA | WATERSHED MANAGEMENT AREA |

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SECTION 1 - INTRODUCTION

Regulatory Background

Fish tissue monitoring in San Francisco Bay (Bay) has revealed the bioaccumulation of Polychlorinated Biphenyls (PCBs), mercury, and other pollutants in Bay sportfish. The levels found are thought to pose a health risk to people consuming these fish and as a result, an interim advisory has been issued on the consumption of sportfish 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 and mercury. 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 indicate that a 90% reduction in PCBs and 50% reduction in mercury 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 the previous 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). These pilot studies were intended to enhance our collective knowledge about the costs and benefits of different control measures to reduce the levels of PCBs and mercury in urban stormwater.

The reissued Municipal Regional Permit (MRP 2.0, Order R2-2015-0049), requires municipal agencies (i.e., Permittees) to move from pilot-scale work to focused implementation and the achievement of defined load reduction goals (e.g., 3 kg/year region wide for PCBs). The strategies and control measures that will be applied to meet the load reduction goals are anticipated, at a minimum, to include:

- Source property identification and referrals for further investigation and abatement;
- Green stormwater infrastructure/treatment controls; and
- Management of PCBs in building materials during demolition.

Although not specifically required by MRP 2.0, Permittees may also implement additional types of controls to address PCB and mercury reduction goals. The methodology used to account for PCB and mercury reductions associated with these controls is described in the *PCB and Mercury Interim Load Reduction Accounting Method Report* (BASMAA 2016), submitted by the Program to the Water Board in September 2016.

Purpose of Control Measures Plan

Provisions C.11.a.iii (2) and C.12.a.iii (2) of MRP 2.0 require Permittees to report on the development of a prioritized list of Watershed Management Areas (WMAs) as a way to more easily track control measures and load reductions on a watershed and stormwater catchment scale. The WMA selection process is a logical next step in the efforts of Santa Clara Valley Urban Runoff Pollution Prevention Program (SCVURPPP) Permittees taken to-date to identify sources of PCBs and mercury to the MS4s within the Santa Clara Basin. This control measures plan complies with MRP 2.0 provisions C.11/12.a.iii(2) by:

- Providing lists of WMAs where control measure are being implemented or will be implemented during the term of the Permit;
- Describing a preliminary implementation schedule for control measure implementation;
- Identifying the number, type and locations and/or frequency (if applicable) of control measures;
- Providing a cumulative listing of all potentially mercury or PCB-contaminated sites that Permittees have discovered and referred to the Water Board to-date, with a brief summary description of each site and where to obtain additional information;
- Describing the scope, start date, and interim implementation progress milestones for PCB/mercury control measures; and,
- Providing statements of the roles and responsibilities of each participating Permittee for the implementation of control measures.

Please note that the information contained with this Plan is intended to be updated periodically based on new or revised information regarding Permittee implementation strategies and existing and planned control measures. Therefore, this Plan should be viewed as preliminary (i.e., version 1.0).

Approach to Identifying Management Areas and Control Measures

Watershed Management Areas

The selection and classification of Watershed Management Areas (WMAs) is a multi-year process designed to identify land areas that disproportionately contribute PCBs and mercury to MS4s in the Santa Clara Basin. The process is fully described in the Program's *Progress Report on Identifying WMAs* that was submitted to the Regional Water Board in April 2016 (SCVURPPP 2016). The intent of the WMA selection process is to identify WMAs that would provide the most benefit for PCB and/or mercury reduction and therefore could be the focus of control measure implementation. The process being implemented by SCVURPPP Permittees is consistent with (and expands upon) the framework developed by BASMAA member agencies in consultation with Regional Water Board staff in preparation for MRP 2.0 PCB and mercury load reduction requirements. Consistent with MRP 2.0, the selection of WMAs is primarily focused on PCBs, with ancillary/secondary benefits to mercury.

Stormwater catchments were chosen as the initial geographical scale at which WMAs are identified. This scale is consistent with the intention of MRP 2.0 provision C.11/12.a.ii and will allow Permittees to more easily track control measure implementation. Although stormwater catchments will form the basis for WMAs moving forward, adjustments may be made. Catchment areas are based on the Program's current understanding of the stormwater and runoff patterns and hydrology in the Basin, which may also assist with the eventual development of the model used to conduct a Reasonable Assurance Analysis (RAA) for PCBs and mercury, which is also required by MRP 2.0.

Table 1.1 provides a preliminary categorization of WMAs in the Santa Clara Valley. WMAs are categorized based on evidence collected by SCVURPPP indicating that significant source(s) of PCBs or mercury are present. This evidence includes data indicating that PCBs in sediment collected from the MS4 in the WMA were observed at concentrations >0.5 mg/kg or in

stormwater at PCB to sediment ratios >0.5 mg/kg).¹ For WMAs with observed concentrations above these thresholds, source property investigations are planned. If these investigations identify specific properties in a WMA as "source properties", then these WMAs are considered WMAs with confirmed sources. To-date, two WMAs (one in San Jose and one in Sunnyvale) have been confirmed as containing source properties. Source investigations are underway in seven additional WMAs at the time version 1.0 of this Plan was completed.

Table 1.1. Current (preliminary) classification of 156 Watershed Management Areas (WMAs) that represent stormwater catchments in the Santa Clara Valley Basin.

| Permittees within Catchments | Preliminary Classification | | | Total |
|------------------------------|---|---|------------------|------------|
| | # WMAs with Confirmed Source Properties | # WMAs with Source Property Investigations Underway | Remaining # WMAs | |
| San Jose | 1 | 4 | 63 | 68 |
| Sunnyvale | 1 | - | 21 | 22 |
| Santa Clara | - | 2 | 17 | 19 |
| Mountain View | - | - | 11 | 11 |
| Cupertino | - | - | 2 | 2 |
| Milpitas | - | - | 11 | 11 |
| Palo Alto | - | 1 | 8 | 9 |
| County of Santa Clara | - | - | 2 | 2 |
| Los Altos | - | - | 1 | 1 |
| West Valley Communities | - | - | 10 | 10 |
| Los Altos Hills | - | - | 1 | 1 |
| Total | 2 | 7 | 147 | 156 |

Selection of Control Measures

Permittees have implemented a variety of control measures since the development of PCB and mercury urban stormwater loading estimates incorporated into the TMDLs (i.e., circa 2002). Control measures were implemented to reduce PCBs and/or mercury in stormwater or the overall impacts of stormwater. These control measures have a direct benefit towards reducing the impacts of PCBs and mercury on the Bay, and therefore are documented in this Plan.

Because these control measures can vary both in space and time, the geographical extent and implementation level of these control measures has been challenging to track in the past. Efforts are currently underway to develop a more refined PCB and mercury control measure tracking system (PCB and Mercury Tracking System) which will improve the overall management of information necessary to track load reductions associated with these controls. This Tracking Systems remains a work-in-progress. This Plan provides a summary of existing PCB and mercury control measures implemented to-date based on the information currently incorporated into the Program's Tracking System.

¹ The threshold for determining "elevated" PCB concentrations in stormwater are preliminary and may be adjusted in the future based on additional information.

The selection of new or enhanced control measures that may assist Permittees in achieving load reduction goals in MRP 2.0 and in the TMDLs is ideally based on an understanding of PCB and mercury sources within WMAs and of the costs and benefits of different control measures. As previously described, source investigations are currently being conducted by SCVURPPP in an attempt to identify WMAs where the most cost-effective and beneficial controls (i.e., source property referral and abatement) can be implemented.

Should the Program and Permittees be unable to identify specific source properties in a WMA where there is evidence that it contains significant PCB or mercury sources, Permittees will evaluate the most cost-effective control measure strategies to reduce PCBs/mercury contributions from the WMA. This evaluation will include factors such as the magnitude and extent of PCB/mercury sources, the feasibility and costs of control measure implementation, the level of current control measure implementation, opportunities to leverage redevelopment or capital improvement projects, and the benefits of implementing different types of control measures. It is anticipated that these evaluations will mostly be conducted as part of the RAA development and control measure implementation during MRP 3.0 (post-2020) and as part of the implementation of Green Infrastructure (GI) plans being developed by each Permittee during MRP 2.0.

SECTION 2 - SUMMARY OF CONTROL MEASURE TYPES

Background

The types of control measures implemented to control PCBs and mercury in stormwater were previously described in the Program's Integrated Monitoring Report – Part B (BASMAA 2014) and Part C (SCVURPPP 2014). Controls for generally fall into the following three categories:

- **True Source Controls (Load Avoidance)** – Controls that focus on the original source or use of a potential pollutant, True Source Controls include regulations and laws adopted to minimize or eliminate the use of a pollutant for specific activities and pollution prevention activities, such as inspections, that identify high risk practices that could release PCBs or mercury into the environment. The one true source control for mercury is the reduction of mercury in devices and equipment as a result of legislation or voluntary reduction by manufacturers. No additional true source controls are currently available for PCBs due to the production of these organic compounds being banned in the 1970s, and the regulation of PCBs still in use.
- **Source Controls (Load Reduction)** – Source Controls are load reduction control measures that reduce the risk of the pollutant entering the environment after it has already been used in devices/materials/equipment, or that intercept the pollutant before it is discharged to a receiving water body. The control measure types that fall into this category include: source property abatement, enhanced street sweeping, MS4 and flood control operation and maintenance, mercury device recycling, and the control of PCB-containing material during building demolition.
- **Treatment Controls (Load Reduction)** – Treatment controls are load reduction control measures that remove pollutants via physical, biological, or chemical processes. The control measure types that fall into this category include stormwater treatment measures, GI, and diversions of stormwater to Publicly Owned Treatment Works (POTWs).

Control measures needed to address PCBs and mercury load reduction criteria included in MRP 2.0 are currently under development by Permittees based on continued evaluations of sources of these contaminants and load reduction benefits associated with control measures recently implemented. To the extent possible, control measures implemented to-date and those planned for implementation within each WMA during the term of MRP 2.0 are summarized in Section 3, consistent with MRP requirements. Descriptions of each control measure type that Permittees may implement or cause to be implemented by other responsible parties to control PCBs and/or mercury are provided below.

Control Measure Types

Source Property Referrals and Abatement

PCB and mercury source properties are those that disproportionately contribute pollutants to MS4s. Identification and subsequent abatement of these properties and/or focused control measure implementation in the public right-of-way (ROW) around source properties to reduce pollutant release can provide an opportunity for meaningful PCB and mercury stormwater load reductions. Reductions occur through the abatement of properties via referrals to the Water Board or through enforcement actions brought against property owners by Permittees.

SCVURPPP Permittees have identified and referred properties to the Water Board in the recent past, and continue to conduct source property investigations in high priority WMAs (see Section 3). These investigations typically include the following tasks:

- 1) Project Planning and Management;
- 2) Property Records and Aerial Photography Review;
- 3) Property Inspections and Public Right-of-Way (ROW) Surveys;
- 4) Private Property and Public ROW Soil/Sediment Sampling; and
- 5) Reporting and Planning/Identifying Control Measures (including referrals to regulatory agencies).

As source properties are identified and referred to the Regional Water Board, information regarding pollutant concentrations observed, evidence of transport to the MS4, property ownership, previous stormwater violations, and other pertinent information is entered into the PCB and Mercury Tracking System. Additionally, the location and geographical extent of the referred property is delineated in GIS to facilitate the calculation of PCB and mercury load reductions.

To-date, SCVURPPP Permittees have referred one source control property to the Regional Water Board – the Union Pacific railroad track ROW in WMA 083CTC990 (Leo Avenue) in the City of San Jose. The property was discovered based on the Leo Avenue source investigation project, which provided evidence that high concentrations of PCBs and mercury originating from the Union Pacific railroad track ROW were entering the City's stormwater system. This evidence resulted in the City of San Jose, in collaboration with the Program, referring the property to the Regional Water Board for follow-up investigation and abatement. Additional details about the Leo Avenue project and the resulting referral can be found in SCVURPPP (2015).

Green (Stormwater) Infrastructure

In addition to source property abatement, the installations of green infrastructure (GI) facilities on private property or public lands has and will continue to provide significant benefits to stormwater quality and PCB and mercury loads over time in the Santa Clara Basin. GI facilities include Infrastructure that uses vegetation, soils, and natural processes to manage water and create healthier urban environments. Examples of GI include bioretention, low impact development (LID), green/complete streets, and other systems that generally use the natural filtration or infiltration of stormwater.

As described in Section 3, numerous GI facilities treating thousands of acres of land in the Santa Clara Valley have been implemented on private properties as a result of new and redevelopment stormwater requirements. Permittees have little control over the pace and extent to which redevelopment occurs, however, as redevelopment projects are permitted, Permittees ensure that stormwater treatment controls are incorporated into those projects. Based on the level of recent redevelopment in the Santa Clara Valley and the "planned" projects listed in Section 3, the Program anticipates that the number of GI facilities on private property will grow substantially during the remainder of MRP 2.0 and within the next decade. Permittees continue to track the installation of these GI facilities to ensure proper maintenance and operation, and to assist with demonstrating pollutant load reductions.

Additionally, a number of GI facilities (e.g., green or complete streets) have been implemented on public lands by SCVURPPP Permittees. These projects have generally served as demonstration projects and are also summarized in Section 3 for each applicable Permittee. As a result of Permittee GI plans developed under MRP 2.0, however, the number of public GI projects are anticipated to increase in the future. The identification and prioritization of public GI projects in

the Santa Clara Valley will occur as the result of the GI Plan development process and RAA development scheduled for completion in the latter half of MRP 2.0. Project prioritization will likely be based on a number of factors (including PCB and mercury contributions). Similar to GI facilities on private property, Permittees will continue to track the installation of public GI facilities to ensure proper maintenance and operation, and to assist with demonstrating pollutant load reductions.

Trash Full Capture Systems

Trash full capture systems are devices or series of devices that trap all particles retained by a 5mm mesh screen and have a design treatment capacity of not less than the peak flow rate resulting from a one-year, one-hour, storm in the tributary drainage catchment area. Examples of full capture systems include storm drain inlet screening devices that treat relatively small areas to hydrodynamic separators and netting devices treating hundreds or thousands of acres.

SCVURPPP Permittees have installed numerous trash full capture systems to-date, treating thousands of acres of land. In addition to trash/litter, these systems remove sediment and associated pollutants (e.g., PCBs and mercury). Acres of land treated by existing full capture devices and areas planned for treatment are included in Section 3 for each Permittee.

MS4 Operation and Maintenance Practices

Street Sweeping and Flushing

All Permittees conduct street sweeping and have documented the amount of material removed via their street sweeping activities since the early 2000's. Additionally, sweeping frequencies and the level of parking enforcement (or equivalent actions) that Permittees conduct were documented in the Program's GIS geodatabase in 2009 as part of trash/litter management strategy development. Existing street sweeping frequencies for each Permittee are summarized in Section 3, along with enhancements made by Permittees to-date to enhance stormwater pollutant (i.e., trash or other pollutants) reduction or for other non-pollutant reduction reasons.

In addition to traditional street sweeping, street flushing may also provide pollutant reduction benefits for stormwater. Street flushing includes pressure washing and/or the use of water to flush streets of sediment, trash and sediment-associated pollutants, then collecting and properly disposing of the water, sediments and pollutants. Street flushing pilot projects have been conducted in the Bay Area, but street flushing has not occurred in the Santa Clara Valley to-date based on readily available information. Street flushing is therefore not discussed in Section 3. If street flushing projects are implemented by SCVURPPP Permittees in the future, load reductions associated with this control measure will be documented.

MS4 Line Flushing

Occasionally, opportunities present themselves to remove PCB or mercury associated sediment deposited in MS4 lines. These opportunities typically do not occur often because the traditional MS4 is intended to convey stormwater (and associated sediments) effectively through the system. Based on readily available information, to-date one such opportunity associated with elevated PCB or mercury concentrations has occurred in the Santa Clara Valley. The line flushing project that occurred in WMA 083CTC990 (Leo Avenue) in the City of San Jose is described in Section 3 and will be documented in the forthcoming report that will be developed via the Clean Watersheds for a Clean Bay (CW4CB) project administered by BASMAA. Load reductions associated with the Leo Avenue line flushing project and future opportunistic line flushing projects will be documented by SCVURPPP and/or Permittees.

Storm Drain Inlet Cleaning

All Permittees periodically conduct storm drain inlet maintenance (i.e., cleaning). Based on readily available information, the majority of SCVURPPP Permittees inspect and maintain their inlets annually. Through these efforts, sediment and organic material (and associated pollutants) are removed from the MS4. Current maintenance practices and enhancements are summarized in Section 3. Future enhancements will be evaluated as part of source property investigations and control measure prioritization planned to occur as part of RAA development. Enhancement will be tracked by the Program and/or Permittees to account for future PCB and mercury reductions.

Channel Maintenance

In addition to Permittee maintenance and operation of MS4s (e.g., inlet cleaning and flushing), flood control agencies such as the Santa Clara Valley Water District (SCVWD) periodically remove sediment from facilities and stream channels as part of their stream/channel maintenance programs. As sediment and organic material is removed from channels, sediment-associated pollutants such as PCBs and mercury are also removed. A summary of the SCVWD's existing stream maintenance program is included in Section 3. Enhancements in sediment removal will be tracked by the Program and/or the SCVWD in the future to account for increases in PCB and mercury reductions associated with this control measure.

Managing PCBs in Building Materials

PCBs were used in many applications and materials in buildings constructed between 1950 and 1980. MRP 1.0 required the implementation of a pilot project to assist in developing management practices that address legacy caulks containing PCBs. Permittees complied with this requirement by participating in a regional project led by the San Francisco Estuary Partnership (SFEP) that: 1) evaluated PCB levels in caulk in buildings; and developed preliminary Best Management Practices (BMPs), a Model Implementation Process (MIP), and associated model policies and ordinances to reduce or prevent the release of PCB-laden caulks to the environment during demolition of Bay Area buildings and the subsequent conveyance of the PCB-laden caulks by urban stormwater runoff to San Francisco Bay.

Building upon the requirements in MRP 1.0, MRP 2.0 provision C.12.f requires Permittees to develop and implement (or cause to be developed and implemented) an effective protocol for managing materials with PCBs concentrations of 50 ppm or greater in applicable structures at the time such structures undergo demolition so that PCBs do not enter municipal storm drain systems. Applicable structures include, at a minimum, commercial, public, institutional and industrial structures constructed or remodeled between the years 1950 and 1980 with building materials with PCBs concentrations of 50 ppm or greater. Single-family residential and wood frame structures are exempt.

SCVURPPP Permittees are currently participating in a BASMAA regional project that will develop model tools and guidance for Permittees and assist in developing regionally consistent protocols/programs to control PCBs in building materials. Permittees plan to develop and implement the protocol required by MRP 2.0 by July 1, 2019.

Managing PCBs in Storm Drain or Roadway Infrastructure

Recent studies in areas outside of the Bay Area have shown that PCBs may be present in storm drain and/or roadway infrastructure due to their use in caulks and sealants in the mid to late 20th century. Provision C.12.e of MRP 2.0 requires Permittees to evaluate the presence of PCBs in caulks/sealants used in storm drain or roadway infrastructure in public rights-of-way by collecting samples of caulk and other sealants used in storm drains and between concrete curbs and street pavement. BASMAA plans to conduct a regional project during MRP 2.0 to address this permit requirement on behalf of Permittees. The need for future enhanced controls to manage PCBs in storm drain and roadway infrastructure will be evaluated based on the results of the BASMAA project.

Diversions of Urban Runoff to Wastewater Treatment Facilities

The diversion of urban runoff (i.e., dry weather or stormwater) to wastewater treatment facilities can reduce PCB and mercury loads in stormwater to the Bay. Currently, one structure is present in the Santa Clara Valley that diverts dry and wet weather flows from the MS4 to a wastewater treatment facility. The structure is located in the City of Palo Alto and was evaluated as part of a pilot project conducted during MRP 1.0. A summary of the diversion structure is included in Section 3. Although no additional diversions are currently planned, Permittees may choose to divert additional flows to wastewater treatment facilities in the future. Should diversions be implemented, pollutant load reductions from these control measures will be tracked by the Program and/or applicable Permittees.

Removal of Illegally Dumped or In-use PCB-containing Materials and Products

This source control measure category entails clean-up of construction and demolition debris from illegal dumping areas where it poses a risk to entering MS4s, and the removal of PCB-containing equipment currently in-use. Additionally, it includes the proper clean-up and disposal of stockpiles, spills, and/or improperly disposed quantities of PCBs. The measure would involve, for instance, a concentrated source of PCBs (e.g., a barrel) that is found and cleaned-up or properly disposed. The Program is currently evaluating whether this control measure is currently being implemented Permittees and if there are opportunities to enhance this control measure for PCB or mercury load reduction purposes.

Mercury Reduction via True Source Controls and Recycling

Many types of devices and equipment (e.g., thermometers, switches, and fluorescent lamps) contain substantial amount of mercury. When these devices are not adequately managed at their end-of-life, mercury can be released into the environment and become available to stormwater. Control measures currently implemented by Permittees that address the potential for mercury releases include: 1) the support of policies and laws that reduce the mass of mercury in specific devices/equipment; and 2) the implementation of recycling programs that reduce the risk of mercury from being released during the end-of-life of these devices and equipment.

SCVURPPP Permittees currently promote, facilitate and/or participate in the collection and recycling of mercury-containing devices and equipment at the consumer level via their participation in the Santa Clara County Environmental Health Department's and City of Palo Alto's Household Hazardous Waste Program (HHW Programs). The HHW Programs offers residents the opportunity to drop-off mercury-containing devices and equipment and other hazardous wastes at designated drop-off points free of charge. The HHW Programs provide an inexpensive hazardous waste disposal option to eligible businesses SCVURPPP Permittees promote the availability of the HHW Programs on their agency websites.

Roles and Responsibilities for Control Measure Implementation

SCVURPPP Permittees are responsible for the implementation of PCB and mercury control measures, or causing control measures to be implemented by other parties. Depending on the size and complexity of the public agency and the type of control measure, implementation can occur via an array of Permittee departments and divisions.

The SCVURPPP (Program) provides assistance to Permittees by developing guidance on control measure implementation, assisting with the identification and prioritization of control measure types and locations, and tracking, monitoring and reporting on control measures and the resulting load reduction benefits. SCVURPPP does not directly implement PCB and mercury control measures.

Similar to SCVURPPP, BASMAA does not directly implement control measures. BASMAA conducts projects of regional benefit that develop guidance and tools to assist Permittees with control measures implementation. Regional projects are typically conducted to reduce costs and/or to develop regional consistency.

SECTION 3 - EXISTING & PLANNED CONTROL MEASURES

Permittee PCB and mercury stormwater control measures currently implemented by Permittees (i.e., existing) and the control measures under development (i.e., planned) are summarized in this section. Summaries for Permittees are organized by population (largest to smallest) and include information on control measures compiled by SCVURPPP to-date and may not include all existing or planned control measures. The inventory of control measures implemented or caused to be implemented by Permittees will continue to be updated and refined as additional information becomes available and as new or enhanced actions are implemented. To the extent possible, control measure summaries are geographically organized by Permittee and WMA. Specifically, generalized locations of GI facilities and trash full capture systems are illustrated on preliminary control measure maps included as Appendix A.

CITY OF SAN JOSE

Watershed Management Areas

Table 3.1 provides a listing of all Watershed Management Areas (WMAs) identified to-date in the City of San Jose. Total land area in the WMA and associated land uses are also included. WMAs presented in Table 3.1 should be considered preliminary because they may be refined in the future based on data/information currently being evaluated and collected through source investigations and other activities.

A total of 68 WMAs have been identified in the City of San Jose. These WMAs include all land area (i.e., >100,000 acres) in the City's jurisdictional boundaries that is below significant water impoundments located on receiving water bodies (i.e., reservoirs). WMAs form the management units that will be used to report control measure implementation and PCB and mercury load reductions in the future.

Table 3.1. City of San Jose preliminary PCB and mercury Watershed Management Areas (WMAs) and associated land uses.

| WMA ID # | Outfall Water Body | Total Area (Acres) | % Old Industrial | % Old Urban | % New Urban | % Open Space | % Other |
|------------------------|--------------------|--------------------|------------------|-------------|-------------|--------------|---------|
| 034AVS120 | Alviso Slough | 231 | 10% | 51% | 13% | 26% | 0% |
| 129CNC165 | Canoas Creek | 1,225 | 16% | 72% | 2% | 10% | 0% |
| 130CNC022 | Canoas Creek | 3,647 | 4% | 34% | 20% | 42% | 0% |
| 051CTC275 | Coyote Creek | 443 | 56% | 22% | 15% | 7% | 0% |
| 051CTC400 | Coyote Creek | 140 | 67% | 31% | 0% | 2% | 0% |
| 083CTC990 (Leo Avenue) | Coyote Creek | 455 | 65% | 33% | 0% | 2% | 0% |
| 051CTC450 | Coyote Creek | 244 | 11% | 75% | 0% | 15% | 0% |
| 067CTC250 | Coyote Creek | 41 | 75% | 25% | 0% | 0% | 0% |
| 100CTC400 | Coyote Creek | 345 | 13% | 77% | 0% | 10% | 0% |
| 100CTC600 | Coyote Creek | 882 | 6% | 64% | 0% | 30% | 0% |
| Miguelita Creek | Coyote Creek | 2,214 | 2% | 70% | 6% | 23% | 0% |
| 050CTC100 | Coyote Creek | 107 | 38% | 36% | 25% | 2% | 0% |
| 051CTC150 | Coyote Creek | 40 | 73% | 27% | 0% | 0% | 0% |
| 051CTC850 | Coyote Creek | 101 | 15% | 83% | 0% | 2% | 0% |
| 051CTC950 | Coyote Creek | 22 | 25% | 71% | 0% | 4% | 0% |
| 067CTC030 | Coyote Creek | 82 | 61% | 36% | 0% | 3% | 0% |
| 067CTC150 | Coyote Creek | 64 | 61% | 38% | 0% | 2% | 0% |
| 067CTC350 | Coyote Creek | 99 | 28% | 71% | 0% | 1% | 0% |

| WMA ID # | Outfall Water Body | Total Area (Acres) | % Old Industrial | % Old Urban | % New Urban | % Open Space | % Other |
|-----------------|---------------------------|---------------------------|-------------------------|--------------------|--------------------|---------------------|----------------|
| 067CTC351 | Coyote Creek | 34 | 63% | 37% | 0% | 0% | 0% |
| 067CTC750 | Coyote Creek | 73 | 12% | 87% | 0% | 1% | 0% |
| 067CTC810 | Coyote Creek | 230 | 6% | 93% | 0% | 1% | 0% |
| 083CTC350 | Coyote Creek | 426 | 12% | 79% | 0% | 9% | 0% |
| 083CTC650 | Coyote Creek | 157 | 4% | 87% | 0% | 10% | 0% |
| 084CTC625 | Coyote Creek | 205 | 32% | 64% | 0% | 4% | 0% |
| 100CTC050 | Coyote Creek | 48 | 18% | 80% | 0% | 2% | 0% |
| 100CTC190 | Coyote Creek | 246 | 0% | 99% | 0% | 1% | 0% |
| 100CTC500 | Coyote Creek | 590 | 10% | 89% | 0% | 2% | 0% |
| 083GAC900 | Guadalupe River | 611 | 34% | 38% | 0% | 28% | 0% |
| 050GAC020 | Guadalupe River | 1,382 | 27% | 11% | 54% | 8% | 0% |
| 066GAC152 | Guadalupe River | 379 | 20% | 1% | 0% | 1% | 78% |
| 066GAC900 | Guadalupe River | 676 | 2% | 93% | 0% | 4% | 1% |
| 067GAC010 | Guadalupe River | 572 | 2% | 91% | 0% | 7% | 0% |
| 067GAC075 | Guadalupe River | 391 | 4% | 88% | 0% | 7% | 0% |
| 067GAC150 | Guadalupe River | 298 | 17% | 76% | 0% | 7% | 0% |
| 083GAC240 | Guadalupe River | 275 | 28% | 71% | 0% | 1% | 0% |
| 083GAC800 | Guadalupe River | 221 | 7% | 91% | 0% | 3% | 0% |
| 099GAC240 | Guadalupe River | 298 | 44% | 52% | 0% | 4% | 0% |
| 035GAC010 | Guadalupe River | 916 | 0% | 14% | 71% | 15% | 0% |
| 035GAC015 | Guadalupe River | 529 | 14% | 1% | 80% | 5% | 0% |
| 066GAC110 | Guadalupe River | 283 | 20% | 46% | 29% | 5% | 0% |
| 066GAC550 | Guadalupe River | 1,495 | 17% | 82% | 0% | 1% | 0% |
| 066GAC810 | Guadalupe River | 131 | 11% | 85% | 0% | 4% | 0% |
| 066GAC850 | Guadalupe River | 139 | 41% | 39% | 0% | 5% | 15% |
| 067GAC190 | Guadalupe River | 318 | 16% | 84% | 0% | 0% | 0% |
| 083GAC246 | Guadalupe River | 44 | 38% | 62% | 0% | 1% | 0% |
| 083GAC300 | Guadalupe River | 27 | 50% | 48% | 0% | 2% | 0% |
| 083GAC575 | Guadalupe River | 139 | 2% | 96% | 0% | 1% | 0% |

Section 3 – Existing & Planned Control Measures

| WMA ID # | Outfall Water Body | Total Area (Acres) | % Old Industrial | % Old Urban | % New Urban | % Open Space | % Other |
|------------------------|----------------------|--------------------|------------------|-------------|-------------|--------------|---------|
| 099GAC500 | Guadalupe River | 88 | 9% | 86% | 0% | 6% | 0% |
| 128GAC490 | Guadalupe River | 60 | 14% | 80% | 1% | 5% | 0% |
| GAC-B | Guadalupe River | 229 | 6% | 68% | 0% | 26% | 0% |
| 083LGC686 | Los Gatos Creek | 39 | 84% | 16% | 0% | 1% | 0% |
| 083LGC090 | Los Gatos Creek | 40 | 84% | 15% | 0% | 1% | 0% |
| 083LGC225 | Los Gatos Creek | 20 | 75% | 25% | 0% | 0% | 0% |
| 083LGC430 ¹ | Los Gatos Creek | 59 | 28% | 67% | 0% | 4% | 0% |
| 083LGC525 ¹ | Los Gatos Creek | 361 | 9% | 91% | 0% | 0% | 0% |
| 099LGC180 | Los Gatos Creek | 1,189 | 2% | 98% | 0% | 1% | 0% |
| 113LGC010 | Los Gatos Creek | 1,040 | 5% | 94% | 0% | 1% | 0% |
| LGC-C3 | Los Gatos Creek | 174 | 25% | 70% | 0% | 5% | 0% |
| 067SCL080 | Lower Silver Creek | 42 | 79% | 20% | 0% | 1% | 0% |
| 067SCL120 | Lower Silver Creek | 39 | 61% | 38% | 0% | 1% | 0% |
| 067SCL063 | Lower Silver Creek | 141 | 15% | 84% | 0% | 1% | 0% |
| 067SCL066 | Lower Silver Creek | 1,148 | 0% | 96% | 0% | 2% | 2% |
| 068SCL150 | Lower Silver Creek | 100 | 2% | 97% | 0% | 1% | 0% |
| 068SCL230 | Lower Silver Creek | 521 | 1% | 96% | 0% | 3% | 0% |
| 068SCL270 | Lower Silver Creek | 25 | 5% | 93% | 0% | 2% | 0% |
| 036PCL800 | Penitencia Creek-Lwr | 892 | 15% | 81% | 0% | 4% | 0% |
| 036PCL810 | Penitencia Creek-Lwr | 195 | 28% | 69% | 0% | 3% | 0% |
| Other - San Jose | Multiple | 72,164 | 1% | 55% | 15% | 29% | 1% |

¹ – Due to stormwater catchment boundaries, this WMA includes areas within the County of Santa Clara.

Existing and Planned Control Measures

PCB and mercury control measures currently in place or planned for future implementation are described in this section. A preliminary list of control measures for the City of San Jose are listed in Table 3.2.

Table 3.2. Existing (E) and planned (P) PCB and mercury control measures in City of San Jose WMAs.

| WMA ID # | Control Measure Categories | | | | | | | | | | |
|------------------------|--|----------------------|----------------------------|--|---|-------------------------------------|-------------------|----------------|--|---|--|
| | Source Property Identification and Abatement | Green Infrastructure | Trash Full Capture Systems | Managing PCBs during Building Demolition | Managing PCBs in Stormwater Conveyance Infrastructure | Operation and Maintenance Practices | | | Diversion to Wastewater Treatment Facilities | Removal of Illegally Dumped PCB-containing Materials and Products | Reduction/Recycling of Mercury-containing Devices & Products |
| | | | | | | Street Sweeping or Flushing | MS4 Line Flushing | Inlet Cleaning | | | |
| 034AVS120 | | | | P | | E | | E | | | E |
| 129CNC165 | | E/P | | P | | E | | E | | | E |
| 130CNC022 | | E/P | E | P | | E | | E | | | E |
| 051CTC275 | P | E/P | | P | | E | | E | | | E |
| 051CTC400 | P | E/P | E | P | | E | | E | | | E |
| 083CTC990 (Leo Avenue) | E | P | E | P | | E | E | E | | | E |
| 051CTC450 | | E/P | E | P | | E | | E | | | E |
| 067CTC250 | | | | P | | E | | E | | | E |
| 100CTC400 | | E/P | | P | | E | | E | | | E |
| 100CTC600 | | E | E | P | | E | | E | | | E |
| Miguelita Creek | | E/P | E | P | | E | | E | | | E |
| 050CTC100 | | | | P | | E | | E | | | E |
| 051CTC150 | | | | P | | E | | E | | | E |
| 051CTC850 | | P | | P | | E | | E | | | E |
| 051CTC950 | | | | P | | E | | E | | | E |
| 067CTC030 | | E/P | | P | | E | | E | | | E |
| 067CTC150 | | | | P | | E | | E | | | E |
| 067CTC350 | | P | E | P | | E | | E | | | E |
| 067CTC351 | | | | P | | E | | E | | | E |
| 067CTC750 | | | E | P | | E | | E | | | E |
| 067CTC810 | | E | E | P | | E | | E | | | E |
| 083CTC350 | | E/P | E | P | | E | | E | | | E |
| 083CTC650 | | P | | P | | E | | E | | | E |
| 084CTC625 | | | E | P | | E | | E | | | E |
| 100CTC050 | | E | E | P | | E | | E | | | E |
| 100CTC190 | | P | | P | | E | | E | | | E |

Section 3 – Existing & Planned Control Measures

| WMA ID # | Control Measure Categories | | | | | | | | | | |
|------------------------|--|----------------------|----------------------------|--|---|-------------------------------------|-------------------|----------------|--|---|--|
| | Source Property Identification and Abatement | Green Infrastructure | Trash Full Capture Systems | Managing PCBs during Building Demolition | Managing PCBs in Stormwater Conveyance Infrastructure | Operation and Maintenance Practices | | | Diversion to Wastewater Treatment Facilities | Removal of Illegally Dumped PCB-containing Materials and Products | Reduction/Recycling of Mercury-containing Devices & Products |
| | | | | | | Street Sweeping or Flushing | MS4 Line Flushing | Inlet Cleaning | | | |
| 100CTC500 | | E/P | E | P | | E | | E | | E | |
| 083GAC900 | P | E/P | E | P | | E | | E | | E | |
| 050GAC020 | | E/P | | P | | E | | E | | E | |
| 066GAC152 | | E/P | | P | | E | | E | | E | |
| 066GAC900 | | P | | P | | E | | E | | E | |
| 067GAC010 | | | E | P | | E | | E | | E | |
| 067GAC075 | | E | | P | | E | | E | | E | |
| 067GAC150 | | E/P | | P | | E | | E | | E | |
| 083GAC240 | | P | | P | | E | | E | | E | |
| 083GAC800 | | P | E | P | | E | | E | | E | |
| 099GAC240 | | E/P | | P | | E | | E | | E | |
| 035GAC010 | | E/P | | P | | E | | E | | E | |
| 035GAC015 | | E/P | | P | | E | | E | | E | |
| 066GAC110 | | E/P | E | P | | E | | E | | E | |
| 066GAC550 | | E/P | | P | | E | | E | | E | |
| 066GAC810 | | | | P | | E | | E | | E | |
| 066GAC850 | | E | E | P | | E | | E | | E | |
| 067GAC190 | | P | E | P | | E | | E | | E | |
| 083GAC246 | | P | | P | | E | | E | | E | |
| 083GAC300 | | | | P | | E | | E | | E | |
| 083GAC575 | | P | | P | | E | | E | | E | |
| 099GAC500 | | P | | P | | E | | E | | E | |
| 128GAC490 | | | | P | | E | | E | | E | |
| GAC-B | | | | P | | E | | E | | E | |
| 083LGC686 | | P | | P | | E | | E | | E | |
| 083LGC090 | | P | | P | | E | | E | | E | |
| 083LGC225 | | | | P | | E | | E | | E | |
| 083LGC430 ¹ | | E/P | | P | | E | | E | | E | |
| 083LGC525 ¹ | | E/P | E | P | | E | | E | | E | |
| 099LGC180 | | E/P | E | P | | E | | E | | E | |
| 113LGC010 | | E/P | E | P | | E | | E | | E | |
| LGC-C3 | | P | | P | | E | | E | | E | |
| 067SCL080 | P | E | E | P | | E | | E | | E | |
| 067SCL120 | | P | E | P | | E | | E | | E | |

| WMA ID # | Control Measure Categories | | | | | | | | | | |
|------------------|--|----------------------|----------------------------|--|---|-------------------------------------|-------------------|----------------|--|---|--|
| | Source Property Identification and Abatement | Green Infrastructure | Trash Full Capture Systems | Managing PCBs during Building Demolition | Managing PCBs in Stormwater Conveyance Infrastructure | Operation and Maintenance Practices | | | Diversion to Wastewater Treatment Facilities | Removal of Illegally Dumped PCB-containing Materials and Products | Reduction/Recycling of Mercury-containing Devices & Products |
| | | | | | | Street Sweeping or Flushing | MS4 Line Flushing | Inlet Cleaning | | | |
| 067SCL063 | | P | | P | | E | | E | | | E |
| 067SCL066 | | E/P | E | P | | E | | E | | | E |
| 068SCL150 | | P | E | P | | E | | E | | | E |
| 068SCL230 | | | E | P | | E | | E | | | E |
| 068SCL270 | | E | E | P | | E | | E | | | E |
| 036PCL800 | | E/P | | P | | E | | E | | | E |
| 036PCL810 | | P | | P | | E | | E | | | E |
| Other - San Jose | | E | E | P | | E | | E | | | E |

Source Property Identification and Abatement (including Referrals)

The following summaries describe the status of source property investigation projects completed or currently underway. Based on the results of future monitoring designed to identify WMAs that likely contain source properties, additional source property investigations may be conducted by the Program or Permittees, resulting in additional source property referrals and/or actions by the City to eliminate the discharge of PCBs of mercury into the MS4 by property owners.

WMA 083CTC990 (Leo Avenue Watershed)

During MRP 1.0, SCVURPPP Permittees focused on identifying source properties in the Leo Avenue watershed (WMA 083CTC990) located in an older industrial area of San Jose. There, SCVURPPP and the City of San Jose in coordination with the CW4CB project conducted a source property identification project that was completed in FY 14-15. The goal of the Leo Avenue project was to help the City of San Jose identify source properties and provide information to support referrals of those properties to the Regional Water Board and other appropriate agencies for abatement. Alternatively, the City could take actions to require the property owner to effectively eliminate the contribution of pollutants from a property to the stormwater conveyance system.

The Leo Avenue project provided evidence that high concentrations of PCBs and mercury originating from the Union Pacific railroad track ROW were entering the City's stormwater system immediately downstream of the railroad track ROW. This evidence resulted in the City of San Jose, in collaboration with the Program, referring the Union Pacific Railroad ROW parcel to the Regional Water Board for follow-up investigation and abatement. The final project report and referral was included in the Leo Avenue Source Property Investigation Report, attached to the Program's FY 14-15 Annual Report.

WMA 051CTC275

Based on elevated mercury and PCB concentrations observed via the Program's Pollutant of Concern (POC) monitoring, this WMA was identified as likely containing a source property(s). This WMA covers 443 acres in the City of San Jose northwest of the intersection of Highway 880 and Highway 101, and drains north into Coyote Creek. The businesses in the WMA include heavy metal recycling facilities, metal manufacturing, and auto repair businesses. As part of a current source property investigation project, the Program has compiled information for 130 parcels and prioritized 62 parcels of high interest for PCBs or mercury. After review of aerial photos and further review of associated businesses, the Program has identified 44 parcels for site visits or right-of-way (ROW) surveys planned to occur in early/mid FY 16-17.

WMA 051CTC400

Based on elevated mercury and PCB concentrations observed via the Program's Pollutant of Concern (POC) monitoring, this WMA was identified as likely containing a source property(s). This WMA covers 130 acres in the City of San Jose northeast of the intersection of Highway 880 and Highway 101, and drains north into Coyote Creek. The railroad, which comprises the eastern boundary of the WMA, transported scrap metal to and from Markovitis and Fox Metals, a site known to have had soils contaminated with PCBs. As part of a source property investigation project currently underway, the Program compiled information for 34 parcels and prioritized 28 parcels of high interest for PCBs or mercury. After review of aerial photos and further review of 200 associated businesses, the Program has identified 28 parcels for site visits or right-of-way (ROW) surveys planned to occur in early/mid FY 16-17.

WMA 067SCL080

Based on elevated PCB to sediment ratios observed via the Program's Pollutant of Concern (POC) monitoring, this WMA was identified as likely containing a source property(s). This WMA covers 28 acres in the City of San Jose north of the intersection of Highway 101 and Lower Silver Creek. The WMA includes past railroad use and the DAP clean-up site for various chemicals associated with caulk and glazing compounds. Present businesses include mechanical engineering/construction, electrical construction, and asphalt/cement distributor. As part of a source property investigation project currently underway, the Program compiled information for 9 parcels and prioritized 7 parcels of high interest for PCBs. After review of aerial photos and the further review of associated businesses, the Program has prioritized 7 parcels for site visits or right-of-way (ROW) surveys planned to occur in early/mid FY 16-17.

WMA 083GAC900

Based on elevated mercury and PCB concentrations observed via the Program's Pollutant of Concern (POC) monitoring, this WMA was identified as likely containing a source property(s). This WMA covers 611 acres in San Jose and is adjacent to WMA 083CTC990 (Leo Avenue). The WMA includes the largest metal recycling facility in Santa Clara County, railroad parcels with the same ownership as the known source of the PCBs in the Leo Avenue watershed, and the Tamien Park, PG&E and GE clean-up sites. As part of a source property investigation project currently underway, the Program compiled information for 114 parcels and prioritized 66 parcels of high interest for PCBs. After review of aerial photos and further review of associated businesses, the Program prioritized 43 parcels for site visits or right-of-way (ROW) surveys planned to occur in early/mid FY 16-17.

Green Infrastructure

Applicable private properties undergoing new or redevelopment are subject to MRP requirements to treat stormwater via low impact development (LID) techniques or equivalent. Based on the information compiled to-date, new and redevelopment project sites currently addressed by stormwater facilities treat over 1,300 acres of land that is distributed among the 68 WMAs in the City of San Jose (Table 3.3). An additional 2,000 acres of new and redevelopment project sites currently under construction or planned for construction in the near future will also treat stormwater once the development/redevelopment is complete. The Program is currently working with the City to further document (to the extent possible) the schedule for completion of these planned projects.

The City has also recently constructed a green street project located in south Downtown San José and includes three blocks of alleys, running from the project terminus at Interstate 280 to Martha Street, between 2nd and 3rd Streets. The project replaced over 35,000 square feet of deteriorated asphalt and bare soil with new high-albedo recycled content “green” concrete along the edges of the alleyways, which drain to a 4-foot wide band of permeable pavers running the center length of the alleys. The pavers drain directly to underground infiltration trenches that store and infiltrate 80% of the annual runoff volume from the 2.3-acre tributary area.

The City conducted comprehensive performance monitoring focused on sediment load reduction to determine the effectiveness of the permeable pavers, infiltration trench, and alleyway repaving at immobilizing, capturing, and retaining sediment that would otherwise be transported to the storm drain system. City staff collected pre-construction and post-construction street dirt and stormwater samples for comparison to determine the sediment and contaminant load reduction. Performance monitoring found an overall 97% reduction of Total Suspended Sediment (TSS) loading to the adjacent storm drains and 70% reduction in sediment loads in adjacent side streets. Additionally, the project achieved significant reductions in sediment-bound contaminant loads, the most notable of which included mercury (88%), nickel (79%), and lead (74%).

The City plans to construct three additional green street projects that, if constructed, will treat approximately 7.62 acres with a combination of permeable pavers and bioretention facilities. For more information please refer to the City’s Fiscal Year FY 15-16 Annual Report.

Trash Full Capture Systems

The City of San Jose has treated over 2,500 acres of land to-date with trash full capture treatment systems. The majority of this area is treated by large hydrodynamic separators owned and operated by the City. The remainder of the area is treated by publically owned and maintained inlet screening devices or smaller privately owned hydrodynamic separators.

In addition to the area currently treated by these devices, the City also plans to install additional large devices to treat an additional 3,000 acres during the term of MRP 2.0. Installation of these devices will not only assist the City in achieving its trash load reduction goals, but also provide load reduction benefits for PCBs and mercury.

Table 3.3. Extent of land area in City of San Jose WMAs that is addressed by existing (2016) and planned Green Infrastructure (GI) facilities or existing Trash Full Capture Treatment systems.¹

| WMA ID # | Total Area (Acres) | Area (acres) Addressed by Green Infrastructure (GI) ³ | | Area (acres) Treated by Trash Full Capture Treatment Systems ⁴ | |
|------------------------|--------------------|--|---------|---|---------|
| | | Existing | Planned | Existing | Planned |
| 034AVS120 | 231 | 0.0 | 0.0 | 0.0 | TBD |
| 129CNC165 | 1,225 | 187.0 | 869.7 | 0.0 | |
| 130CNC022 | 3,647 | 11.2 | 60.4 | 0.2 | |
| 051CTC275 | 443 | 2.0 | 5.0 | 0.0 | |
| 051CTC400 | 140 | 7.9 | 9.2 | 0.7 | |
| 083CTC990 (Leo Avenue) | 455 | 0.0 | 2.8 | 178.1 | |
| 051CTC450 | 244 | 25.2 | 13.9 | 0.2 | |
| 067CTC250 | 41 | 0.0 | 0.0 | 0.0 | |
| 100CTC400 | 345 | 2.7 | 10.9 | 0.0 | |
| 100CTC600 | 882 | 0.6 | 0.0 | 340.2 | |
| Miguelita Creek | 2,214 | 12.9 | 20.1 | 11.0 | |
| 050CTC100 | 107 | 0.0 | 0.0 | 0.0 | |
| 051CTC150 | 40 | 0.0 | 0.0 | 0.0 | |
| 051CTC850 | 101 | 0.0 | 8.5 | 0.0 | |
| 051CTC950 | 22 | 0.0 | 0.0 | 0.0 | |
| 067CTC030 | 82 | 1.0 | 7.5 | 0.0 | |
| 067CTC150 | 64 | 0.0 | 0.0 | 0.0 | |
| 067CTC350 | 99 | 0.0 | 2.5 | 0.4 | |
| 067CTC351 | 34 | 0.0 | 0.0 | 0.0 | |
| 067CTC750 | 73 | 0.0 | 0.0 | 0.6 | |
| 067CTC810 | 230 | 14.2 | 0.0 | 227.6 | |
| 083CTC350 | 426 | 3.5 | 1.4 | 384.2 | |
| 083CTC650 | 157 | 0.0 | 0.9 | 0.0 | |
| 084CTC625 | 205 | 0.0 | 0.0 | 0.8 | |
| 100CTC050 | 48 | 1.8 | 0.0 | 47.0 | |
| 100CTC190 | 246 | 0.0 | 2.6 | 0.0 | |
| 100CTC500 | 590 | 61.7 | 3.6 | 397.0 | |
| 083GAC900 | 611 | 26.4 | 115.4 | 2.6 | |
| 050GAC020 | 1,382 | 69.7 | 46.2 | 0.0 | |
| 066GAC152 | 379 | 15.3 | 28.3 | 0.0 | |
| 066GAC900 | 676 | 0.0 | 79.1 | 0.0 | |

| WMA ID # | Total Area (Acres) | Area (acres) Addressed by Green Infrastructure (GI) ³ | | Area (acres) Treated by Trash Full Capture Treatment Systems ⁴ | |
|------------------------|--------------------|--|---------|---|---------|
| | | Existing | Planned | Existing | Planned |
| 067GAC010 | 572 | 0.0 | 0.0 | 6.6 | |
| 067GAC075 | 391 | 17.9 | 0.0 | 0.0 | |
| 067GAC150 | 298 | 1.5 | 1.1 | 0.0 | |
| 083GAC240 | 275 | 0.0 | 5.7 | 0.0 | |
| 083GAC800 | 221 | 0.0 | 3.0 | 219.3 | |
| 099GAC240 | 298 | 0.4 | 4.6 | 0.0 | |
| 035GAC010 | 916 | 27.1 | 75.2 | 0.0 | |
| 035GAC015 | 529 | 80.2 | 13.1 | 0.0 | |
| 066GAC110 | 283 | 11.1 | 42.9 | 1.7 | |
| 066GAC550 | 1,495 | 34.4 | 14.0 | 0.0 | |
| 066GAC810 | 131 | 0.0 | 0.0 | 0.0 | |
| 066GAC850 | 139 | 2.7 | 0.0 | 0.3 | |
| 067GAC190 | 318 | 0.0 | 1.4 | 1.1 | |
| 083GAC246 | 44 | 0.0 | 5.3 | 0.0 | |
| 083GAC300 | 27 | 0.0 | 0.0 | 0.0 | |
| 083GAC575 | 139 | 0.0 | 0.8 | 0.0 | |
| 099GAC500 | 88 | 0.0 | 2.8 | 0.0 | |
| 128GAC490 | 60 | 0.0 | 0.0 | 0.0 | |
| GAC-B | 229 | 0.0 | 0.0 | 0.0 | |
| 083LGC686 | 39 | 0.0 | 2.9 | 0.0 | |
| 083LGC090 | 40 | 0.0 | 2.0 | 0.0 | |
| 083LGC225 | 20 | 0.0 | 0.0 | 0.0 | |
| 083LGC430 ² | 59 | 1.4 | 2.2 | 0.0 | |
| 083LGC525 ² | 361 | 5.4 | 14.4 | 5.8 | |
| 099LGC180 | 1,189 | 2.2 | 16.3 | 90.9 | |
| 113LGC010 | 1,040 | 16.9 | 1.9 | 26.2 | |
| LGC-C3 | 174 | 0.0 | 9.0 | 0.0 | |
| 067SCL080 | 42 | 4.2 | 0.0 | 1.9 | |
| 067SCL120 | 39 | 0.0 | 1.6 | 1.0 | |
| 067SCL063 | 141 | 0.0 | 2.0 | 0.0 | |
| 067SCL066 | 1,148 | 2.9 | 0.5 | 2.4 | |
| 068SCL150 | 100 | 0.0 | 1.1 | 3.0 | |
| 068SCL230 | 521 | 0.0 | 0.0 | 0.7 | |
| | | | | | TBD |

| WMA ID # | Total Area (Acres) | Area (acres) Addressed by Green Infrastructure (GI) ³ | | Area (acres) Treated by Trash Full Capture Treatment Systems ⁴ | |
|------------------|--------------------|--|---------|---|---------|
| | | Existing | Planned | Existing | Planned |
| 068SCL270 | 25 | 0.4 | 0.0 | 1.0 | |
| 036PCL800 | 892 | 25.5 | 2.4 | 0.0 | |
| 036PCL810 | 195 | 0.0 | 2.8 | 0.0 | |
| Other - San Jose | 72,164 | 712.7 | 476.6 | 640.4 | |

1 – Acres presented may not include all acres currently treated by GI or Trash systems.

2 - Catchment overlaps boundary between the City of San Jose and the County of Santa Clara.

3 – GI facilities may include proprietary vault-based systems.

4 – Trash systems only include those that are publically owned.

Managing PCBs during Building Demolition

The City of San Jose is currently participating in the BASMAA regional project to develop tools and guidance for implementing a protocol for managing PCBs during building demolition. The City is anticipating the implementation of a protocol/program to require the management of PCBs in building materials during demolition activities by July 1, 2019, consistent with MRP 2.0.

MS4 Operation and Maintenance Practices

- **Street Sweeping**

The City of San José's street sweeping program includes four routes with four different sweeping frequencies. The residential route (RSS) sweeping frequency is once a month and includes most residential streets. The arterial route (ACB) sweeping frequency is twice a month, and includes most arterial roads. The north business district route (NBD) sweeping frequency is once per week and includes many arterial roads and streets around the downtown area. The central business district route (CBD) sweeping frequency is twice a week and includes most of the downtown area. Parking enforcement signs for street sweeping are in place on many residential streets and some arterial roads. Parking is not allowed on approximately half of the CBD and NBD routes.

In addition, the City requires certain property owners on Leo Avenue to sweep the street frequently between municipal sweeping events. This enhanced street sweeping serves as the operation and maintenance required by the MRP to claim reductions associated with source property referrals to the Water Board.

- **MS4 Line Flushing**

In 2004 and 2014, the storm drain line on Leo Avenue was cleaned out to remove contaminated sediments and improve the operation of the line. The cleanout was conducted as part of a CW4CB pilot project designed to evaluate the pollutant-load reduction effectiveness and cost of the project, and inform the potential future implementation of similar project by the City and/or other Permittees. Although no additional cleanout are currently planned, the City continues to evaluate the need/opportunity for additional cleanout events on the Leo Avenue line and other locations in the City.

- **Inlet Cleaning**

The City currently inspects and maintains all storm drain inlets one time per year, with the exception of those with full capture systems, which are cleaned more often. The City will continue to evaluate the benefits of more frequent inlet cleaning on a site specific basis during MRP 2.0 and as part of its control measure prioritization process via the RAA development.

Reduction/Recycling of Mercury-containing Devices & Products

The City currently promotes the collection and recycling of mercury-containing devices and equipment at the consumer level via their participation in the Santa Clara County Environmental Health Department's Household Hazardous Waste Program (HHW Program). No enhancements associated with this control measure are currently planned.

CITY OF SUNNYVALE

Watershed Management Areas

Table 3.4 provides a listing of all Watershed Management Areas (WMAs) identified to-date in the City of Sunnyvale. Total land area in the WMA and associated land uses are also included. WMAs presented in Table 3.4 should be considered preliminary because they may be refined in the future based on data/information currently being evaluated and collected through source investigations and other activities.

A total of 22 WMAs have been identified in the City. These WMAs include all land area (i.e., >14,000 acres) in the City's jurisdictional boundaries that is below significant water impoundments located on receiving water bodies (i.e., reservoirs). WMAs form the management units that will be used to report control measure implementation and PCB and mercury load reductions in the future.

Table 3.4. City of Sunnyvale preliminary PCB and mercury Watershed Management Areas (WMAs) and associated land uses.

| WMA ID # | Outfall Water Body | Total Area (Acres) | % Old Industrial | % Old Urban | % New Urban | % Open Space | % Other |
|--------------------------------|------------------------|--------------------|------------------|-------------|-------------|--------------|---------|
| 034CZC155 | Calabazas Creek | 487 | 22% | 73% | 5% | 0% | 0% |
| 049CZC200 | Calabazas Creek | 710 | 50% | 35% | 14% | 2% | 0% |
| 049CZC800 ¹ | Calabazas Creek | 351 | 61% | 39% | 0% | 0% | 0% |
| 049CZC900 | Calabazas Creek | 72 | 54% | 46% | 0% | 0% | 0% |
| 049CZC910 | Calabazas Creek | 37 | 87% | 13% | 0% | 0% | 0% |
| 049ECS900 | Calabazas Creek | 89 | 34% | 66% | 0% | 0% | 0% |
| 034BFL230A | San Francisco Bay | 154 | 54% | 34% | 11% | 1% | 0% |
| 034BFL230B | San Francisco Bay | 213 | 51% | 17% | 28% | 3% | 0% |
| 034BFL230C | San Francisco Bay | 223 | 16% | 15% | 48% | 21% | 0% |
| 049SVE900 (Source Property) | Sunnyvale East Channel | 480 | 18% | 81% | 0% | 1% | 0% |
| 034SVE490 | Sunnyvale East Channel | 295 | 9% | 88% | 1% | 2% | 0% |
| 048SVE395 | Sunnyvale East Channel | 12 | 55% | 45% | 0% | 0% | 0% |
| 048SVE550 | Sunnyvale East Channel | 32 | 76% | 24% | 0% | 0% | 0% |
| 049SVE410 | Sunnyvale East Channel | 54 | 22% | 78% | 0% | 0% | 0% |
| 049SVE720 | Sunnyvale East Channel | 127 | 12% | 88% | 0% | 0% | 0% |
| 033SVW950 | Sunnyvale West Channel | 92 | 78% | 18% | 0% | 4% | 0% |
| 033SVW955 | Sunnyvale West Channel | 259 | 35% | 63% | 0% | 2% | 0% |
| 048SVW998 | Sunnyvale West Channel | 1704 | 7% | 92% | 0% | 0% | 0% |
| 048SVW999 | Sunnyvale West Channel | 68 | 32% | 65% | 0% | 3% | 0% |
| SVW-A | Sunnyvale West Channel | 147 | 29% | 39% | 0% | 32% | 0% |
| SVW-B ² | Sunnyvale West Channel | 2362 | 61% | 39% | 0% | 32% | 0% |
| Other - Sunnyvale | Multiple | 6186 | 1% | 92% | 4% | 4% | 0% |

1 – Due to catchment boundaries, this WMA includes areas in the City of Sunnyvale and the City of Santa Clara (catchment is divided nearly in half between the two cities).

2 - Due to catchment boundaries, this WMA includes areas in the City of Sunnyvale and the County of Santa Clara.

Existing and Planned Control Measures

PCB and mercury control measures currently in place or planned for future implementation are described in this section. A preliminary list of control measures for the City of Sunnyvale are listed in Table 3.5.

Table 3.5. Existing (E) and planned (P) PCB and mercury control measures in City of Sunnyvale WMAs.

| WMA ID # | Control Measure Categories | | | | | | | | | | |
|-----------------------------|--|----------------------|----------------------------|--|---|-------------------------------------|-------------------|----------------|--|---|--|
| | Source Property Identification and Abatement | Green Infrastructure | Trash Full Capture Systems | Managing PCBs during Building Demolition | Managing PCBs in Stormwater Conveyance Infrastructure | Operation and Maintenance Practices | | | Diversion to Wastewater Treatment Facilities | Removal of Illegally Dumped PCB-containing Materials and Products | Reduction/Recycling of Mercury-containing Devices & Products |
| | | | | | | Street Sweeping or Flushing | MS4 Line Flushing | Inlet Cleaning | | | |
| 034CZC155 | | E/P | | P | | E | | E | | | E |
| 049CZC200 | | E/P | E | P | | E | | E | | | E |
| 049CZC800 ¹ | | E/P | E | P | | E | | E | | | E |
| 049CZC900 | | E/P | | P | | E | | E | | | E |
| 049CZC910 | | | | P | | E | | E | | | E |
| 049ECS900 | | E | | P | | E | | E | | | E |
| 034BFL230A | | E/P | | P | | E | | E | | | E |
| 034BFL230B | | E/P | E | P | | E | | E | | | E |
| 034BFL230C | | E/P | E | P | | E | | E | | | E |
| 049SVE900 (Source Property) | E | E/P | E | P | | E | | E | | | E |
| 034SVE490 | | E/P | | P | | E | | E | | | E |
| 048SVE395 | | | | P | | E | | E | | | E |
| 048SVE550 | | P | | P | | E | | E | | | E |
| 049SVE410 | | | E | P | | E | | E | | | E |
| 049SVE720 | | E/P | | P | | E | | E | | | E |
| 033SVW950 | | E | | P | | E | | E | | | E |
| 033SVW955 | | E | E | P | | E | | E | | | E |
| 048SVW998 | | E/P | E | P | | E | | E | | | E |
| 048SVW999 | | E | E | P | | E | | E | | | E |
| SVW-A | | E | | P | | E | | E | | | E |
| SVW-B ² | | E | | P | | E | | E | | | E |
| Other - Sunnyvale | | E/P | E | P | | E | | E | | | E |

Source Property Identification and Abatement (including Referrals)

The following summaries describe the status of source property investigation projects completed or currently underway. Based on the results of future monitoring designed to identify WMAs that likely contain source properties, additional source property investigations may be conducted by the Program or Permittees, resulting in additional source property referrals and/or actions by the City to eliminate the discharge of PCBs of mercury into the MS4 by property owners.

WMA 049SVE900

Elevated concentrations of PCBs in sediments and stormwater collected adjacent to or downstream of a property located in the Sunnyvale East Channel watershed in the City of Sunnyvale were recently observed and further evaluated in FY 15-16. Sediment and pollutants appear to have originated from a property that has a history of PCB-related contamination in soils and groundwater. The City with assistance from the Program is currently evaluating next steps including coordination with other regulatory agencies (e.g., United States Environmental Protection Agency).

Green Infrastructure

Applicable private properties undergoing new or redevelopment are subject to MRP requirements to treat stormwater via low impact development (LID) techniques or equivalent. Based on the information compiled to-date, new and redevelopment project sites currently addressed by stormwater facilities treat over 966 acres of land that is distributed among the 22 WMAs in the City (Table 3.5; Appendix A). An additional 124 acres of new and redevelopment project sites currently under construction or planned for construction in the near future will also treat stormwater once the development/redevelopment is complete. The Program is currently working with the City to further document (to the extent possible) the schedule for completion of these planned projects.

The City has also recently constructed or plans to construct a number of GI facilities on public lands and right-of-ways. As part of the City's efforts to implement early GI projects, the City identified the opportunities listed below. Additionally, as part of the City's recent effort to screen capital projects for GI potential, the City has identified up to nine public projects that will be carried out over the Permit term that will be subject to the Permit's C3 requirements and will include stormwater treatment systems.

| Project Name and Location | Project Description | Planning or Implementation Status |
|---|--|---|
| <p>Calabazas Creek Bridge at Old Mountain View Alviso Road</p> <p>(WMA 034CZC115)</p> | <p>Replacement of a bridge that is shared by the cities of Sunnyvale and Santa Clara. The bridge is located on Old Mountain View-Alviso Road near State Route 237 and was declared "Structurally Deficient" by Caltrans in June 2005. The purpose of the project is to upgrade the safety of the structure. It will be widened to accommodate bicycles and pedestrians and includes associated improvements to conform to existing street width standards with Sunnyvale and Santa Clara. No new roads will be constructed as part of the project. The project will include close to 500 square feet of bioretention area which will treat runoff from the part of impervious area associated with the bridge.</p> | <p>Design underway. Construction scheduled to begin Spring 2017.</p> |
| <p>Caribbean Avenue Green Street</p> <p>(WMA 034BFL230A and WMA 034BFL203B)</p> | <p>This project will retrofit an existing arterial street to include bioretention areas to treat stormwater runoff from the north side of Caribbean Ave between Borregas Ave and Mathilda Ave in north Sunnyvale. Bioretention areas will be interspersed with parking for Bay Trail users. The project increases visibility and access to the San Francisco Bay Trail, and serves as an opportunity to educate Bay Trail users and high-tech company employees who often use the Bay Trail about the connection between urban landscapes and the Bay.</p> | <p>Preliminary conceptual design completed. City is pursuing grant funding for the project. This project was not selected for inclusion in the last round of projects included in the Bay Area Integrated Regional Water Management Plan grant application (2015).</p> <p>This project was included San Francisco Estuary Institute's <i>Healthy Watersheds, Resilient Baylands</i> grant application for EPA's San Francisco Bay Water Quality Improvement Fund 2016 grant cycle. The grant application was selected for funding with a request to reduce overall budget. Project implementation will be determined pending grant budget negotiations and completion of a site-specific feasibility study.</p> |
| <p>Persian Drive Green Street</p> <p>(WMA 034SVE490)</p> | <p>As part of a proposed affordable housing development project, the City proposed the inclusion of a green street and new sidewalk along a portion of Persian Drive in north Sunnyvale. The new sidewalk will complete a missing link in the neighborhood's sidewalk network and connect the area to one of Sunnyvale's employment centers, and bioretention areas have been included in the design to treat road run off from a portion of Persian Drive between Morse Avenue and Borregas Avenue.</p> | <p>The concept for the green street and sidewalk was included as the sustainable transportation component of a larger affordable housing project, known as the Edwina Benner Plaza Project in Sunnyvale. The project is pursuing funding from the California Strategic Growth Council's Affordable Housing and Sustainable Communities grant program.</p> <p>The concept proposal for the full project was submitted in March 2016, and was selected to continue to full application phase of grant process. The completed application for the project was submitted in June 2016 and is currently under review by Strategic Growth Council.</p> |

Trash Full Capture Systems

The City of Sunnyvale has treated over 1,200 acres of land to-date with trash full capture treatment systems. These areas are distributed over a number of WMAs. Treatment devices include a combination of public hydrodynamic separators owned and operated by the City and inlet screening devices.

In addition to the area currently treated by these devices, the City also plans to install additional large devices to treat additional high trash generating areas during the term of MRP 2.0. Installation of these devices will not only assist the City in achieving its trash load reduction goals, but also provide load reduction benefits for PCBs and mercury.

Table 3.6. Extent of land area in City of Sunnyvale WMAs that are addressed by existing (2016) and planned Green Infrastructure (GI) facilities or Trash Full Capture Treatment Systems.¹

| WMA ID # | Total Area (Acres) | Area (acres) Addressed by Green Infrastructure (GI) ² | | Area (acres) Treated by Trash Full Capture Treatment Systems ³ | |
|------------------------|--------------------|--|---------|---|---------|
| | | Existing | Planned | Existing | Planned |
| 034CZC155 | 487 | 6.6 | 0 | 0 | TBD |
| 049CZC200 | 710 | 69.4 | 5.3 | 701.3 | |
| 049CZC800 ¹ | 351 | 18.1 | 2.1 | 2.1 | |
| 049CZC900 | 72 | 6.8 | 2.0 | 0 | |
| 049CZC910 | 36 | 0 | 0 | 0 | |
| 049ECS900 | 89 | 13.5 | 0 | 0 | |
| 034BFL230A | 153 | 5.4 | 27.6 | 0 | |
| 034BFL230B | 213 | 3.6 | 24.0 | 1.3 | |
| 034BFL230C | 223 | 34.5 | 15.5 | 0.8 | |
| 049SVE900 | 480 | 26.9 | 4.6 | 64.5 | |
| 034SVE490 | 295 | 24.7 | 1.7 | 0 | |
| 048SVE395 | 12 | 0 | 0 | 0.0 | |
| 048SVE550 | 32 | 0 | 2.3 | 0 | |
| 049SVE410 | 54 | 0 | 0 | 1.6 | |
| 049SVE720 | 126 | 3.4 | 9.1 | 0 | |
| 033SVW950 | 92 | 9.7 | 0 | 0 | |
| 033SVW955 | 259 | 26.1 | 0 | 26.8 | |
| 048SVW998 | 1,704 | 11.3 | 14.8 | 10.1 | |
| 048SVW999 | 67 | 10.3 | 0 | 3.3 | |
| SVW-A | 147 | 16.8 | 0 | 0 | |
| SVW-B ² | 2362 | 614.1 | 0 | 0 | |
| Other - Sunnyvale | 6,186 | 64.4 | 14.8 | 411.9 | |

1 – Acres presented may not include all acres currently treated by GI or Trash systems.

2 – GI facilities may include proprietary vault-based systems.

3 – Trash systems only include those that are publically owned.

Managing PCBs during Building Demolition

The City of Sunnyvale is currently participating in the BASMAA regional project to develop tools and guidance for implementing a protocol for managing PCBs during building demolition. The City is anticipating the implementation of a protocol/program to require the management of PCBs in building materials during demolition activities by July 1, 2019, consistent with MRP 2.0.

MS4 Operation and Maintenance Practices

- **Street Sweeping**

The City of Sunnyvale's current street sweeping program includes sweeping at a frequency of every other week for most of the City's streets and medians, with the exception of the downtown Murphy Street Business Improvement District (BID), where sweeping occurs three times per week.

In addition, the City took part in a street sweeping pilot project as part of the CW4CB project. The primary goals of the pilot project was to conduct street sweeping studies in older industrial areas where PCBs may still be found in roadway sediments; assess the effectiveness of current actions; and predict the effectiveness of enhanced sweeping if it were to occur. The increased cumulative effectiveness of enhanced street sweeping practices, compared to baseline, will be a measure of the potential for enhanced street sweeping to reduce loads to the Bay. The final project report, including results, will be incorporated in the CW4CB Final Project Report, scheduled for completion in spring 2017.

- **Inlet Cleaning**

The City currently inspects and maintains all storm drain inlets one time per year, with the exception of those with full capture systems, which are cleaned more often. The City will continue to evaluate the benefits of more frequent inlet cleaning on a site specific basis during MRP 2.0 and as part of its control measure prioritization process via the RAA development.

Reduction/Recycling of Mercury-containing Devices & Products

The City currently promotes the collection and recycling of mercury-containing devices and equipment at the consumer level via their participation in the Santa Clara County Environmental Health Department's Household Hazardous Waste Program (HHW Program). No enhancements associated with this control measure are currently planned.

CITY OF SANTA CLARA

Watershed Management Areas

Table 3.7 provides a listing of all Watershed Management Areas (WMAs) identified to-date in the City of Santa Clara. Total land area in the WMA and associated land uses are also included. WMAs presented in Table 3.7 should be considered preliminary because they may be refined in the future based on data/information currently being evaluated and collected through source investigations and other activities.

A total of 19 WMAs have been identified in the City. These WMAs include all land area (i.e., >11,500 acres) in the City's jurisdictional boundaries that is below significant water impoundments located on receiving water bodies (i.e., reservoirs). WMAs form the management units that will be used to report control measure implementation and PCB and mercury load reductions in the future.

Table 3.7. City of Santa Clara preliminary PCB and mercury Watershed Management Areas (WMAs) and associated land uses.

| WMA ID # | Outfall Water Body | Total Area (Acres) | % Old Industrial | % Old Urban | % New Urban | % Open Space | % Other |
|---------------------|------------------------|--------------------|------------------|-------------|-------------|--------------|---------|
| 049CZC690 | Calabazas Creek | 29 | 28% | 0% | 68% | 4% | 0% |
| 049CZC810 | Calabazas Creek | 65 | 31% | 51% | 17% | 1% | 0% |
| 050GAC400 | Guadalupe River | 718 | 41% | 58% | 0% | 0% | 0% |
| 066GAC150 | Guadalupe River | 500 | 27% | 57% | 0% | 3% | 14% |
| 050GAC030 | Guadalupe River | 535 | 35% | 62% | 2% | 1% | 0% |
| 050GAC190 | Guadalupe River | 145 | 83% | 16% | 0% | 0% | 0% |
| 035GAC150 | Guadalupe River | 46 | 37% | 0% | 62% | 2% | 0% |
| 050GAC410 | Guadalupe River | 4 | 74% | 26% | 0% | 0% | 0% |
| 050GAC580 | Guadalupe River | 333 | 68% | 19% | 0% | 0% | 13% |
| 050GAC600 | Guadalupe River | 688 | 18% | 72% | 0% | 5% | 5% |
| 049STA500 | San Tomas Aquino Creek | 40 | 66% | 29% | 4% | 1% | 0% |
| 049STA600 | San Tomas Aquino Creek | 37 | 70% | 30% | 0% | 1% | 0% |
| 049STA800 | San Tomas Aquino Creek | 246 | 9% | 91% | 0% | 0% | 0% |
| 049STA050 | San Tomas Creek | 382 | 18% | 47% | 34% | 1% | 0% |
| 049STA300 | San Tomas Creek | 154 | 46% | 26% | 27% | 2% | 0% |
| 049STA550 | San Tomas Creek | 247 | 72% | 19% | 9% | 0% | 0% |
| 049STA710 | San Tomas Creek | 281 | 33% | 67% | 0% | 0% | 0% |
| 081SRC530 | Saratoga Creek | 81 | 61% | 39% | 0% | 0% | 0% |
| Other - Santa Clara | Multiple | 7073 | 4% | 75% | 13% | 8% | 1% |

Existing and Planned Control Measures

PCB and mercury control measures currently in place or planned for future implementation are described in this section. A preliminary list of control measures for the City of Santa Clara are listed in Table 3.8.

Table 3.8. Existing (E) and planned (P) PCB and mercury control measures in City of Santa Clara WMAs.

| WMA ID # | Control Measure Categories | | | | | | | | | | |
|---------------------|--|----------------------|----------------------------|--|---|-------------------------------------|-------------------|----------------|--|---|--|
| | Source Property Identification and Abatement | Green Infrastructure | Trash Full Capture Systems | Managing PCBs during Building Demolition | Managing PCBs in Stormwater Conveyance Infrastructure | Operation and Maintenance Practices | | | Diversion to Wastewater Treatment Facilities | Removal of Illegally Dumped PCB-containing Materials and Products | Reduction/Recycling of Mercury-containing Devices & Products |
| | | | | | | Street Sweeping or Flushing | MS4 Line Flushing | Inlet Cleaning | | | |
| 049CZC690 | | | | P | | E | | E | | | E |
| 049CZC810 | | | | P | | E | | E | | | E |
| 050GAC400 | P | P | E | P | | E | | E | | | E |
| 066GAC150 | P | E/P | E | P | | E | | E | | | E |
| 050GAC030 | | E/P | | P | | E | | E | | | E |
| 050GAC190 | | | | P | | E | | E | | | E |
| 035GAC150 | | | | P | | E | | E | | | E |
| 050GAC410 | | | | P | | E | | E | | | E |
| 050GAC580 | | E | E | P | | E | | E | | | E |
| 050GAC600 | | E/P | E | P | | E | | E | | | E |
| 049STA500 | | P | | P | | E | | E | | | E |
| 049STA600 | | E/P | | P | | E | | E | | | E |
| 049STA800 | | P | | P | | E | | E | | | E |
| 049STA050 | | | | P | | E | | E | | | E |
| 049STA300 | | E/P | | P | | E | | E | | | E |
| 049STA550 | | E/P | | P | | E | | E | | | E |
| 049STA710 | | | | P | | E | | E | | | E |
| 081SRC530 | | E/P | E | P | | E | | E | | | E |
| Other - Santa Clara | | E/P | E | P | | E | | E | | | E |

Source Property Identification and Abatement (including Referrals)

The following summaries describe the status of source property investigation projects currently underway. Based on the results of future monitoring designed to identify WMAs that likely contain source properties, additional source property investigations may be conducted by the Program or Permittees, resulting in additional source property referrals and/or actions by the City to eliminate the discharge of PCBs of mercury into the MS4 by property owners.

WMA 050GAC400

Based on elevated mercury and PCB concentrations observed via the Program's Pollutant of Concern (POC) monitoring, this WMA was identified as likely containing a source property(s). This WMA covers 759 acres mostly in Santa Clara with 41 acres located in the City of San Jose. It is located north and west of the San Jose Airport, and drains into the Guadalupe River at the Laurelwood Pump Station. The WMA contained both the Certained and Monsanto clean-up sites, both known for soil contamination by PCBs. As part of a current source property investigation project, the Program has compiled information for 335 parcels and prioritized 246 parcels of high interest for PCBs or mercury. After review of aerial photos and further evaluation of associated businesses, the Program prioritized 115 parcels for site visits or right-of-way (ROW) surveys, of which 76 sites visits/ROW surveys were conducted by the City Santa Clara and Program staff. A total of 19 possible sample site locations were identified for further POC monitoring to confirm source property identification.

WMA 066GAC150

Based on elevated mercury and PCB concentrations observed via the Program's Pollutant of Concern (POC) monitoring, this WMA was identified as likely containing a source property(s). This WMA covers 504 acres mostly in Santa Clara with 124 acres located in San Jose. It is located west of the San Jose Airport, and drains into the Guadalupe River on the east side of the Airport. It includes parcels that are part of the FMC clean-up with known PCBs in soils and railroad properties with known mercury contamination of soils on the property. As part of a current source property investigation project, the Program has compiled information for 1,087 parcels and prioritized 51 parcels of high interest for PCBs or mercury. After review of aerial photos and further review, the Program ranked 44 parcels in the City of Santa Clara for site visits or ROW surveys, of which 35 site visits/ROW surveys were conducted by the City of Santa Clara and Program staff. A total of 19 possible sample site locations were identified for further POC monitoring to confirm source property identification.

Green Infrastructure

Applicable private properties undergoing new or redevelopment are subject to MRP requirements to treat stormwater via low impact development (LID) techniques or equivalent. Based on the information compiled to-date, new and redevelopment project sites currently addressed by stormwater facilities treat over 490 acres of land that is distributed among the 19 WMAs in the City (Table 3.9). An additional 280 acres of new and redevelopment project sites currently under construction or planned for construction in the near future will also treat stormwater once the development/redevelopment is complete. The Program is currently working with the City to further document (to the extent possible) the schedule for completion of these planned projects.

The City is currently in the coordination and planning stages to construct a number of GI facilities on public lands or right-of-ways. Coordination is underway between the City's Engineering and Planning Departments, as well as with other impacted departments/agencies such as the Silicon Valley Power, Parks and Recreation, and the Public Works Streets Maintenance Division. It is

anticipated that a GI framework to guide the City's GI planning process will be completed within FY 16-17. The design and installation of GI facilities should commence shortly thereafter.

Trash Full Capture Systems

The City of Santa Clara has treated over 1,300 acres of land to-date with trash full capture treatment systems. The majority of this area is treated by two large public netting devices owned and operated by the City. The remainder of the area is treated by publically owned inlet screening devices or privately owned hydrodynamic separators.

In addition to the area currently treated by these devices, the City also plans to install additional inlet-based devices to treat an additional areas during the term of MRP 2.0. Installation of these devices will not only assist the City in achieving its trash load reduction goals, but also provide load reduction benefits for PCBs and mercury.

Table 3.9 – Extent of land area in City of Santa Clara WMAs that are addressed by existing (2016) and planned Green Infrastructure (GI) facilities or Trash Full Capture Treatment Systems.¹

| WMA ID # | Total Area (Acres) | Area (acres) Addressed by Green Infrastructure (GI) ² | | Area (acres) Treated by Trash Full Capture Treatment Systems ³ | |
|---------------------|--------------------|--|---------|---|---------|
| | | Existing | Planned | Existing | Planned |
| 049CZC690 | 29 | 0 | 0.0 | 0 | TBD |
| 049CZC810 | 65 | 0 | 0.0 | 0 | |
| 050GAC400 | 718 | 1.9 | 0.0 | 39.3 | |
| 066GAC150 | 500 | 2.7 | 13.0 | 112.2 | |
| 050GAC030 | 535 | 15.8 | 4.0 | 0 | |
| 050GAC190 | 145 | 0 | 0 | 0 | |
| 035GAC150 | 46 | 0 | 0 | 0 | |
| 050GAC410 | 4 | 0 | 0 | 0 | |
| 050GAC580 | 333 | 16.1 | 0 | 10.1 | |
| 050GAC600 | 688 | 31.5 | 33.1 | 166.8 | |
| 049STA500 | 40 | 5.8 | 0.0 | 0 | |
| 049STA600 | 37 | 3.6 | 11.2 | 0 | |
| 049STA800 | 246 | 0.0 | 0 | 0 | |
| 049STA050 | 382 | 8.5 | 0 | 0 | |
| 049STA300 | 154 | 32.0 | 13.9 | 0 | |
| 049STA550 | 247 | 8.8 | 7.6 | 0 | |
| 049STA710 | 281 | 0 | 0 | 0 | |
| 081SRC530 | 81 | 55.0 | 5.1 | 0.5 | |
| Other - Santa Clara | 7,073 | 309.2 | 198.2 | 983.6 | |

1 – Acres presented may not include all acres currently treated by GI or Trash systems.

2 – GI facilities may include proprietary vault-based systems.

3 – Trash systems only include those that are publically owned.

Managing PCBs during Building Demolition

The City of Santa Clara is currently participating in the BASMAA regional project to develop tools and guidance for implementing a protocol for managing PCBs during building demolition. The City is anticipating the implementation of a protocol/program to require the management of PCBs in building materials during demolition activities by July 1, 2019, consistent with MRP 2.0.

MS4 Operation and Maintenance Practices

- **Street Sweeping**

The City of recently enhanced its street sweeping program, increasing the frequency from two to three times per month in all land areas. The City plans to continue to evaluate the benefits of increased sweeping or targeted sweeping in priority areas.

- **Inlet Cleaning**

The City currently inspects and maintains all storm drain inlets one time per year, with the exception of those with full capture systems, which are cleaned more often. The City will continue to evaluate the benefits of more frequent inlet cleaning on a site specific basis during MRP 2.0 and as part of its control measure prioritization process via the RAA development.

Reduction/Recycling of Mercury-containing Devices & Products

The City currently promotes the collection and recycling of mercury-containing devices and equipment at the consumer level via their participation in the Santa Clara County Environmental Health Department's Household Hazardous Waste Program (HHW Program). No enhancements associated with this control measure are currently planned.

CITY OF MOUNTAIN VIEW

Watershed Management Areas

Table 3.10 provides a listing of all Watershed Management Areas (WMAs) identified to-date in the City of Mountain View. Total land area in the WMA and associated land uses are also included. WMAs presented in Table 3.10 should be considered preliminary because they may be refined in the future based on data/information currently being evaluated and collected through source investigations and other activities.

A total of 11 WMAs have been identified in the City. These WMAs include all land area (i.e., >7,300 acres) in the City's jurisdictional boundaries that is below significant water impoundments located on receiving water bodies (i.e., reservoirs). WMAs form the management units that will be used to report control measure implementation and PCB and mercury load reductions in the future.

Table 3.10. City of Mountain View preliminary PCB and mercury Watershed Management Areas (WMAs) and associated land uses.

| WMA ID # | Outfall Water Body | Total Area (Acres) | % Old Industrial | % Old Urban | % New Urban | % Open Space | % Other |
|-----------------------|--------------------|--------------------|------------------|-------------|-------------|--------------|---------|
| 032PMC100 | Permanente Creek | 47 | 41% | 57% | 0% | 2% | 0% |
| 032PMC130 | Permanente Creek | 15 | 2% | 98% | 0% | 0% | 0% |
| 032PMC200 | Permanente Creek | 69 | 60% | 40% | 0% | 0% | 0% |
| 017xxx010 | San Francisco Bay | 862 | 18% | 73% | 7% | 2% | 0% |
| 032SVC490 | Stevens Creek | 513 | 39% | 44% | 0% | 17% | 0% |
| 032SVC470 | Stevens Creek | 71 | 53% | 46% | 0% | 1% | 0% |
| 032SVC550 | Stevens Creek | 36 | 6% | 94% | 0% | 0% | 0% |
| 047SVC150 | Stevens Creek | 304 | 16% | 84% | 0% | 0% | 0% |
| 047SVC200 | Stevens Creek | 26 | 43% | 57% | 0% | 0% | 0% |
| SVC-A | Stevens Creek | 453 | 31% | 51% | 5% | 12% | 2% |
| Other - Mountain View | Multiple | 4,947 | 5% | 79% | 4% | 12% | 0% |

Existing and Planned Control Measures

PCB and mercury control measures currently in place or planned for future implementation are described in this section. A preliminary list of control measures for the City of Mountain View are listed in Table 3.11.

Table 3.11. Existing (E) and planned (P) PCB and mercury control measures in City of Mountain View WMAs.

| WMA ID # | Control Measure Categories | | | | | | | | | | |
|-----------------------|--|----------------------|----------------------------|--|---|-------------------------------------|-------------------|----------------|--|---|--|
| | Source Property Identification and Abatement | Green Infrastructure | Trash Full Capture Systems | Managing PCBs during Building Demolition | Managing PCBs in Stormwater Conveyance Infrastructure | Operation and Maintenance Practices | | | Diversion to Wastewater Treatment Facilities | Removal of Illegally Dumped PCB-containing Materials and Products | Reduction/Recycling of Mercury-containing Devices & Products |
| | | | | | | Street Sweeping or Flushing | MS4 Line Flushing | Inlet Cleaning | | | |
| 032PMC100 | | P | | P | | E | | E | | | E |
| 032PMC130 | | E/P | | P | | E | | E | | | E |
| 032PMC200 | | E | | P | | E | | E | | | E |
| 017xxx010 | | E/P | E | P | | E | | E | | | E |
| 032SVC490 | | E/P | | P | | E | | E | | | E |
| 032SVC470 | | P | | P | | E | | E | | | E |
| 032SVC550 | | | | P | | E | | E | | | E |
| 047SVC150 | | E/P | E | P | | E | | E | | | E |
| 047SVC200 | | | | P | | E | | E | | | E |
| SVC-A | | P | | P | | E | | E | | | E |
| Other - Mountain View | | E/P | E | P | | E | | E | | | E |

Source Property Identification and Abatement (including Referrals)

No source property investigations are currently underway in the City of Mountain View. Based on the results of future monitoring designed to identify WMAs that likely contain source properties, additional source property investigations may be conducted by the Program or the City, resulting in additional source property referrals and/or actions by the City to eliminate the discharge of PCBs or mercury into the MS4 by property owners.

Green Infrastructure

Applicable private properties undergoing new or redevelopment are subject to MRP requirements to treat stormwater via low impact development (LID) techniques or equivalent. Based on the information compiled to-date, new and redevelopment project sites currently

addressed by stormwater facilities treat over 250 acres of land that is distributed among the 11 WMAs in the City (Table 3.12). An additional 120 acres of new and redevelopment project sites currently under construction or planned for construction in the near future will also treat stormwater once the development/redevelopment is complete. The Program is currently working with the City to further document (to the extent possible) the schedule for completion of these planned projects.

Trash Full Capture Systems

The City of Mountain View has treated over 120 acres of land to-date with trash full capture treatment systems (Table 3.12). The majority of this area is treated by publically and privately owned hydrodynamic separators.

In addition to the area currently treated by these devices, the City also plans to install additional full capture devices to treat an additional areas during the term of MRP 2.0. Installation of these devices will not only assist the City in achieving its trash load reduction goals, but also provide load reduction benefits for PCBs and mercury.

Table 3.12. Extent of land area in City of Mountain View WMAs that are addressed by existing (2016) and planned Green Infrastructure (GI) facilities or Trash Full Capture Treatment Systems.¹

| WMA ID # | Total Area (Acres) | Area (acres) Addressed by Green Infrastructure (GI) ² | | Area (acres) Treated by Trash Full Capture Treatment Systems ³ | |
|-----------------------|--------------------|--|---------|---|---------|
| | | Existing | Planned | Existing | Planned |
| 032PMC100 | 47 | 0 | 5.4 | 0 | TBD |
| 032PMC130 | 15 | 6.3 | 0.2 | 0 | |
| 032PMC200 | 69 | 0.3 | 0 | 0 | |
| 017xxx010 | 862 | 48.0 | 9.1 | 0.2 | |
| 032SVC490 | 513 | 53.0 | 24.7 | 0 | |
| 032SVC470 | 71 | 0 | 7.4 | 0 | |
| 032SVC550 | 36 | 0 | 0 | 0 | |
| 047SVC150 | 304 | 8.7 | 1.9 | 2.7 | |
| 047SVC200 | 26 | 0 | 0 | 0 | |
| SVC-A | 453 | 0 | 5.9 | 0 | |
| Other - Mountain View | 4947 | 140.5 | 67.7 | 298.0 | |

1 – Acres presented may not include all acres currently treated by GI or Trash systems.

2 – GI facilities may include proprietary vault-based systems.

3 – Trash systems only include those that are publically owned.

Managing PCBs during Building Demolition

The City of Mountain View is currently participating in the BASMAA regional project to develop tools and guidance for implementing a protocol for managing PCBs during building demolition. The City is anticipating the implementation of a protocol/program to require the management of PCBs in building materials during demolition activities by July 1, 2019, consistent with MRP 2.0.

MS4 Operation and Maintenance Practices

- **Street Sweeping**

The City of Mountain View street sweeping program includes sweeping nearly all streets in the City twice per month. Parking enforcement signs for street sweeping are posted on some streets in high-density residential neighborhoods, and parking enforcement that allows sweepers to sweep to the curb occurs on some arterial streets.

- **Inlet Cleaning**

The City currently inspects and maintains all storm drain inlets one time per year. The City will continue to evaluate the benefits of more frequent inlet cleaning on a site specific basis during MRP 2.0 and as part of its control measure prioritization process via the RAA development.

Reduction/Recycling of Mercury-containing Devices & Products

The City currently promotes the collection and recycling of mercury-containing devices and equipment at the consumer level via their participation in the Santa Clara County Environmental Health Department's Household Hazardous Waste Program (HHW Program). No enhancements associated with this control measure are currently planned.

CITY OF MILPITAS

Watershed Management Areas

Table 3.13 provides a listing of all Watershed Management Areas (WMAs) identified to-date in the City of Milpitas. Total land area in the WMA and associated land uses are also included. WMAs presented in Table 3.13 should be considered preliminary because they may be refined in the future based on data/information currently being evaluated and collected through source investigations and other activities.

A total of 11 WMAs have been identified in the City. These WMAs include all land area (i.e., >8,600 acres) in the City's jurisdictional boundaries that is below significant water impoundments located on receiving water bodies (i.e., reservoirs). WMAs form the management units that will be used to report control measure implementation and PCB and mercury load reductions in the future.

Table 3.13. City of Milpitas preliminary PCB and mercury Watershed Management Areas (WMAs) and associated land uses.

| WMA ID # | Outfall Water Body | Total Area (Acres) | % Old Industrial | % Old Urban | % New Urban | % Open Space | % Other |
|------------------|-------------------------|--------------------|------------------|-------------|-------------|--------------|---------|
| 036BYC091 | Berryessa Creek | 121 | 76% | 23% | 1% | 0% | 0% |
| 036BYC320 | Berryessa Creek | 38 | 42% | 58% | 0% | 0% | 0% |
| 021CLA060 | Calera Creek | 34 | 55% | 0% | 45% | 0% | 0% |
| 035CTC700 | Coyote Creek | 321 | 1% | 3% | 94% | 2% | 0% |
| 036PCL576 | Lower Penitencia Creek | 61 | 29% | 66% | 0% | 5% | 0% |
| 036PEC800 | Penitencia East Channel | 38 | 37% | 62% | 0% | 1% | 0% |
| 036PEC822 | Penitencia East Channel | 29 | 52% | 46% | 0% | 2% | 0% |
| 021PIC060 | Piedmont Creek | 53 | 26% | 10% | 64% | 0% | 0% |
| Ford Creek | Wrigley-Ford Creek | 317 | 43% | 53% | 3% | 1% | 0% |
| Wrigley Creek | Wrigley-Ford Creek | 461 | 27% | 4% | 67% | 2% | 0% |
| Other - Milpitas | Multiple | 7160 | 1% | 40% | 29% | 30% | 0% |

Existing and Planned Control Measures

PCB and mercury control measures currently in place or planned for future implementation are described in this section. A preliminary list of control measures for the City of Milpitas are listed in Table 3.14.

Table 3.14. Existing (E) and planned (P) PCB and mercury control measures in City of Milpitas WMAs.

| WMA ID # | Control Measure Categories | | | | | | | | | | |
|------------------|--|---|----------------------------|--|---|-------------------------------------|-------------------|----------------|--|---|--|
| | Source Property Identification and Abatement | Green Infrastructure | Trash Full Capture Systems | Managing PCBs during Building Demolition | Managing PCBs in Stormwater Conveyance Infrastructure | Operation and Maintenance Practices | | | Diversion to Wastewater Treatment Facilities | Removal of Illegally Dumped PCB-containing Materials and Products | Reduction/Recycling of Mercury-containing Devices & Products |
| | | | | | | Street Sweeping or Flushing | MS4 Line Flushing | Inlet Cleaning | | | |
| 036BYC091 | | Locations of Existing GI Facilities Currently under development | | P | | E | | E | | | E |
| 036BYC320 | | | | P | | E | | E | | | E |
| 021CLA060 | | | | P | | E | | E | | | E |
| 035CTC700 | | | | P | | E | | E | | | E |
| 036PCL576 | | | | P | | E | | E | | | E |
| 036PEC800 | | | | P | | E | | E | | | E |
| 036PEC822 | | | | P | | E | | E | | | E |
| 021PIC060 | | | | P | | E | | E | | | E |
| Ford Creek | | | | P | | E | | E | | | E |
| Wrigley Creek | | | | E | P | | E | | E | | E |
| Other - Milpitas | | | | E | P | | E | | E | | E |

Source Property Identification and Abatement (including Referrals)

No source property investigations are currently underway in the City of Milpitas. Based on the results of future monitoring designed to identify WMAs that likely contain source properties, additional source property investigations may be conducted by the Program or the City, resulting in additional source property referrals and/or actions by the City to eliminate the discharge of PCBs of mercury into the MS4 by property owners.

Green Infrastructure

Applicable private properties undergoing new or redevelopment are subject to MRP requirements to treat stormwater via low impact development (LID) techniques or equivalent. Information on the acres addressed to-date and planned via GI facilities associated with these requirements is currently being compiled and will be included in subsequent version of this Plan. The Program is currently working with the City to further document (to the extent possible) the schedule for completion of planned projects.

Trash Full Capture Systems

The City of Milpitas has treated over 730 acres of land to-date with trash full capture treatment systems (Table 3.15). The majority of this area is treated by one publically owned screening device and privately owned hydrodynamic separators.

In addition to the area currently treated by these devices, the City also plans to install additional inlet-based devices to treat an additional areas during the term of MRP 2.0. Installation of these devices will not only assist the City in achieving its trash load reduction goals, but also provide load reduction benefits for PCBs and mercury.

Table 3.15. Extent of land area in City of Milpitas WMAs that are addressed by existing (2016) and planned Green Infrastructure (GI) or Trash Full Capture Treatment Systems.¹

| WMA ID # | Total Area (Acres) | Area (acres) Addressed by Green Infrastructure (GI) ² | | Area (acres) Treated by Trash Full Capture Treatment Systems ³ | |
|------------------|--------------------|--|--|---|---------|
| | | Existing | Planned | Existing | Planned |
| 036BYC091 | 121 | Locations of Existing GI Facilities Currently under development | Locations of Planned GI Facilities Currently under development | 0 | TBD |
| 036BYC320 | 38 | | | 0 | |
| 021CLA060 | 34 | | | 0 | |
| 035CTC700 | 321 | | | 0 | |
| 036PCL576 | 61 | | | 0 | |
| 036PEC800 | 38 | | | 0 | |
| 036PEC822 | 29 | | | 0 | |
| 021PIC060 | 53 | | | 0 | |
| Ford Creek | 317 | | | 243.8 | |
| Wrigley Creek | 461 | | | 439.3 | |
| Other - Milpitas | 7160 | | | 48.4 | |

1 – Acres presented may not include all acres currently treated by GI or Trash systems.

2 – GI facilities may include proprietary vault-based systems.

3 – Trash systems only include those that are publically owned.

Managing PCBs during Building Demolition

The City of Milpitas is currently participating in the BASMAA regional project to develop tools and guidance for implementing a protocol for managing PCBs during building demolition. The City is anticipating the implementation of a protocol/program to require the management of PCBs in building materials during demolition activities by July 1, 2019, consistent with MRP 2.0.

Operation and Maintenance Practices

- **Street Sweeping**

The City of Milpitas's current street sweeping program includes sweeping streets in most residential areas and arterial roads twice per month, and most retail areas once per week. The City sweeps some residential areas once a week during the months of November and December. The City does not post parking enforcement signs for street sweeping, but parking enforcement occurs on many arterial roads and streets in industrial and commercial areas.

- **Inlet Cleaning**

The City currently inspects and maintains all storm drain inlets once per year. The City will continue to evaluate the benefits of more frequent inlet cleaning on a site specific basis during MRP 2.0 and as part of its control measure prioritization process via the RAA development.

Reduction/Recycling of Mercury-containing Devices & Products

The City currently promotes the collection and recycling of mercury-containing devices and equipment at the consumer level via their participation in the Santa Clara County Environmental Health Department's Household Hazardous Waste Program (HHW Program). No enhancements associated with this control measure are currently planned.

CITY OF PALO ALTO

Watershed Management Areas

Table 3.16 provides a listing of all Watershed Management Areas (WMAs) identified to-date in the City of Palo Alto. Total land area in the WMA and associated land uses are also included. WMAs presented in Table 3.16 should be considered preliminary because they may be refined in the future based on data/information currently being evaluated and collected through source investigations and other activities.

A total of 9 WMAs have been identified in the City. These WMAs include all land area (i.e., >13,000 acres) in the City's jurisdictional boundaries that is below significant water impoundments located on receiving water bodies (i.e., reservoirs). WMAs form the management units that will be used to report control measure implementation and PCB and mercury load reductions in the future.

Table 3.16. City of Palo Alto preliminary PCB and mercury Watershed Management Areas (WMAs) and associated land uses.

| WMA ID # | Outfall Water Body | Total Area (Acres) | % Old Industrial | % Old Urban | % New Urban | % Open Space | % Other |
|-------------------|------------------------|--------------------|------------------|-------------|-------------|--------------|---------|
| 017ADC600 | Adobe Creek | 51 | 74% | 23% | 0% | 2% | 0% |
| 017BCK200 | Barron Creek | 18 | 61% | 38% | 0% | 0% | 0% |
| SCH-K | Matadero Creek | 571 | 13% | 67% | 0% | 20% | 0% |
| 016MTC910 | Matadero Creek | 1489 | 2% | 79% | 0% | 18% | 0% |
| 031MTC400 | Matadero Creek | 66 | 28% | 59% | 0% | 14% | 0% |
| 031MTC410 | Matadero Creek | 80 | 71% | 29% | 0% | 0% | 0% |
| 001SFC100 | San Francisquito Creek | 36 | 7% | 92% | 0% | 0% | 0% |
| 031SCH250 | Stanford Channel | 68 | 73% | 26% | 0% | 1% | 0% |
| Other - Palo Alto | Multiple | 10,814 | 4% | 54% | 1% | 40% | 1% |

Existing and Planned Control Measures

PCB and mercury control measures currently in place or planned for future implementation are described in this section. A preliminary list of control measures for the City of Palo Alto are listed in Table 3.17.

Table 3.17. Existing (E) and planned (P) PCB and mercury control measures in City of Palo Alto WMAs.

| WMA ID # | Control Measure Categories | | | | | | | | | | |
|-------------------|--|----------------------|----------------------------|--|---|-------------------------------------|-------------------|----------------|--|---|--|
| | Source Property Identification and Abatement | Green Infrastructure | Trash Full Capture Systems | Managing PCBs during Building Demolition | Managing PCBs in Stormwater Conveyance Infrastructure | Operation and Maintenance Practices | | | Diversion to Wastewater Treatment Facilities | Removal of Illegally Dumped PCB-containing Materials and Products | Reduction/Recycling of Mercury-containing Devices & Products |
| | | | | | | Street Sweeping or Flushing | MS4 Line Flushing | Inlet Cleaning | | | |
| 017ADC600 | | | | P | | E | | E | | | E |
| 017BCK200 | | | E | P | | E | | E | | | E |
| SCH-K | | P | E | P | | E | | E | | | E |
| 016MTC910 | | E/P | | P | | E | | E | | | E |
| 031MTC400 | | | | P | | E | | E | | | E |
| 031MTC410 | | E/P | | P | | E | | E | | | E |
| 001SFC100 | P | | | P | | E | | E | | | E |
| 031SCH250 | | | E | P | | E | | E | | | E |
| Other - Palo Alto | | P | E | P | | E | | E | | | E |

Source Property Identification and Abatement (including Referrals)

The following summaries describe the status of source property investigation projects currently underway. Based on the results of future monitoring designed to identify WMAs that likely contain source properties, additional source property investigations may be conducted by the Program or Permittees, resulting in additional source property referrals and/or actions by the City to eliminate the discharge of PCBs or mercury into the MS4 by property owners.

WMA 001SFC100

Based on elevated mercury and PCB concentrations observed via the Program's Pollutant of Concern (POC) monitoring, this WMA was identified as likely containing a source property(s). This WMA covers 35 acres in Palo Alto. The WMA is on the southern edge of downtown Palo Alto and drains to a structure that diverts a portion of storm flows into the sanitary sewer. Staff compiled information for 247 parcels and prioritized 5 parcels of high interest for PCBs or mercury. After review of aerial photos and review of associated businesses, the Program prioritized 7 parcels for site visits or right-of-way (ROW) surveys. Site visits and ROW surveys are planned for early/mid 2016/17. Palo Alto staff videotaped (CCTV) the MS4 upstream of a sample site with elevated PCB's to record breaks in the main pipe. The video identified a potential sub-surface source of contamination.

Green Infrastructure

Applicable private properties undergoing new or redevelopment are subject to MRP requirements to treat stormwater via low impact development (LID) techniques or equivalent. Based on the information compiled to-date, new and redevelopment project sites currently addressed by stormwater facilities treat over 50 acres of land that is distributed among a number of WMAs in the City of Palo Alto (Table 3.18). An additional 130 acres of new and redevelopment project sites currently under construction or planned for construction in the near future will also treat stormwater once the development/redevelopment is complete. The Program is currently working with the City to further document (to the extent possible) the schedule for completion of these planned projects.

The City has also recently constructed a GI facility on public land. The Southgate Neighborhood Green Streets Project is located within the Southgate neighborhood in the City of Palo Alto. The City decided to retrofit the neighborhood to improve surface drainage and incorporate green street elements to improve water quality. The treatment measures include bioretention and bioinfiltration areas, porous pavement crosswalks, and a porous pavement “paseo” (pedestrian walkway connecting two streets). The bioretention areas were incorporated into the street right-of-way and existing parkway strips (vegetated areas between the sidewalks and the streets). The project included installation of 16 bioretention areas. The bioretention areas were sited in locations that optimize the amount of tributary area draining to each system.

Table 3.18. Extent of land area in City of Palo Alto WMAs that is addressed by existing (2016) and planned Green Infrastructure (GI) or Trash Full Capture Treatment Systems.¹

| WMA ID # | Total Area (Acres) | Area (acres) Addressed by Green Infrastructure (GI) ² | | Area (acres) Treated by Trash Full Capture Treatment Systems ³ | |
|-------------------|--------------------|--|---------|---|---------|
| | | Existing | Planned | Existing | Planned |
| 017ADC600 | 51 | 0 | 0 | 0 | TBD |
| 017BCK200 | 18 | 0 | 0 | 0 | |
| SCH-K | 571 | 0 | 20.4 | 0 | |
| 016MTC910 | 1489 | 49.9 | 1.2 | 0 | |
| 031MTC400 | 66 | 0 | 0 | 0 | |
| 031MTC410 | 80 | 0 | 0 | 0 | |
| 001SFC100 | 36 | 0 | 0 | 0 | |
| 031SCH250 | 68 | 0 | 0 | 0 | |
| Other - Palo Alto | 10,814 | 0 | 116.0 | 172.6 | |

1 – Acres presented may not include all acres currently treated by GI or Trash systems.

2 – GI facilities may include proprietary vault-based systems.

3 – Trash systems only include those that are publically owned.

Trash Full Capture Systems

The City of Palo Alto has treated over 170 acres of land to-date with trash full capture treatment systems. The majority of this area is treated by a large public hydrodynamic separator owned and operated by the City.

In addition to the area currently treated by these devices, the City may install additional devices if strategic locations are identified that are not currently being addressed by other actions. Should additional devices be installed, they will not only assist the City in achieving its trash load reduction goals, but will also provide load reduction benefits for PCBs and mercury.

Managing PCBs during Building Demolition

The City of Palo Alto is currently participating in the BASMAA regional project to develop tools and guidance for implementing a protocol for managing PCBs during building demolition. The City is anticipating the implementation of a protocol/program to require the management of PCBs in building materials during demolition activities by July 1, 2019, consistent with MRP 2.0.

MS4 Operation and Maintenance Practices

- **Street Sweeping**

The City of Palo Alto's current street sweeping program includes sweeping three times per week in the two main commercial areas, weekly on El Camino Real, and every other week in the remaining areas during non "leaf season", when these areas are swept weekly. The City of Palo Alto uses multiple strategies to enhance the effectiveness of street sweeping, including staff walking ahead of sweepers with leaf blowers in the downtown area to address parked cars and tree wells, and enforcing parking restrictions in some areas to allow access to the curb during sweeping operations.

- **Inlet Cleaning**

The City currently inspects and maintains all storm drain inlets one time per year. The City will continue to evaluate the benefits of more frequent inlet cleaning on a site specific basis during MRP 2.0 and as part of its control measure prioritization process via the RAA development.

Reduction/Recycling of Mercury-containing Devices & Products

The City currently operates a Household Hazardous Waste Program that collects and recycles mercury-containing devices and equipment via weekly drop off events. The City promotes the collection and recycling of these devices and equipment via their website. No enhancements associated with this control measure are currently planned.

CITY OF CUPERTINO

Watershed Management Areas

Table 3.19 provides a listing of all Watershed Management Areas (WMAs) identified to-date in the City of Cupertino. Total land area in the WMA and associated land uses are also included. WMAs presented in Table 3.19 should be considered preliminary because they may be refined in the future based on data/information currently being evaluated and collected through source investigations and other activities.

A total of 2 WMAs have been identified in the City. These WMAs include all land area (i.e., >6,900 acres) in the City's jurisdictional boundaries that is below significant water impoundments located on receiving water bodies (i.e., reservoirs). WMAs form the management units that will be used to report control measure implementation and PCB and mercury load reductions in the future.

Table 3.19. City of Cupertino preliminary PCB and mercury Watershed Management Areas (WMAs) and associated land uses.

| WMA ID # | Outfall Water Body | Total Area (Acres) | % Old Industrial | % Old Urban | % New Urban | % Open Space | % Other |
|-------------------|------------------------|--------------------|------------------|-------------|-------------|--------------|---------|
| 080JSC600 | Junipero Serra Channel | 273 | 10% | 90% | 0% | 1% | 0% |
| Other - Cupertino | Multiple | 6,695 | 5% | 68% | 10% | 18% | 0% |

Existing and Planned Control Measures

PCB and mercury control measures currently in place or planned for future implementation are described in this section. A preliminary list of control measures for the City of Cupertino are listed in Table 3.20.

Table 3.20. Existing (E) and planned (P) PCB and mercury control measures in City of Cupertino WMAs.

| WMA ID # | Control Measure Categories | | | | | | | | | | |
|-----------|--|----------------------|----------------------------|--|---|-------------------------------------|-------------------|----------------|--|---|--|
| | Source Property Identification and Abatement | Green Infrastructure | Trash Full Capture Systems | Managing PCBs during Building Demolition | Managing PCBs in Stormwater Conveyance Infrastructure | Operation and Maintenance Practices | | | Diversion to Wastewater Treatment Facilities | Removal of Illegally Dumped PCB-containing Materials and Products | Reduction/Recycling of Mercury-containing Devices & Products |
| | | | | | | Street Sweeping or Flushing | MS4 Line Flushing | Inlet Cleaning | | | |
| 032PMC100 | | P | E | P | | E | | E | | | E |
| 032PMC130 | | E/P | E | P | | E | | E | | | E |

Source Property Identification and Abatement (including Referrals)

No source property investigations are currently underway in the City of Cupertino. Based on the results of future monitoring designed to identify WMAs that likely contain source properties, additional source property investigations may be conducted by the Program or the City, resulting in additional source property referrals and/or actions by the City to eliminate the discharge of PCBs or mercury into the MS4 by property owners.

Green Infrastructure

Applicable private properties undergoing new or redevelopment are subject to MRP requirements to treat stormwater via low impact development (LID) techniques or equivalent. Based on the information compiled to-date, new and redevelopment project sites currently addressed by stormwater facilities treat over 338 acres of land that is distributed among the 2 WMAs in the City (Table 3.21). An additional 37 acres of new and redevelopment project sites currently under construction or planned for construction in the near future will also treat stormwater once the development/redevelopment is complete. The Program is currently working with the City to further document (to the extent possible) the schedule for completion of these planned projects.

Trash Full Capture Systems

The City of Cupertino has treated over 37 acres of land to-date with trash full capture treatment systems. The majority of this area is treated by publically owned inlet screening devices or privately owned hydrodynamic separators.

In addition to the area currently treated by these devices, the City also plans to install additional inlet-based devices to treat an additional areas during the term of MRP 2.0. Installation of these devices will not only assist the City in achieving its trash load reduction goals, but also provide load reduction benefits for PCBs and mercury.

Table 3.21. Extent of land area in City of Cupertino WMAs that are addressed by existing (2016) and planned Green Infrastructure (GI) facilities or Trash Full Capture Treatment Systems.¹

| WMA ID # | Total Area (Acres) | Area (acres) Addressed by Green Infrastructure (GI) ² | | Area (acres) Treated by Trash Full Capture Treatment Systems ³ | |
|-------------------|--------------------|--|---------|---|---------|
| | | Existing | Planned | Existing | Planned |
| 080JSC600 | 273 | 0 | 0 | 10.6 | TBD |
| Other - Cupertino | 6,695 | 338 | 36.7 | 124.9 | |

1 – Acres presented may not include all acres currently treated by GI or Trash systems.

2 – GI facilities may include proprietary vault-based systems.

3 – Trash systems only include those that are publically owned.

Managing PCBs during Building Demolition

The City of Cupertino is currently participating in the BASMAA regional project to develop tools and guidance for implementing a protocol for managing PCBs during building demolition. The City is anticipating the implementation of a protocol/program to require the management of PCBs in building materials during demolition activities by July 1, 2019, consistent with MRP 2.0.

Operation and Maintenance Practices

- **Street Sweeping**

The City of Cupertino's current street sweeping program includes sweeping streets in residential and retail areas, and arterial roads twice per month. Parking enforcement signs for street sweeping are posted in some residential areas, and parking enforcement that allows sweepers to sweep to the curb occurs on most arterial streets.

- **Inlet Cleaning**

The City currently inspects and maintains all storm drain inlets once every other year. The City will continue to evaluate the benefits of more frequent inlet cleaning on a site specific basis during MRP 2.0 and as part of its control measure prioritization process via the RAA development.

Reduction/Recycling of Mercury-containing Devices & Products

The City currently promotes the collection and recycling of mercury-containing devices and equipment at the consumer level via their participation in the Santa Clara County Environmental Health Department's Household Hazardous Waste Program (HHW Program). No enhancements associated with this control measure are currently planned.

UNINCORPORATED SANTA CLARA COUNTY

Watershed Management Areas

Table 3.22 provides a listing of all Watershed Management Areas (WMAs) identified to-date in the County of Santa Clara. Total land area in the WMA and associated land uses are also included. WMAs presented in Table 3.22 should be considered preliminary because they may be refined in the future based on data/information currently being evaluated and collected through source investigations and other activities.

A total of 2 WMAs have been identified in the County. These WMAs include all land area (i.e., >70,000 acres) in the County's jurisdictional boundaries that is below significant water impoundments located on receiving water bodies (i.e., reservoirs). WMAs form the management units that will be used to report control measure implementation and PCB and mercury load reductions in the future.

Table 3.22. County of Santa Clara preliminary PCB and mercury Watershed Management Areas (WMAs) and associated land uses.

| WMA ID # | Outfall Water Body | Total Area (Acres) | % Old Industrial | % Old Urban | % New Urban | % Open Space | % Other |
|----------------------------|--------------------|--------------------|------------------|-------------|-------------|--------------|---------|
| PMC-D1 | Permanente Creek | 2,538 | 2% | 3% | 6% | 90% | 0% |
| Other - Santa Clara County | Multiple | 68,632 | 0% | 7% | 4% | 89% | 0% |

Existing and Planned Control Measures

PCB and mercury control measures currently in place or planned for future implementation are described in this section. A preliminary list of control measures for the County of Santa Clara are listed in Table 3.23.

Table 3.23. Existing (E) and planned (P) PCB and mercury control measures in County of Santa Clara WMAs.

| WMA ID # | Control Measure Categories | | | | | | | | | | |
|----------------------------|--|----------------------|----------------------------|--|---|-------------------------------------|-------------------|----------------|--|---|--|
| | Source Property Identification and Abatement | Green Infrastructure | Trash Full Capture Systems | Managing PCBs during Building Demolition | Managing PCBs in Stormwater Conveyance Infrastructure | Operation and Maintenance Practices | | | Diversion to Wastewater Treatment Facilities | Removal of Illegally Dumped PCB-containing Materials and Products | Reduction/Recycling of Mercury-containing Devices & Products |
| | | | | | | Street Sweeping or Flushing | MS4 Line Flushing | Inlet Cleaning | | | |
| PMC-D1 | | E | | P | | E | | E | | | E |
| Other - Santa Clara County | | E/P | E | P | | E | | E | | | E |

Source Property Identification and Abatement (including Referrals)

No source property investigations are currently underway in the County. Based on the results of future monitoring designed to identify WMAs that likely contain source properties, additional source property investigations may be conducted by the Program or the County, resulting in additional source property referrals and/or actions by the County to eliminate the discharge of PCBs of mercury into the MS4 by property owners.

Green Infrastructure

Applicable private properties undergoing new or redevelopment are subject to MRP requirements to treat stormwater via low impact development (LID) techniques or equivalent. Based on the information compiled to-date, new and redevelopment project sites currently addressed by stormwater facilities treat over 170 acres of land that is distributed among the 2 WMAs in the County (Table 3.23). Additional new and redevelopment project sites that are currently under construction or planned for construction in the near future will also treat stormwater once the development/redevelopment is complete. The Program is currently working with the County to further document (to the extent possible) the schedule for completion of these planned projects.

Trash Full Capture Systems

The County has treated over 108 acres of land to-date with trash full capture treatment systems owned and operated by the County. The vast majority of the area treated by public systems drains County expressways, which are incorporated into the WMAs that expressways run through. Additional area in the County is treated via systems that are owned and operated by adjacent Permittees.

In addition to the area currently treated by these devices, the County also plans to install additional inlet-based devices to treat an additional areas during the term of MRP 2.0. Installation of these devices will not only assist the County in achieving its trash load reduction goals, but also provide load reduction benefits for PCBs and mercury.

Table 3.24. Extent of land area in County of Santa Clara WMAs that are addressed by existing (2016) and planned Green Infrastructure (GI) or Trash Full Capture Treatment Systems.¹

| WMA ID # | Total Area (Acres) | Area (acres) Addressed by Green Infrastructure (GI) ² | | Area (acres) Treated by Trash Full Capture Treatment Systems ³ | |
|----------------------------|--------------------|--|--|---|---------|
| | | Existing | Planned | Existing | Planned |
| PMC-D1 | 2,538 | 58.0 | Locations of Planned GI Facilities Currently under development | 0 | TBD |
| Other - Santa Clara County | 68,632 | 112.1 | | 0.1 | |

1 – Acres presented may not include all acres currently treated by GI or Trash systems.

2 – GI facilities may include proprietary vault-based systems.

3 – Trash systems only include those that are publically owned. The areas presented do not include County-owned systems that treat expressways.

Managing PCBs during Building Demolition

The County is currently participating in the BASMAA regional project to develop tools and guidance for implementing a protocol for managing PCBs during building demolition. The County is anticipating the implementation of a protocol/program to require the management of PCBs in building materials during demolition activities by July 1, 2019, consistent with MRP 2.0.

MS4 Operation and Maintenance Practices

- **Street Sweeping**

The County's current street sweeping program includes sweeping expressways once per month. Beginning in July 2014, the County increased the sweeping frequency on County Expressway to once per week and began sweeping the median curb. Parking enforcement signs for street sweeping are not posted in the County, but parking is not permitted on expressways.

- **Inlet Cleaning**

The County currently inspects and maintains all storm drain inlets once per year. The County will continue to evaluate the benefits of more frequent inlet cleaning on a site specific basis during MRP 2.0 and as part of its control measure prioritization process via the RAA development.

Reduction/Recycling of Mercury-containing Devices & Products

The County currently promotes the collection and recycling of mercury-containing devices and equipment at the consumer level via their participation in the Santa Clara County Environmental Health Department's Household Hazardous Waste Program (HHW Program). No enhancements associated with this control measure are currently planned.

WEST VALLEY COMMUNITIES (CAMPBELL, LOS GATOS, SARATOGA AND MONTE SERENO)

Watershed Management Areas

The West Valley Communities include the cities of Campbell, Monte Sereno, and Saratoga, and the town of Los Gatos. Table 3.25 provides a listing of all Watershed Management Areas (WMAs) identified to-date in the West Valley Communities. Total land area in the WMAs and associated land uses are also included. WMAs presented in Table 3.25 should be considered preliminary because they may be refined in the future based on data/information currently being evaluated and collected through source investigations and other activities.

A total of 10 WMAs have been identified in the West Valley Communities. These WMAs include all land area (i.e., ~17,000 acres) in the jurisdictional boundaries of West Valley Communities that is below significant water impoundments located on receiving water bodies (i.e., reservoirs). WMAs form the management units that will be used to report control measure implementation and PCB and mercury load reductions in the future.

Table 3.25. Preliminary PCB and mercury Watershed Management Areas (WMAs) and associated land uses in West Valley communities (Campbell, Los Gatos, Saratoga and Monte Sereno).

| Permittee | WMA ID # | Outfall Water Body | Total Area (Acres) | % Old Industrial | % Old Urban | % New Urban | % Open Space | % Other |
|--------------|----------------------|--------------------|--------------------|------------------|-------------|-------------|--------------|---------|
| Campbell | 113LGC030 | Los Gatos Creek | 83.8 | 13% | 87% | 0% | 0% | 0% |
| Campbell | 113LGC140 | Los Gatos Creek | 126.4 | 15% | 85% | 0% | 0% | 0% |
| Campbell | 113LGC510 | Los Gatos Creek | 44.7 | 33% | 67% | 0% | 0% | 0% |
| Campbell | 113LGC565 | Los Gatos Creek | 83.2 | 60% | 39% | 0% | 1% | 0% |
| Campbell | 113LGC670 | Los Gatos Creek | 56.4 | 90% | 10% | 0% | 0% | 0% |
| Campbell | 113LGC900 | Los Gatos Creek | 14.9 | 80% | 20% | 0% | 0% | 0% |
| Campbell | Other - Campbell | Multiple | 3,090 | 1% | 95% | 0% | 4% | 0% |
| Los Gatos | Other - Los Gatos | Multiple | 5,073 | 1% | 52% | 11% | 36% | 0% |
| Saratoga | Other - Saratoga | Multiple | 7,891 | 1% | 77% | 9% | 14% | 0% |
| Monte Sereno | Other - Monte Sereno | Multiple | 496 | 0% | 93% | 0% | 7% | 0% |

Existing and Planned Control Measures

PCB and mercury control measures currently in place or planned for future implementation are described in this section. A preliminary list of control measures for the West Valley Communities are listed in Table 3.26.

Table 3.26. Existing (E) and Planned (P) PCB and mercury control measures in in West Valley communities (Campbell, Los Gatos, Saratoga and Monte Sereno) WMAs.

| Permittee | WMA ID # | Control Measure Categories | | | | | | | | | | |
|--------------|----------------------|--|----------------------|----------------------------|--|---|-------------------------------------|-------------------|----------------|--|---|--|
| | | Source Property Identification and Abatement | Green Infrastructure | Trash Full Capture Systems | Managing PCBs during Building Demolition | Managing PCBs in Stormwater Conveyance Infrastructure | Operation and Maintenance Practices | | | Diversion to Wastewater Treatment Facilities | Removal of Illegally Dumped PCB-containing Materials and Products | Reduction/Recycling of Mercury-containing Devices & Products |
| | | | | | | | Street Sweeping or Flushing | MS4 Line Flushing | Inlet Cleaning | | | |
| Campbell | 113LGC030 | | E | E | P | | E | | E | | | E |
| Campbell | 113LGC140 | | E/P | | P | | E | | E | | | E |
| Campbell | 113LGC510 | | | | P | | E | | E | | | E |
| Campbell | 113LGC565 | | | | P | | E | | E | | | E |
| Campbell | 113LGC670 | | | | P | | E | | E | | | E |
| Campbell | 113LGC900 | | | | P | | E | | E | | | E |
| Campbell | Other - Campbell | | E/P | E | P | | E | | E | | | E |
| Los Gatos | Other – Los Gatos | | E/P | E | P | | E | | E | | | E |
| Saratoga | Other - Saratoga | | E | E | P | | E | | E | | | E |
| Monte Sereno | Other - Monte Sereno | | | E | P | | E | | E | | | E |

Source Property Identification and Abatement (including Referrals)

No source property investigations are currently underway in the West Valley Communities. Based on the results of future monitoring designed to identify WMAs that likely contain source properties, additional source property investigations may be conducted by the Program or the County, resulting in additional source property referrals and/or actions by the cities/towns to eliminate the discharge of PCBs of mercury into the MS4 by property owners.

Green Infrastructure

Applicable private properties undergoing new or redevelopment are subject to MRP requirements to treat stormwater via low impact development (LID) techniques or equivalent. Based on the information compiled to-date, new and redevelopment project sites currently addressed by stormwater facilities treat over 91 acres of land that is distributed among the 10 WMAs in the 4 municipalities (Table 3.30). Additional new and redevelopment project sites that are currently under construction or planned for construction in the near future will also treat stormwater once the development/redevelopment is complete. Over 114 acres of areas is planned to be addressed by the West Valley Communities. The Program is currently working with the County to further document (to the extent possible) the schedule for completion of these planned projects.

Trash Full Capture Systems

The West Valley Communities have also treated over 181 acres of land to-date with trash full capture treatment systems (Table 3.27). The majority of this area is treated by publically-owned inlet-based screening devices.

In addition to the area currently treated by these devices, the communities are also currently evaluating the need install additional devices to treat an additional areas during the term of MRP 2.0. Installation of these devices will not only assist the City in achieving its trash load reduction goals, but also provide load reduction benefits for PCBs and mercury.

Table 3.27. Extent of land area in West Valley Community WMAs that are addressed by existing (2016) and planned Green Infrastructure (GI) or trash full capture treatment systems.¹

| Permittee | WMA ID # | Total Area (Acres) | Area (acres) Addressed by Green Infrastructure (GI) ² | | Area (acres) Treated by Trash Full Capture Treatment Systems ³ | |
|--------------|----------------------|--------------------|--|---------|---|---------|
| | | | Existing | Planned | Existing | Planned |
| Campbell | 113LGC030 | 83.8 | 3.1 | 0 | 2.1 | TBD |
| Campbell | 113LGC140 | 126.4 | 0.8 | 4.6 | 0 | |
| Campbell | 113LGC510 | 44.7 | 0 | 0 | 0 | |
| Campbell | 113LGC565 | 83.2 | 0 | 0 | 0 | |
| Campbell | 113LGC670 | 56.4 | 0 | 0 | 0 | |
| Campbell | 113LGC900 | 14.9 | 0 | 0 | 0 | |
| Campbell | Other - Campbell | 3,090 | 46.6 | 22.3 | 136.9 | |
| Los Gatos | Other – Los Gatos | 5,073 | 34.7 | 87.8 | 25.2 | |
| Saratoga | Other - Saratoga | 7,891 | 6.3 | 0 | 13.9 | |
| Monte Sereno | Other - Monte Sereno | 496 | 0 | 0 | 3.3 | 0 |

1 – Acres presented may not include all acres currently treated by GI or Trash systems.

2 – GI facilities may include proprietary vault-based systems.

3 – Trash systems only include those that are publically owned.

Managing PCBs during Building Demolition

The West Valley Communities are currently participating in the BASMAA regional project to develop tools and guidance for implementing a protocol for managing PCBs during building demolition. The Cities/Towns are anticipating the implementation of a protocol/program to require the management of PCBs in building materials during demolition activities by July 1, 2019, consistent with MRP 2.0.

MS4 Operation and Maintenance Practices

- **Street Sweeping**

The City of Campbell's current street sweeping program that was enhanced in response to trash load reduction requirements includes sweeping streets in residential areas twice per month, the downtown area twice per week, and arterial/commercial/industrial areas weekly. Parking enforcement signs for street sweeping are not posted in the City, however sweepers are able to sweep to the curb on arterial roads due to no parking.

The City of Saratoga's current street sweeping program includes sweeping most streets within the City once per month and the downtown area once per week. Parking enforcement signs for street sweeping are not posted in the City, but cars generally do not park on City streets.

The Town of Los Gatos's current street sweeping program includes sweeping industrial and residential areas once per month, commercial areas twice per month, and sweeping retail areas once per week. Parking enforcement signs are not posted in the Town.

The City of Monte Sereno's current street sweeping program includes sweeping most streets four times per year. There are many streets within the City that are not swept. Parking enforcement signs for street sweeping are not posted, but cars generally do not park on City streets.

- **Stormwater Inlet Cleaning**

The Cities/Towns currently inspects and maintain all storm drain inlets once every other year. The Cities/Towns will continue to evaluate the benefits of more frequent inlet cleaning on a site specific basis during MRP 2.0 and as part of its control measure prioritization process via the RAA development.

Reduction/Recycling of Mercury-containing Devices & Products

The West Valley Communities currently promotes the collection and recycling of mercury-containing devices and equipment at the consumer level via their participation in the Santa Clara County Environmental Health Department's Household Hazardous Waste Program (HHW Program). No enhancements associated with this control measure are currently planned.

CITY OF LOS ALTOS

Watershed Management Areas

Table 3.28 provides a listing of all Watershed Management Areas (WMAs) identified to-date in the City of Los Altos. Total land area in the WMA and associated land uses are also included. WMAs presented in Table 3.28 should be considered preliminary because they may be refined in the future based on data/information currently being evaluated and collected through source investigations and other activities.

A total of one WMA has been identified in the City. This WMA includes all land area (i.e., >4,100 acres) in the City's jurisdictional boundaries that is below significant water impoundments located on receiving water bodies (i.e., reservoirs). WMAs form the management units that will be used to report control measure implementation and PCB and mercury load reductions in the future.

Table 3.28. City of Los Altos preliminary PCB and mercury Watershed Management Areas (WMAs) and associated land uses.

| WMA ID # | Outfall Water Body | Total Area (Acres) | % Old Industrial | % Old Urban | % New Urban | % Open Space | % Other |
|-------------------|--------------------|--------------------|------------------|-------------|-------------|--------------|---------|
| Other - Los Altos | Multiple | 4,172 | 0% | 97% | 1% | 2% | 0% |

Existing and Planned Control Measures

PCB and mercury control measures currently in place or planned for future implementation are described in this section. A preliminary list of control measures for the City of Los Altos are listed in Table 3.29.

Table 3.29. Existing (E) and planned (P) PCB and mercury control measures in City of Los Altos WMA.

| WMA ID # | Control Measure Categories | | | | | | | | | | |
|-------------------|--|----------------------|----------------------------|--|---|-------------------------------------|--|---|--|---|--|
| | Source Property Identification and Abatement | Green Infrastructure | Trash Full Capture Systems | Managing PCBs during Building Demolition | Managing PCBs in Stormwater Conveyance Infrastructure | Operation and Maintenance Practices | | | Diversion to Wastewater Treatment Facilities | Removal of Illegally Dumped PCB-containing Materials and Products | Reduction/Recycling of Mercury-containing Devices & Products |
| Other - Los Altos | | E/P | E | P | | E | | E | | | E |

Source Property Identification and Abatement (including Referrals)

No source property investigations are currently underway in the City of Los Altos. Based on the results of future monitoring designed to identify WMAs that likely contain source properties, additional source property investigations may be conducted by the Program or the City, resulting in additional source property referrals and/or actions by the City to eliminate the discharge of PCBs or mercury into the MS4 by property owners.

Green Infrastructure

Applicable private properties undergoing new or redevelopment are subject to MRP requirements to treat stormwater via low impact development (LID) techniques or equivalent. Based on the information compiled to-date, new and redevelopment project sites Los Altos (Table 3.30). An additional one acre of new and redevelopment project sites currently under construction or planned for construction in the near future will also treat stormwater once the development/redevelopment is complete. The Program is currently working with the City to further document (to the extent possible) the schedule for completion of these planned projects.

The land area current addressed by GI facilities includes the David and Lucile Packard Foundation Green Street facility constructed in 2012 as part of the Packard Foundation's development of its new office building at 343 Second Street. The green street portion of the project incorporates curbside flow-through rain gardens and corner bulb-outs to capture, treat and infiltrate runoff from adjacent impervious surfaces. (The runoff from the building and associated hardscape and parking lots is captured and treated by other stormwater treatment measures).

Trash Full Capture Systems

The City of Los Altos has treated over 112 acres of land to-date with trash full capture treatment systems (Table 3.30). The majority of this area is treated by one public hydrodynamic separator.

In addition to the area currently treated by these devices, the City is currently evaluating the need install additional devices to treat an additional areas during the term of MRP 2.0. Installation of these devices will not only assist the City in achieving its trash load reduction goals, but also provide load reduction benefits for PCBs and mercury.

Table 3.30. Extent of land area in City of Los Altos WMAs that are addressed by existing (2016) and planned Green Infrastructure (GI) or Trash Full Capture Treatment Systems.¹

| WMA ID # | Total Area (Acres) | Area (acres) Addressed by Green Infrastructure (GI) ² | | Area (acres) Treated by Trash Full Capture Treatment Systems ³ | |
|-------------------|--------------------|--|---------|---|---------|
| | | Existing | Planned | Existing | Planned |
| Other - Los Altos | 4,173 | 25.2 | 0.8 | 112.8 | TBD |

Managing PCBs during Building Demolition

The City of Los Altos is currently participating in the BASMAA regional project to develop tools and guidance for implementing a protocol for managing PCBs during building demolition. The City is anticipating the implementation of a protocol/program to require the management of PCBs in building materials during demolition activities by July 1, 2019, consistent with MRP 2.0.

MS4 Operation and Maintenance Practices

- **Street Sweeping**

The City of Los Altos current street sweeping program includes sweeping industrial and residential areas once per month, commercial areas twice per month, and retail areas once per week. Parking enforcement signs are not posted in the City, but cars generally do not park on City streets and the downtown areas are swept before cars arrive.

- **Inlet Cleaning**

The City currently inspects and maintains all storm drain inlets one time per year. The City will continue to evaluate the benefits of more frequent inlet cleaning on a site specific basis during MRP 2.0 and as part of its control measure prioritization process via the RAA development.

Reduction/Recycling of Mercury-containing Devices & Products

The City currently promotes the collection and recycling of mercury-containing devices and equipment at the consumer level via their participation in the Santa Clara County Environmental Health Department's Household Hazardous Waste Program (HHW Program). No enhancements associated with this control measure are currently planned.

TOWN OF LOS ALTOS HILLS

Watershed Management Areas

Table 3.31 provides a listing of all Watershed Management Areas (WMAs) identified to-date in the Town of Los Altos Hills. Total land area in the WMA and associated land uses are also included. WMAs presented in Table 3.31 should be considered preliminary because they may be refined in the future based on data/information currently being evaluated and collected through source investigations and other activities.

A total of one WMA has been identified in the Town. This WMA includes all land area (i.e., >5,600 acres) in the Town's jurisdictional boundaries that is below significant water impoundments located on receiving water bodies (i.e., reservoirs). WMAs form the management units that will be used to report control measure implementation and PCB and mercury load reductions in the future.

Table 3.31. Town of Los Altos Hills preliminary PCB and mercury Watershed Management Areas (WMAs) and associated land uses.

| WMA ID # | Outfall Water Body | Total Area (Acres) | % Old Industrial | % Old Urban | % New Urban | % Open Space | % Other |
|-------------------------|--------------------|--------------------|------------------|-------------|-------------|--------------|---------|
| Other - Los Altos Hills | Multiple | 5,692 | 0% | 74% | 8% | 18% | 0% |

PCB and mercury control measures currently in place or planned for future implementation are described in this section. A preliminary list of control measures for the Town are listed in Table 3.31.

Existing and Planned Control Measures

PCB and mercury control measures currently in place or planned for future implementation are described in this section. A preliminary list of control measures for the Town of Los Altos Hills are listed in Table 3.32.

Table 3.32. Existing (E) and planned (P) PCB and mercury control measures in Town of Los Altos Hills WMA.

| WMA ID # | Control Measure Categories | | | | | | | | | | |
|-------------------------|--|----------------------|----------------------------|--|---|-------------------------------------|-------------------|----------------|--|---|--|
| | Source Property Identification and Abatement | Green Infrastructure | Trash Full Capture Systems | Managing PCBs during Building Demolition | Managing PCBs in Stormwater Conveyance Infrastructure | Operation and Maintenance Practices | | | Diversion to Wastewater Treatment Facilities | Removal of Illegally Dumped PCB-containing Materials and Products | Reduction/Recycling of Mercury-containing Devices & Products |
| | | | | | | Street Sweeping or Flushing | MS4 Line Flushing | Inlet Cleaning | | | |
| Other - Los Altos Hills | | E/P | | P | | E | | E | | | E |

Source Property Identification and Abatement (including Referrals)

No source property investigations are currently underway in the Town. Based on the results of future monitoring designed to identify WMAs that likely contain source properties, additional source property investigations may be conducted by the Program or the Town, resulting in additional source property referrals and/or actions by the Town to eliminate the discharge of PCBs of mercury into the MS4 by property owners.

Green Infrastructure

Applicable private properties undergoing new or redevelopment are subject to MRP requirements to treat stormwater via low impact development (LID) techniques or equivalent. Based on the information compiled to-date, new and redevelopment project sites Town of Los Altos Hills (Table 3.32). An additional one acre of new and redevelopment project sites currently under construction or planned for construction in the near future will also treat stormwater once the development/redevelopment is complete. The Program is currently working with the Town to further document (to the extent possible) the schedule for completion of these planned projects.

Table 3.33. Extent of land area in the Town of Los Altos Hills WMA that is addressed by existing (2016) and planned Green Infrastructure (GI) or Trash Full Capture Treatment Systems.¹

| WMA ID # | Total Area (Acres) | Area (acres) Addressed by Green Infrastructure (GI) ² | | Area (acres) Treated by Trash Full Capture Treatment Systems ³ | |
|-------------------------|--------------------|--|--|---|---------|
| | | Existing | Planned | Existing | Planned |
| Other - Los Altos Hills | 5,692 | 8.6 | Locations of Planned GI Facilities Currently under development | 0 | 0 |

1 – Acres presented may not include all acres currently treated by GI or Trash systems.

2 – GI facilities may include proprietary vault-based systems.

3 - The entire Town has Low Trash Generation and therefore no full capture systems are needed.

Managing PCBs during Building Demolition

The Town of Los Altos Hills is currently participating in the BASMAA regional project to develop tools and guidance for implementing a protocol for managing PCBs during building demolition. The Town is anticipating the implementation of a protocol/program to require the management of PCBs in building materials during demolition activities by July 1, 2019, consistent with MRP 2.0.

MS4 Operation and Maintenance Practices

- **Street Sweeping**

The Town of Los Altos Hills's current street sweeping program includes sweeping residential areas twice per month during the wet season and every month and a half during the dry season. Parking enforcement signs are not posted in the Town, but cars generally do not park on Town streets.

- **Inlet Cleaning**

The Town currently inspects and maintains all storm drain inlets one time per year. The Town will continue to evaluate the benefits of more frequent inlet cleaning on a site specific basis during MRP 2.0 and as part of its control measure prioritization process via the RAA development.

Reduction/Recycling of Mercury-containing Devices & Products

The Town currently promotes the collection and recycling of mercury-containing devices and equipment at the consumer level via their participation in the Santa Clara County Environmental Health Department's Household Hazardous Waste Program (HHW Program). No enhancements associated with this control measure are currently planned.

SANTA CLARA VALLEY WATER DISTRICT

The Santa Clara Valley Water District (District) is an active and important participant in SCVURPPP. The District's significant financial commitment to SCVURPPP and BASMAA support many local and San Francisco Bay Area monitoring activities such as the Regional Monitoring Program and many other monitoring programs. Although the District does not generally have jurisdiction over land use planning decisions, it performs and assists other SCVURPPP Permittees in the implementation of control measures that have a PCB and mercury reduction benefit. The District's primary PCB and Mercury control measures are related to sediment removal activities and activities related to the implementation of the Guadalupe River Mercury TMDL.

Because watershed land areas draining to receiving waters are generally not owned by the District, no Watershed Management Areas (WMAs) are currently identified for the District. That said, the District owns and maintains roughly one third of the channels and creeks in the Santa Clara Valley. District led activities that have a PCB and/or mercury reduction benefit are included in this section.

Existing and Planned Control Measures

Enhanced Operation and Maintenance Practices - Channel Maintenance and Cleaning

As part of its Stream Maintenance Program (SMP), the District conducts sediment removal activities in channels, creeks and percolation ponds for the purpose of alleviating the potential for local flooding problems and to meet the requirements of the Federal Emergency Management Agency for flood protection and water supply. The District follows a sediment characterization plan to determine chemical and physical properties of the sediments, including for total mercury, in order to effectively plan for disposal or beneficial reuse of the sediments and assist with determining the best management practices to implement in order to avoid and minimize impacts to water quality and aquatic life during sediment removal and disposal. Sediment removal from channels and creeks, as well as groundwater percolation ponds, allows for the opportunistic removal of sediments and associated pollutants before they reach the San Francisco Bay.

Stream Restoration Activities and Erosion Control Activities

The District has conducted stream restoration activities that included the removal of mercury containing sediment in the Guadalupe Creek, Alamos Creek and the Guadalupe River that have resulted in a significant amount of mercury being removed from the Guadalupe River system. In addition the District has funded and or managed the removal of mercury containing sediment and stream stabilization activities for other governmental organizations. One example has been the rehabilitation of Jacques Gulch upstream of Almaden Reservoir for Santa Clara County.

Oxygenation System Activities

The District operates four (4) hypolimnetic oxygenation systems that inhibit the development of methyl mercury in Almaden, Guadalupe, Calero and Stevens Creek reservoirs. This activity also improves the quality of the water discharged from the reservoir as that water contains a lower concentration of methyl mercury reducing the bioavailable mercury downstream.

Reduction/Recycling of Mercury-containing Devices & Products

The District currently promotes the collection and recycling of mercury-containing devices and equipment at the consumer level via their participation in the Santa Clara County Environmental Health Department's Household Hazardous Waste Program (HHW Program). No enhancements associated with this control measure are currently planned.

SECTION 4 - IMPLEMENTATION SCHEDULE AND PLANNED NEAR-TERM NEXT STEPS

Permittees in the Santa Clara Valley began implementing PCB and mercury control measures with the adoption of the PCBs and Mercury TMDLs. Enhanced control measure implementation following the adoption of MRP 2.0 is underway and primarily focused on 1) conducting source property identification projects that will likely lead to referrals to the Water Board for further investigation and abatement; 2) tracking the implementation of green stormwater infrastructure/treatment controls on private property, and planning for public green infrastructure projects; and 3) developing a protocol to manage PCBs in building materials during demolition. These control measures will continue to be developed/implemented over the course of the MRP 2.0, consistent with the permit.

In addition to these focused areas, Permittees are also continuing to implement the following during the term of MRP 2.0:

Source Property Referrals and Abatement

- Continue to collect and evaluate information to identify WMAs with potential source properties using the framework developed by BASMAA member agencies and expanded upon by SCVURPPP, including the collection of stormwater monitoring data from many of the 160+ WMAs.
- Follow-up with the Regional Water Board on the status of the referral of the railroad property on Leo Avenue in the City of San Jose (WMA 083CTC990) and assist in next steps as appropriate.
- Follow-up with the USEPA and the Regional Water Board on the source property identified in the City of Sunnyvale (WMA 049SVE900) and begin evaluating the benefits of enhancing operation and maintenance activities in the public right-of-way around the property.
- Begin calculating the PCB and mercury load reduction benefits of source property referral/abatement.

Green Infrastructure

- With assistance and guidance from SCVURPPP, develop GI Plans that integrate with the Santa Clara Valley Stormwater Resource Plan development that will begin in late 2016 and the RAA planning process designed to address PCBs and mercury TMDLs subsequent to MRP 2.0.
- Continue to develop a tracking mechanism for GI and stormwater treatment in the Santa Clara Valley and update the associated database to assist Permittees in calculating PCB and mercury load reductions.
- Begin calculating the PCB and mercury load reduction benefits of existing GI facilities.

Trash Full Capture Systems

- Continue to track the implementation of trash full capture systems and calculate the PCB and mercury load reduction benefits.

MS4 Operation and Maintenance Practices

- Look for opportunities to enhance existing O&M practices to optimize PCB and mercury load reduction benefits.

- Continue to track the implementation of MS4 operation and maintenance practices and calculate the PCB and mercury load reduction benefits.

PCBs in Building Materials, Storm Drains and Roadway Infrastructure

- Consistent with Provision C.12.f, continue to participate in the ongoing BASMAA regional project to develop an implementation framework, guidelines and tools for managing materials and wastes containing PCBs during the demolition of buildings; and tailor these materials for SCVURPPP Permittees.
- Through a BASMAA regional project, develop a sampling and analysis plan that will outline the overall design and resources necessary to evaluate the magnitude and extent of PCBs in caulks/sealants used in storm drains or roadway infrastructure.

Mercury Reduction via True Source Controls and Recycling

- Continue to implement and track the benefits from mercury true source control and recycling programs, including HHW Programs.

Additional Activities

- In coordination with BASMAA and through the implementation of the CW4CB project, continue to participate in a regional effort to educate the public regarding potential human health risks from PCBs and mercury in Bay fish, and implement the Program's work plan for outreach to residents likely to consume locally-caught fish, including working with the Alviso Education Center to utilize various education and outreach products.
- Develop a regional framework and guidance in late 2016 and early 2017 for conducting an RAA for mercury and PCBs. The preliminary scope of the project includes: 1) the establishment of an RAA Technical Committee that would include representatives from BASMAA member agencies, Permittees, the Regional Water Board, and other technical experts to help to flush out RAA details; and 2) the development of a regional RAA guidance document specific to the Bay Area and similar in scope to the Los Angeles Regional Water Board's guidance document on RAA, which defines the specific models and analysis methods that may be used, required model/analysis methods input data, allowable data sources, and model calibration criteria.
- Develop a RAA for mercury and PCBs for the Santa Clara Valley.
- Prepare a plan and schedule for implementing technically and economically feasible PCB and mercury control measures and evaluate the costs and benefits from their implementation.

Table 3.34. Preliminary list of PCB and mercury control measure tasks, responsible party(s) and anticipated milestones during the term of MRP 2.0.

| Task | Responsible Party(s) | Anticipated Milestone Completion Date | Notes |
|--|--------------------------------------|---|--|
| Source Property Referrals and Abatement | | | |
| Identify WMAs with potential source properties | Program & Applicable Permittees | December 2020 | Anticipated date for categorizing all WMAs |
| Follow-up with the Regional Water Board on railroad property on Leo Avenue (San Jose WMA 083CTC990) | Program & City of San Jose | June 2017 | 13267 letter issued by Regional Water Board to property owner |
| Follow-up with the USEPA and the Regional Water Board on the source property identified in the City of Sunnyvale (WMA 049SVE900) | Program and City of Sunnyvale | June 2017 | City shared with USEPA data collected adjacent to or downstream of property. |
| Begin calculating the PCB and mercury load reduction benefits of source property referral/abatement. | Program & Permittees | June 2017 | First reporting of loads reduced in 2017 Annual Report |
| Green Infrastructure | | | |
| With assistance and guidance from SCVURPPP, develop GI Plans that integrate with the Santa Clara Valley Stormwater Resource Plan development that will begin in late 2016 and the RAA planning process designed to address PCBs and mercury TMDLs subsequent to MRP 2.0. | Permittees (with Program Assistance) | GI Framework – June 2017 GI Plan – Sept 2019 | |
| Continue to develop a tracking mechanism for GI and stormwater treatment in the Santa Clara Valley and update the associated database to assist Permittees in calculating PCB and mercury load reductions. | Program & Permittees | June 2017 | |
| Begin calculating the PCB and mercury load reduction benefits of existing GI facilities. | Program & Permittees | June 2017 | First reporting of loads reduced in 2017 Annual Report |

Section 4 Implementation Schedule and Planned Near-Term Next Steps

| Task | Responsible Party(s) | Anticipated Milestone Completion Date | Notes |
|--|--------------------------------------|---------------------------------------|--|
| Trash Full Capture Systems | | | |
| Continue to track the implementation of trash full capture systems and calculate the PCB and mercury load reduction benefits. | Program & Permittees | On-going | First reporting of loads reduced in 2017 Annual Report |
| MS4 Operation and Maintenance Practices | | | |
| Look for opportunities to enhance existing O&M practices to optimize PCB and mercury load reduction benefits. | Permittees & Program | On-going | |
| Continue to track the implementation of MS4 operation and maintenance practices and calculate the PCB and mercury load reduction benefits. | Program & Permittees | On-going | First reporting of loads reduced in 2017 Annual Report |
| PCBs in Building Materials, Storm Drains and Roadway Infrastructure | | | |
| Develop an implementation framework, guidelines and tools for managing materials and wastes containing PCBs during the demolition of buildings; tailor these materials for SCVURPPP Permittees; and begin implementation of a program/protocol. | Framework & Guidance – Program | June 2018 | |
| | Protocol Implementation - Permittees | June 2019 | |
| Through a BASMAA regional project, develop and implement a sampling and analysis plan that will outline the overall design and resources necessary to evaluate the magnitude and extent of PCBs in caulks/sealants used in storm drains or roadway infrastructure. | BASMAA & Program | June 2018 | |
| Mercury Reduction via True Source Controls and Recycling | | | |
| Continue to implement and track the benefits from mercury true source control and recycling programs, including HHW Programs. | Program & Applicable Permittees | On-going | First reporting of loads reduced in 2017 Annual Report |

| Task | Responsible Party(s) | Anticipated Milestone Completion Date | Notes |
|---|----------------------|---------------------------------------|-------|
| Additional Activities | | | |
| Implement the Program's work plan for outreach to residents likely to consume locally-caught fish, including working with the Alviso Education Center to utilize various education and outreach products. | Program & Permittees | On-going | |
| Develop a regional framework and guidance for conducting an RAA for mercury and PCBs. | BASMAA & Program | Spring 2017 | |
| Develop an RAA for mercury and PCBs for the Santa Clara Valley. | Program & Permittees | June 2020 | |
| Prepare a plan and schedule for implementing technically and economically feasible PCB and mercury control measures and evaluate the costs and benefits from their implementation. | Program & Permittees | June 2020 | |

SECTION 5 - REFERENCES

BASMAA (2014). Integrated Monitoring Report – Part B. Prepared by Geosyntec and EOA, Inc. Prepared for the Bay Area Stormwater Management Agencies Association. September.

BASMAA (2016). PCB and Mercury Interim Load Reduction Accounting Method Report. Prepared by Geosyntec and EOA, Inc. Prepared for the Bay Area Stormwater Management Agencies Association. September.

Santa Clara Valley Urban Runoff Pollution Prevention Program (SCVURPPP). (2015). Clean Watersheds for a Clean Bay (CW4CB) Source Property Identification and Referral Pilot Study, Leo Avenue Watershed – San Jose, California. September.

Santa Clara Valley Urban Runoff Pollution Prevention Program (SCVURPPP). (2016). *Progress Report on Identifying Watershed Mangement Areas*. Prepared by EOA, Inc. April.

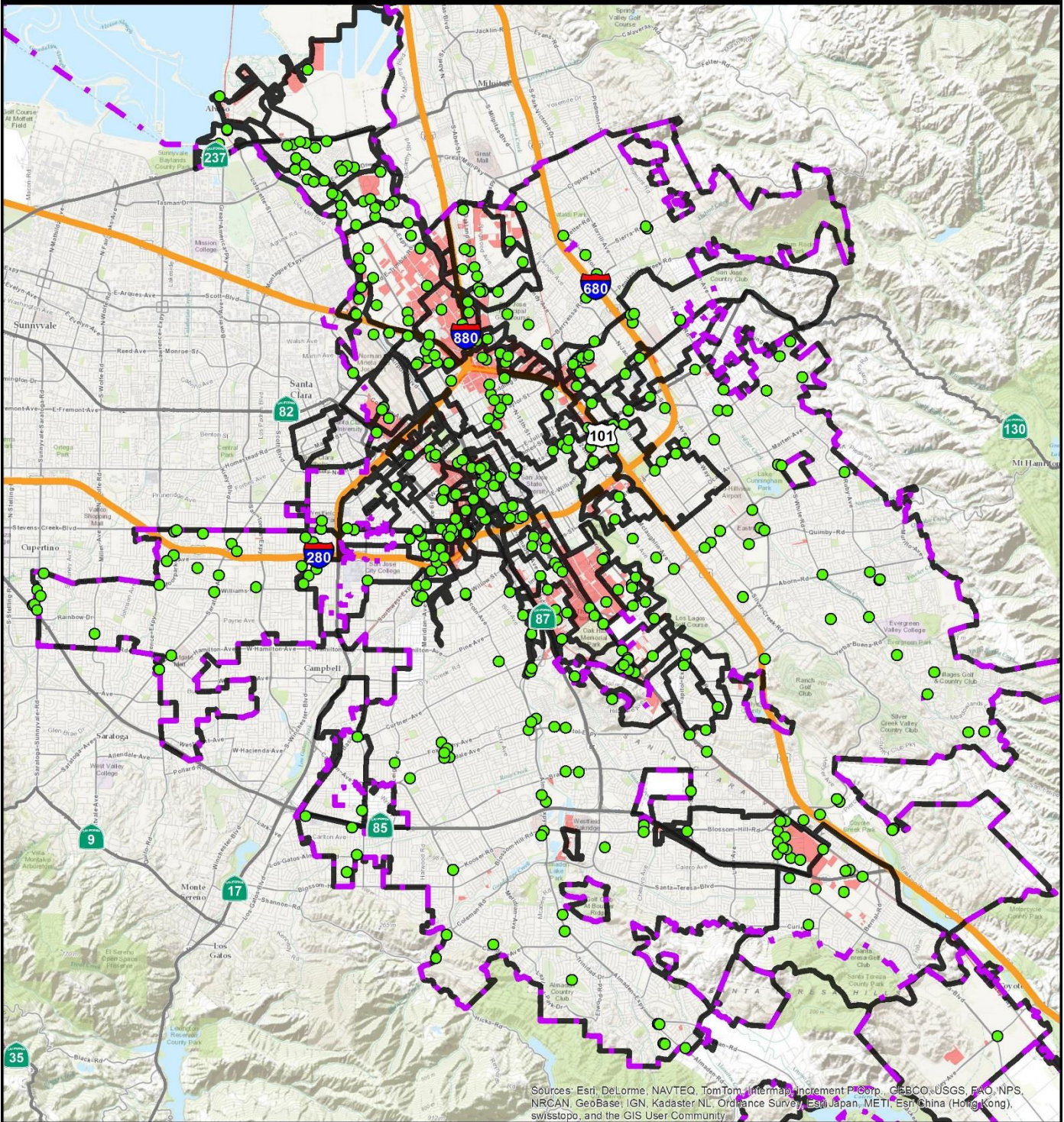
Appendix A

Preliminary WMAs and Locations of Existing Green Infrastructure Facilities

City of San Jose



City of San Jose PCBs/Mercury Watershed Management Areas (WMAs)



Sources: Esri, DeLorme, NAVTEQ, TomTom, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, and the GIS User Community

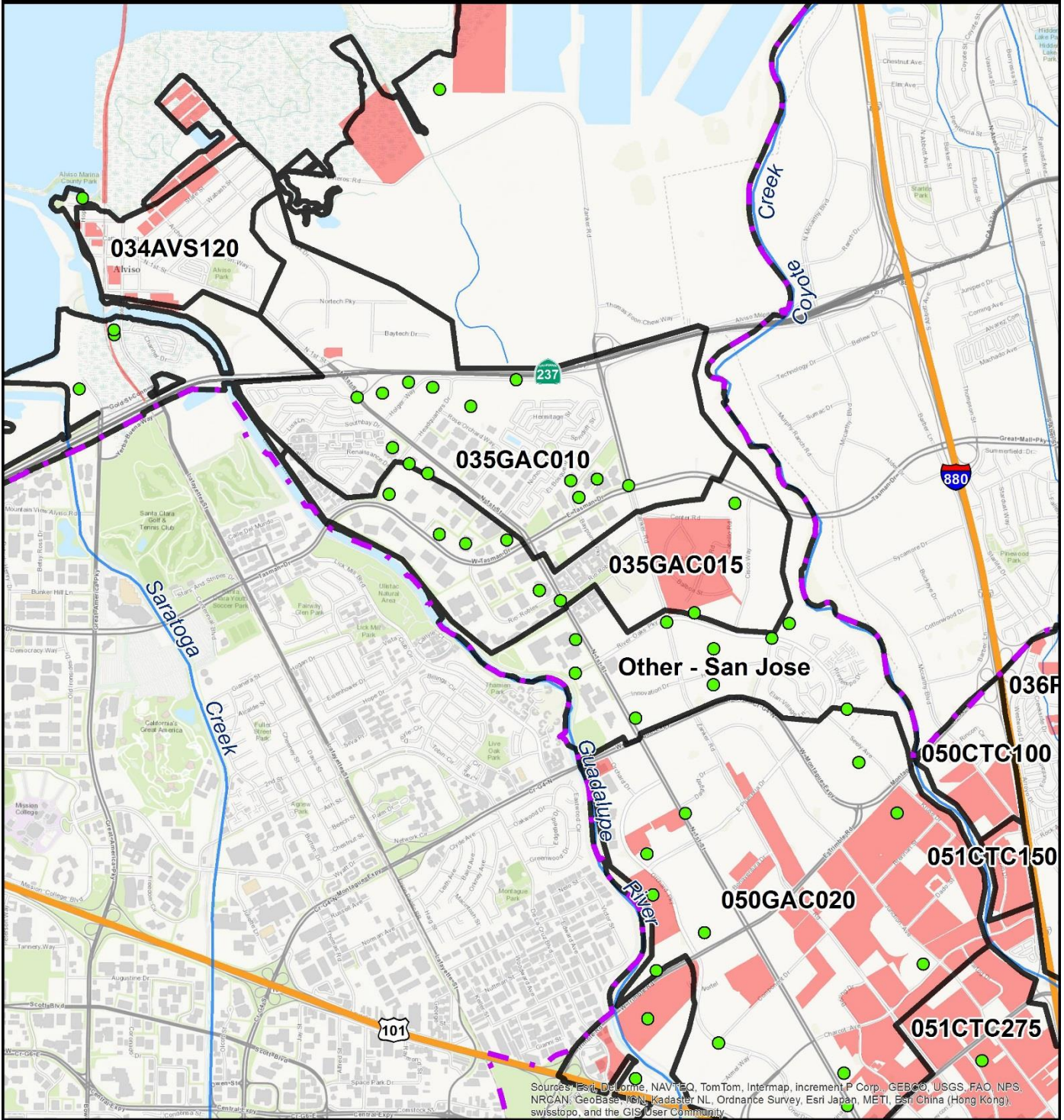
-  Green Infrastructure/
Low Impact Development Facility
-  Old Industrial
-  WMA Boundary
-  Permittee Boundary

Data Sources:
City Boundaries: Santa Clara County
Catchment Boundaries: Mattern/WLA
Background: ESRI World Topographic Map

Map Created By: EOA, Inc.
Date: September 9, 2016



City of San Jose North PCBs/Mercury Watershed Management Areas (WMAs)



Sources: Esri, DeLorme, NAVTEQ, TomTom, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, and the GIS User Community

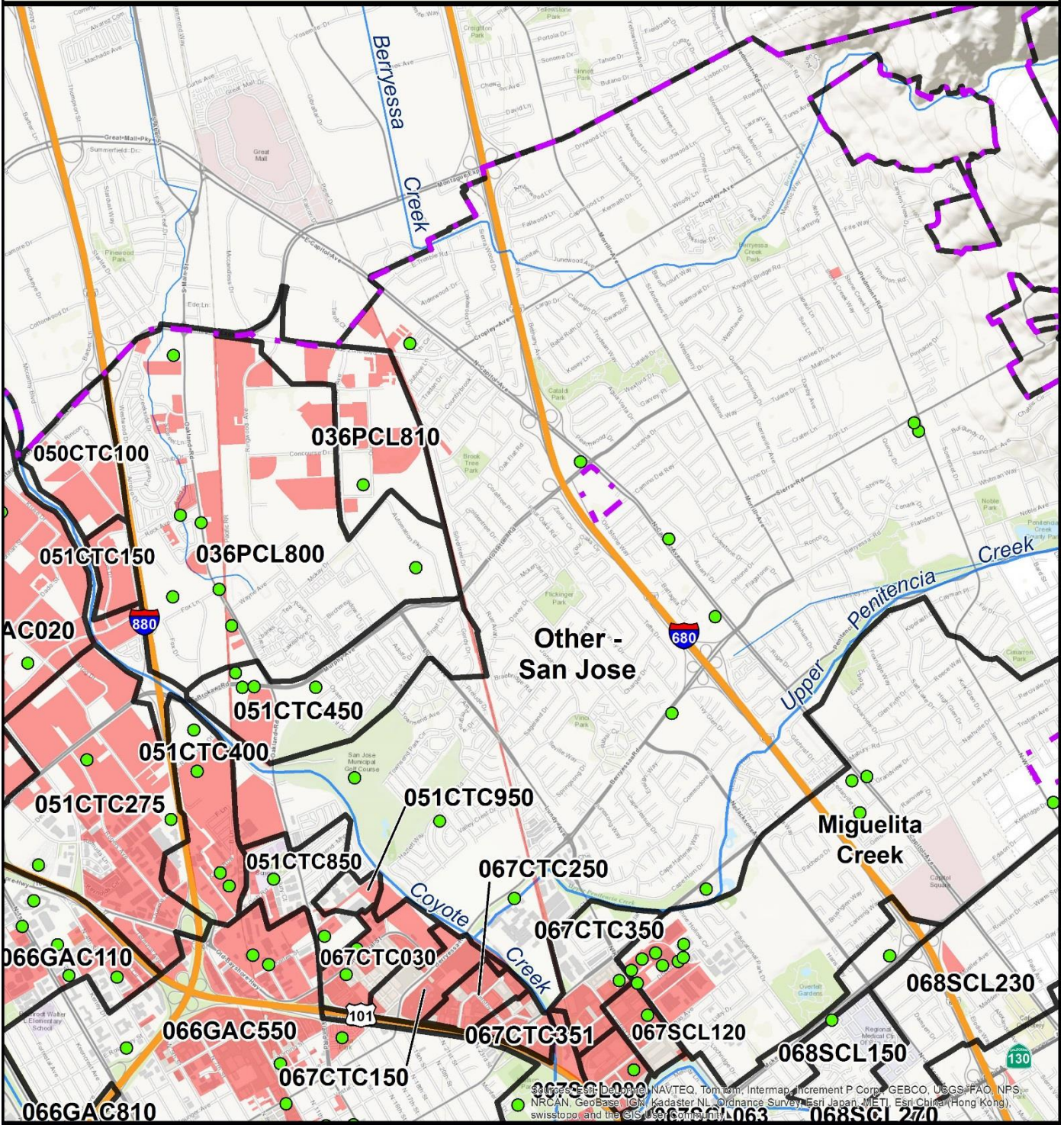
-  Green Infrastructure/
Low Impact Development Facility
-  Old Industrial
-  WMA Boundary
-  Permittee Boundary

Data Sources:
City Boundaries: Santa Clara County
Catchment Boundaries: Mattern/WLA
Background: ESRI World Topographic Map

Map Created By: EOA, Inc.
Date: September 9, 2016



City of San Jose Northeast PCBs/Mercury Watershed Management Areas (WMAs)



-  Green Infrastructure/
Low Impact Development Facility
-  Old Industrial
-  WMA Boundary
-  Permittee Boundary

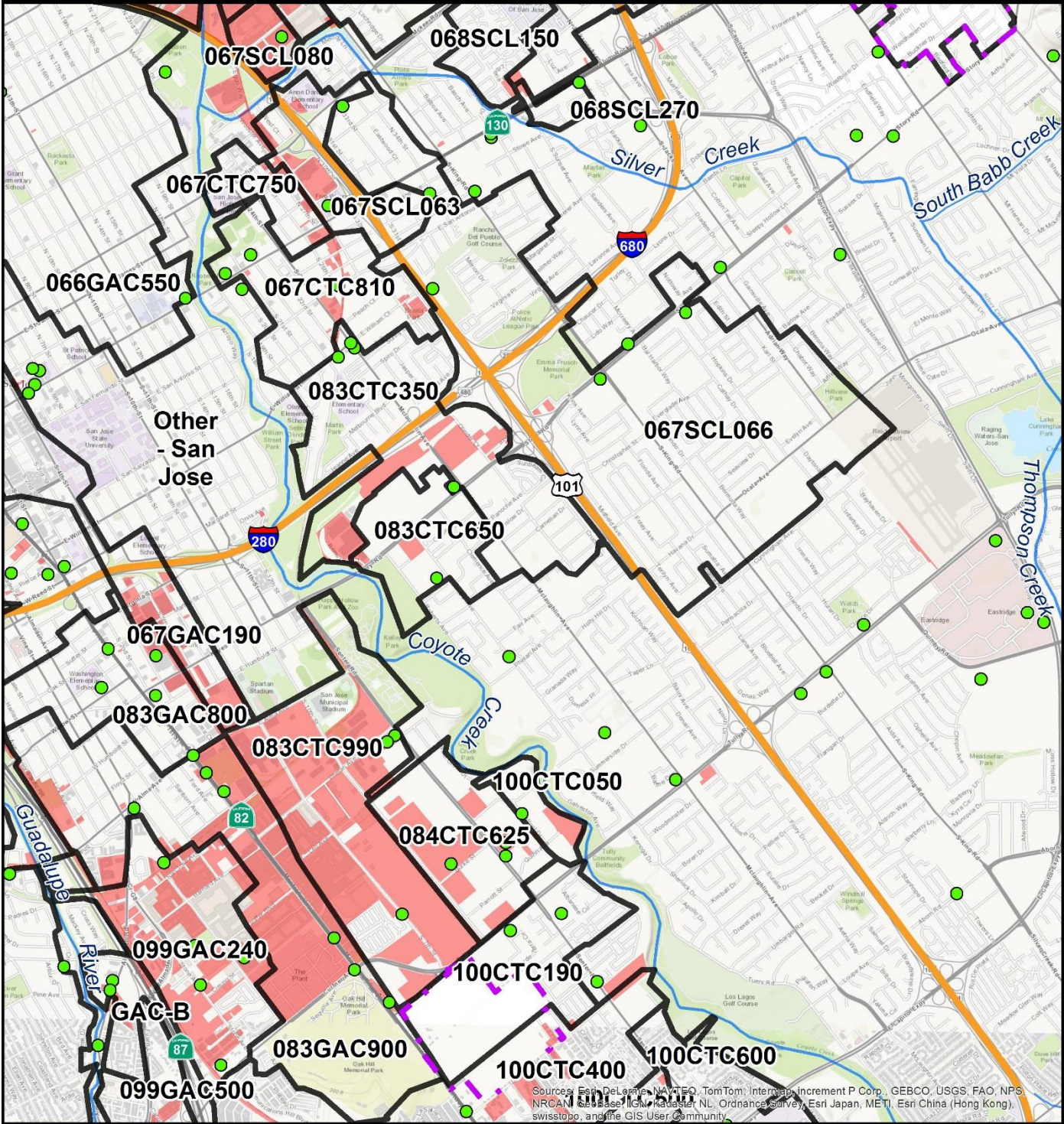
Data Sources:
City Boundaries: Santa Clara County
Catchment Boundaries: Mattern/WLA
Background: ESRI World Topographic Map

Map Created By: EOA, Inc.
Date: September 9, 2016



Sources: Esri, DeLorme, NAVTEQ, TomTom, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, and the GIS User Community

City of San Jose Southeast PCBs/Mercury Watershed Management Areas (WMAs)



-  Green Infrastructure/
Low Impact Development Facility
-  Old Industrial
-  WMA Boundary
-  Permittee Boundary

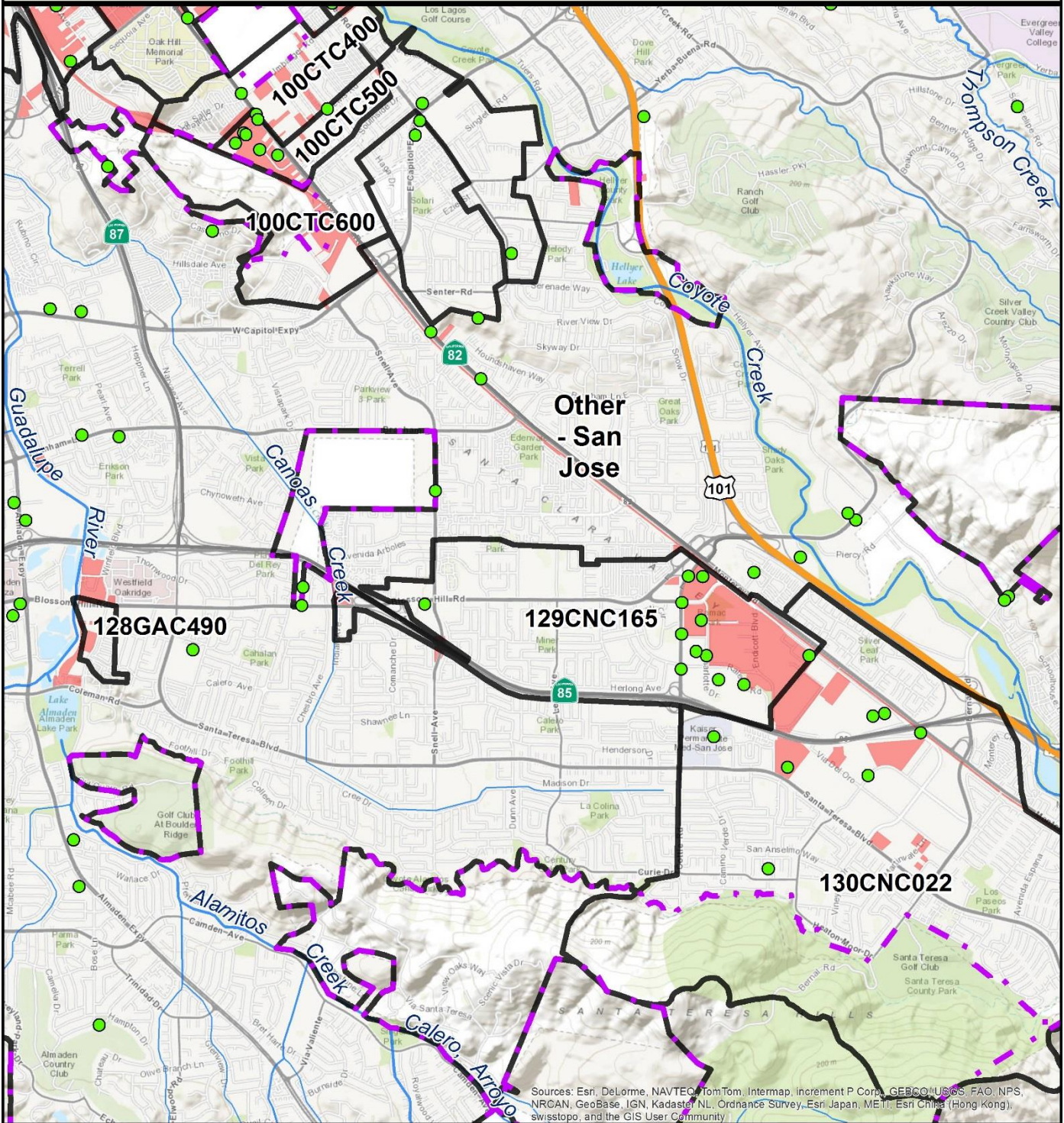
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City Boundaries: Santa Clara County
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Background: ESRI World Topographic Map

Map Created By: EOA, Inc.
Date: September 9, 2016

Sources: Esri, DeLorme, NAVTEQ, TomTom, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, Esri, IGN, Kantam, NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, and the GIS User Community.



City of San Jose South PCBs/Mercury Watershed Management Areas (WMAs)



Sources: Esri, DeLorme, NAVTEQ, TomTom, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, and the GIS User Community

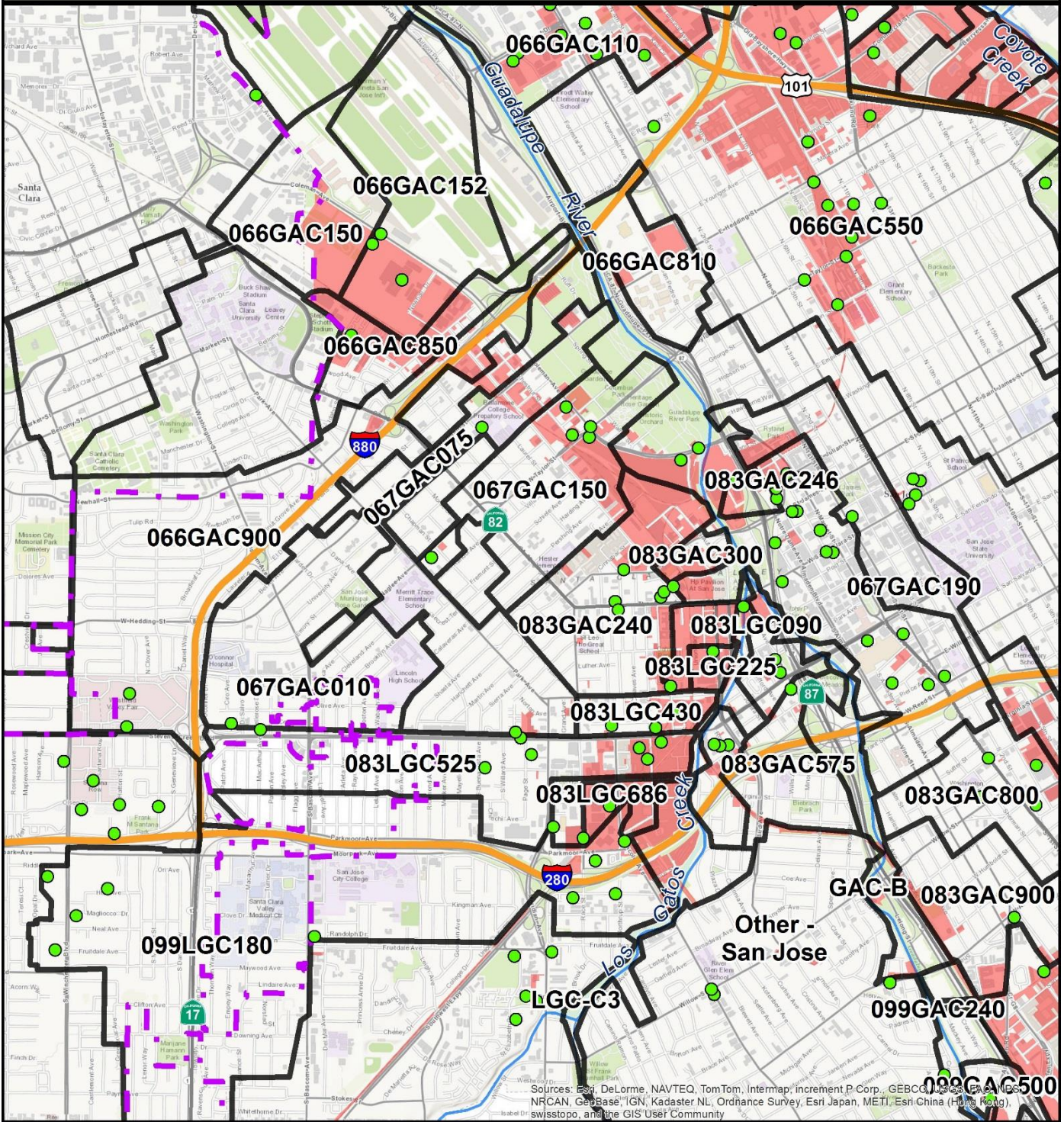
-  Green Infrastructure/
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-  Old Industrial
-  WMA Boundary
-  Permittee Boundary

Data Sources:
City Boundaries: Santa Clara County
Catchment Boundaries: Mattern/WLA
Background: ESRI World Topographic Map

Map Created By: EOA, Inc.
Date: September 9, 2016



City of San Jose West PCBs/Mercury Watershed Management Areas (WMAs)



Sources: Esri, DeLorme, NAVTEQ, TomTom, Intermap, increment P Corp., GEBCO, USGS, FAO, NCE, NRCAN, GeBCO, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, and the GIS User Community

-  Green Infrastructure/
Low Impact Development Facility
-  Old Industrial
-  WMA Boundary
-  Permittee Boundary

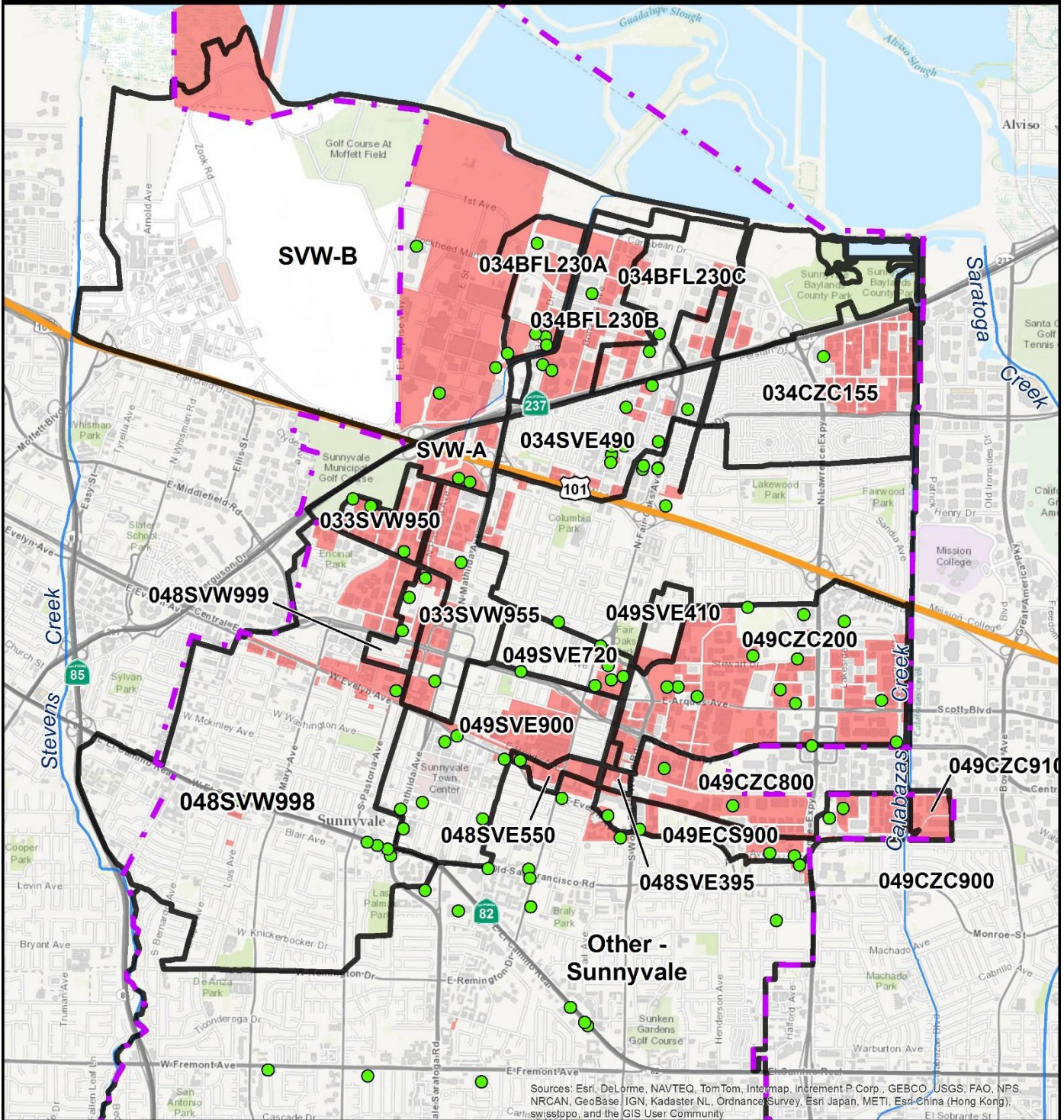
Data Sources:
City Boundaries: Santa Clara County
Catchment Boundaries: Mattern/WLA
Background: ESRI World Topographic Map

Map Created By: EOA, Inc.
Date: September 9, 2016



City of Sunnyvale

City of Sunnyvale PCBs/Mercury Watershed Management Areas (WMAs)



Sources: Esri, DeLorme, NAVTEQ, TomTom, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), Swisstopo, and the GIS User Community

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-  Old Industrial
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-  Permittee Boundary

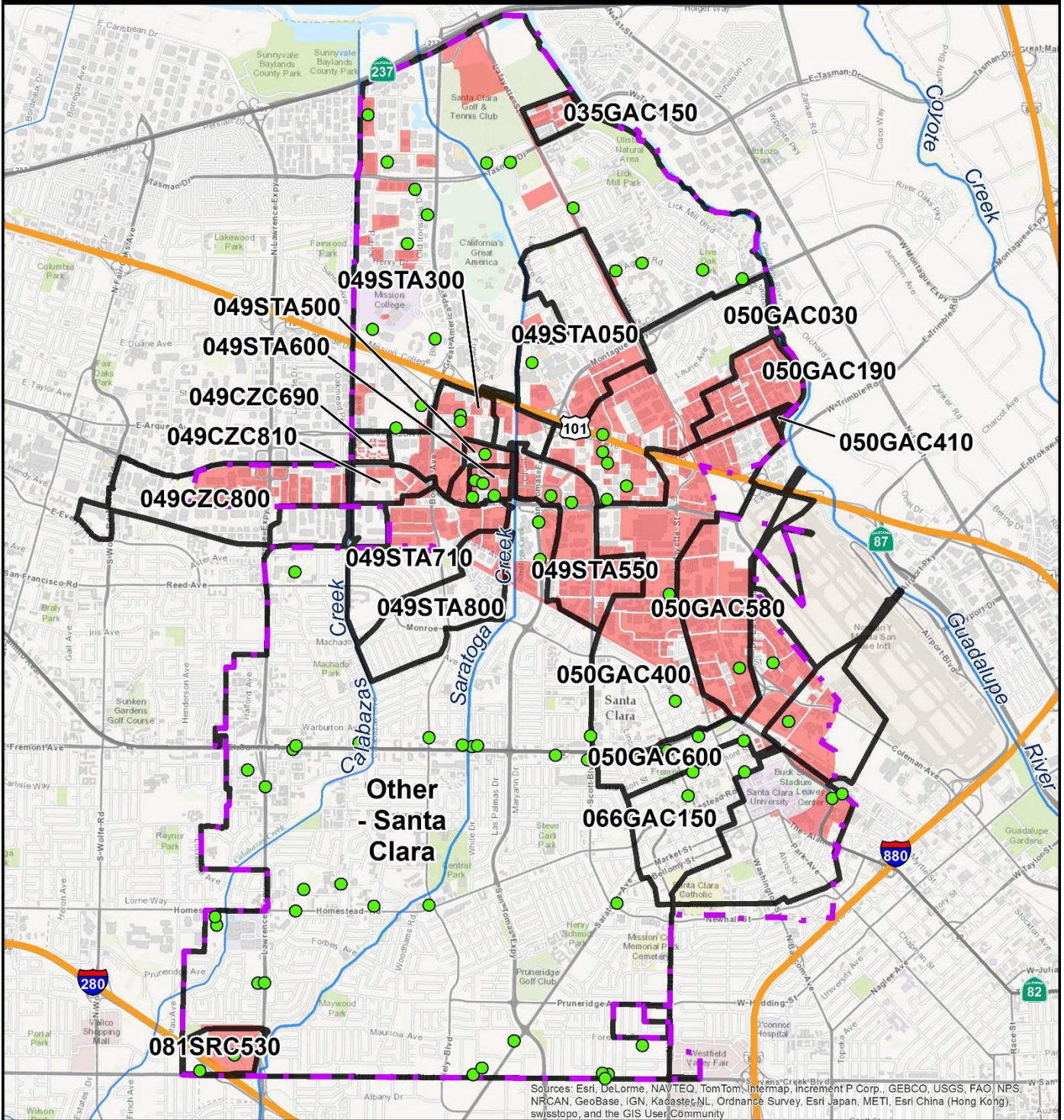
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City Boundaries: Santa Clara County
Catchment Boundaries: Mattern/WLA
Background: ESRI World Topographic Map

Map Created By: EOA, Inc.
Date: September 9, 2016



City of Santa Clara

City of Santa Clara PCBs/Mercury Watershed Management Areas (WMAs)

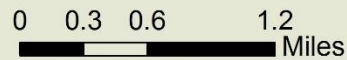


Sources: Esri, DeLorme, NAVTEQ, TomTom, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, and the GIS User Community

-  Green Infrastructure/
Low Impact Development Facility
-  Old Industrial
-  WMA Boundary
-  Permittee Boundary

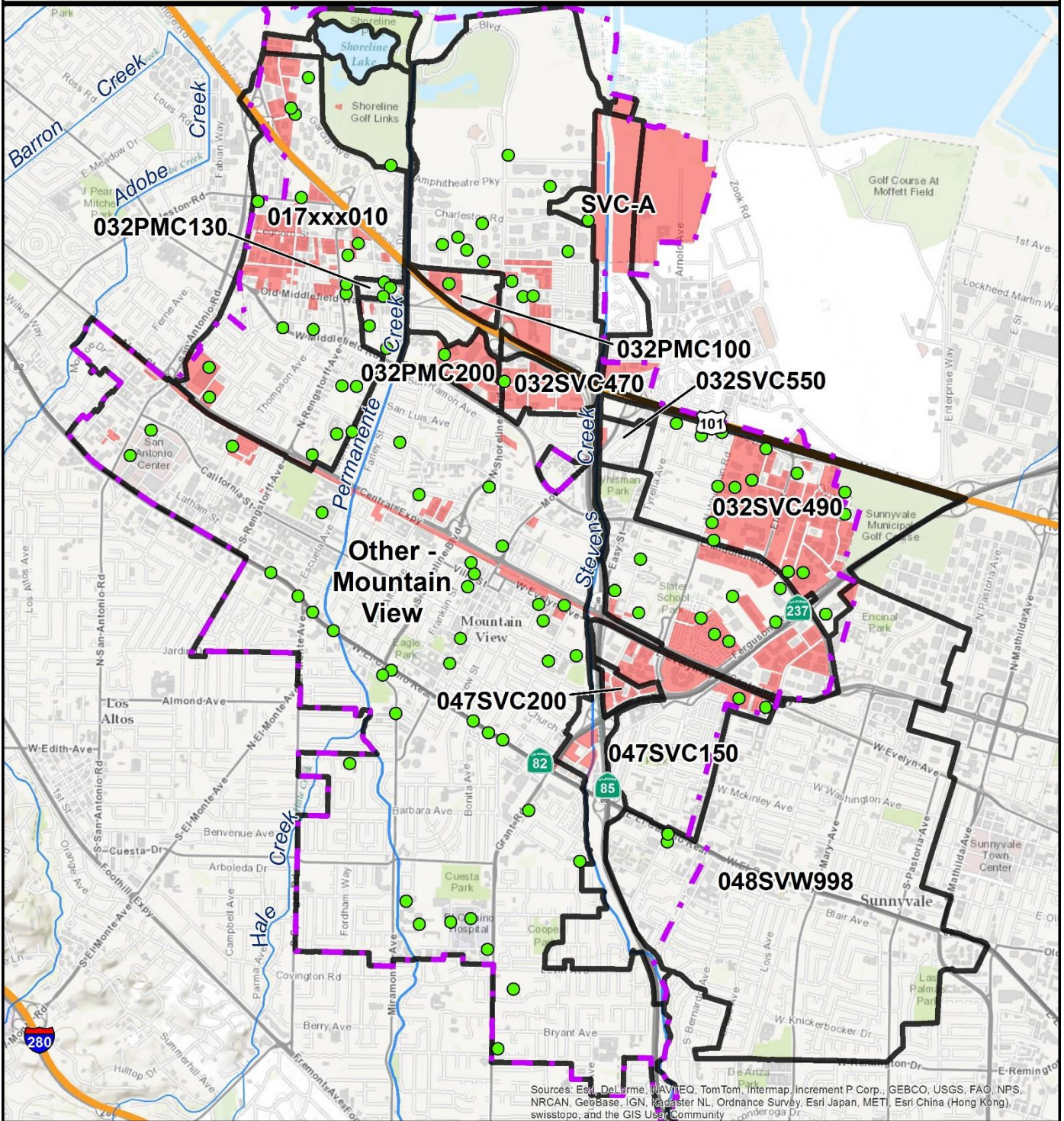
Data Sources:
City Boundaries: Santa Clara County
Catchment Boundaries: Mattern/WLA
Background: ESRI World Topographic Map

Map Created By: EOA, Inc.
Date: September 9, 2016



City of Mountain View

City of Mountain View PCBs/Mercury Watershed Management Areas (WMAs)



Sources: Esri, DeLorme, NAVTEQ, TomTom, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, and the GIS User Community

-  Green Infrastructure/
Low Impact Development Facility
-  Old Industrial
-  WMA Boundary
-  Permittee Boundary

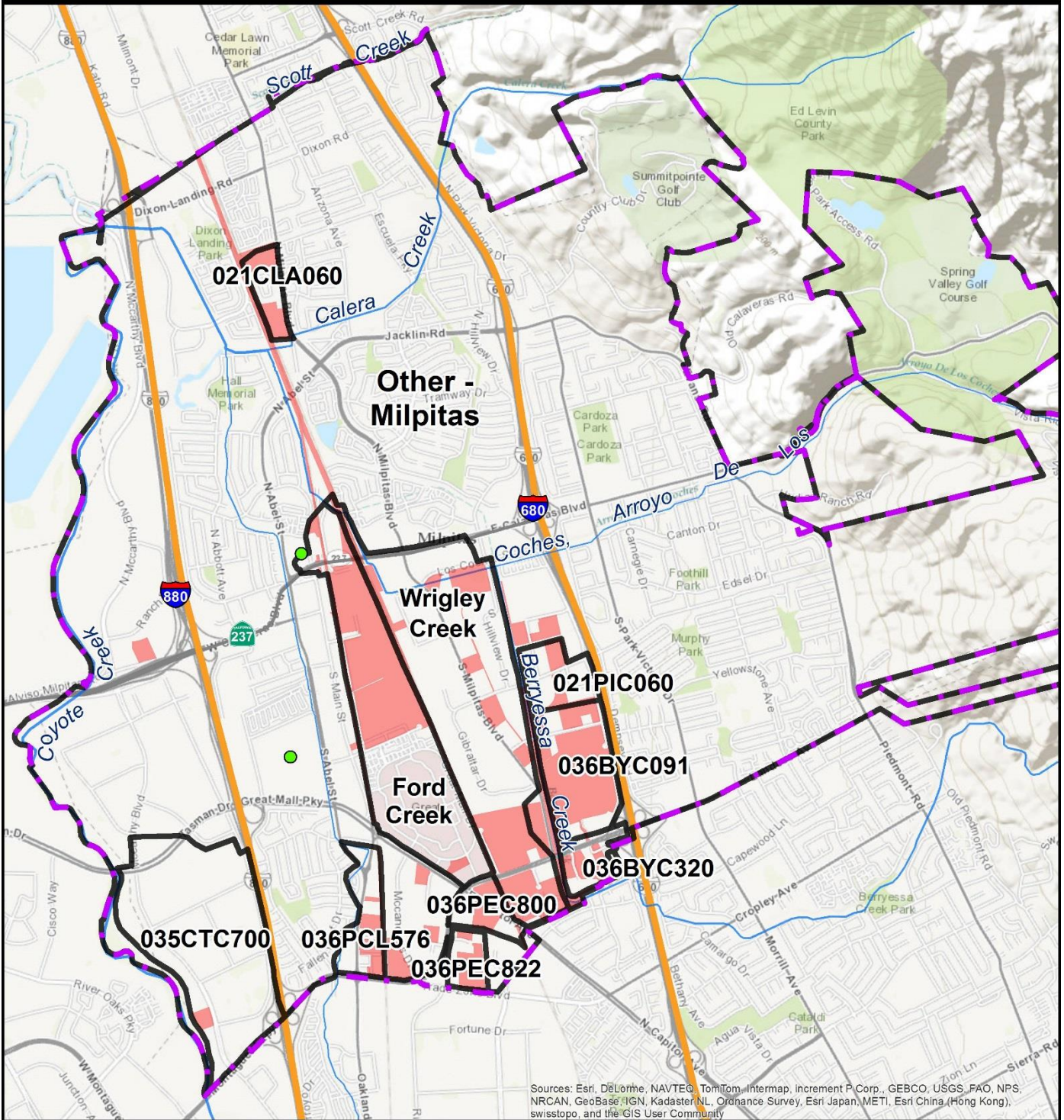
Data Sources:
City Boundaries: Santa Clara County
Catchment Boundaries: Mattern/WLA
Background: ESRI World Topographic Map

Map Created By: EOA, Inc.
Date: September 9, 2016



City of Milpitas

City of Milpitas PCBs/Mercury Watershed Management Areas (WMAs)



Sources: Esri, DeLorme, NAVTEQ, TomTom, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, and the GIS User Community

-  Green Infrastructure/
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-  Old Industrial
-  WMA Boundary
-  Permittee Boundary

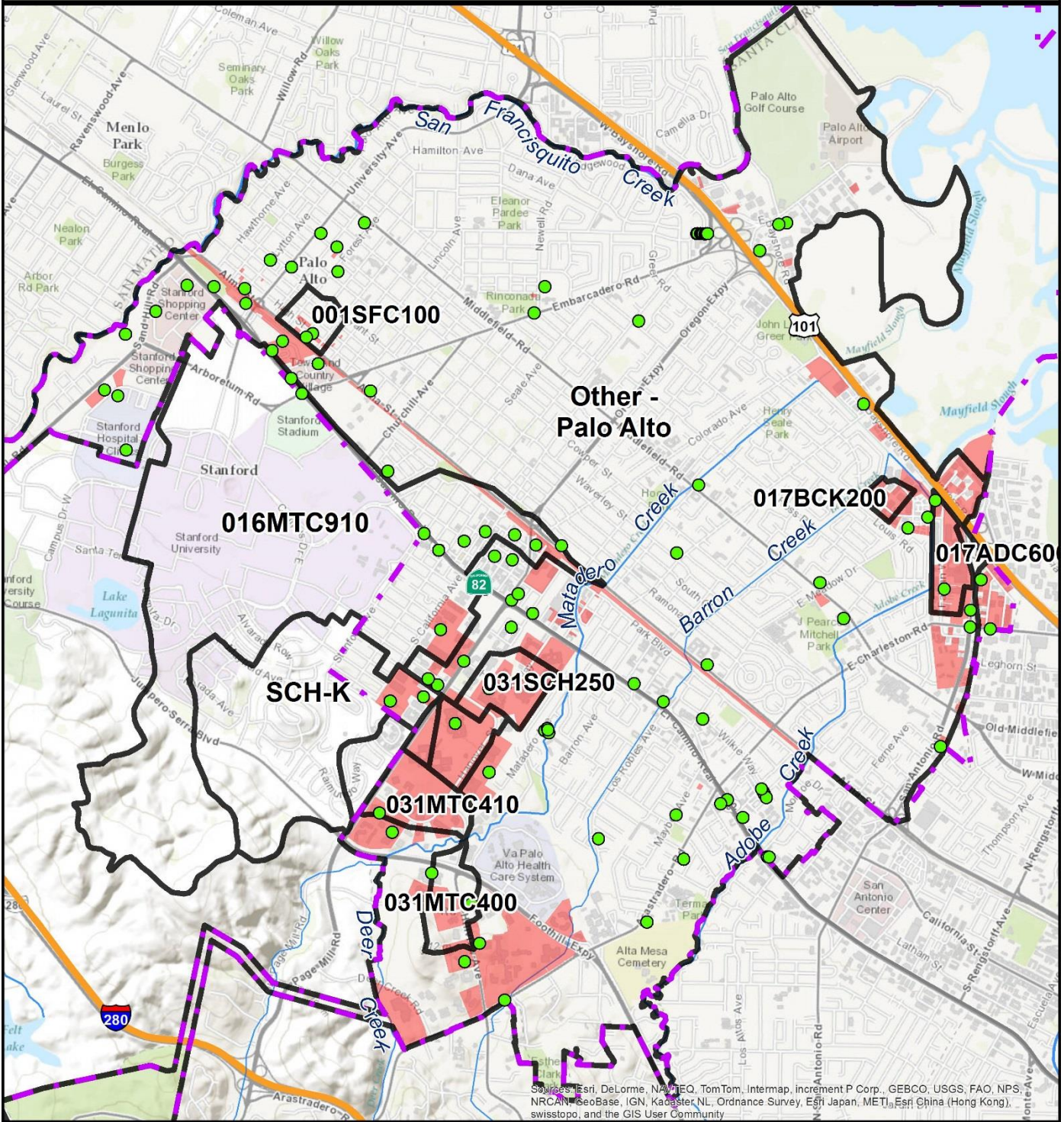
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City Boundaries: Santa Clara County
Catchment Boundaries: Mattern/WLA
Background: ESRI World Topographic Map

Map Created By: EOA, Inc.
Date: September 9, 2016



City of Palo Alto

City of Palo Alto PCBs/Mercury Watershed Management Areas (WMAs)



Sources: Esri, DeLorme, NAVTEQ, TomTom, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, and the GIS User Community

-  Green Infrastructure/
Low Impact Development Facility
-  Old Industrial
-  WMA Boundary
-  Permittee Boundary

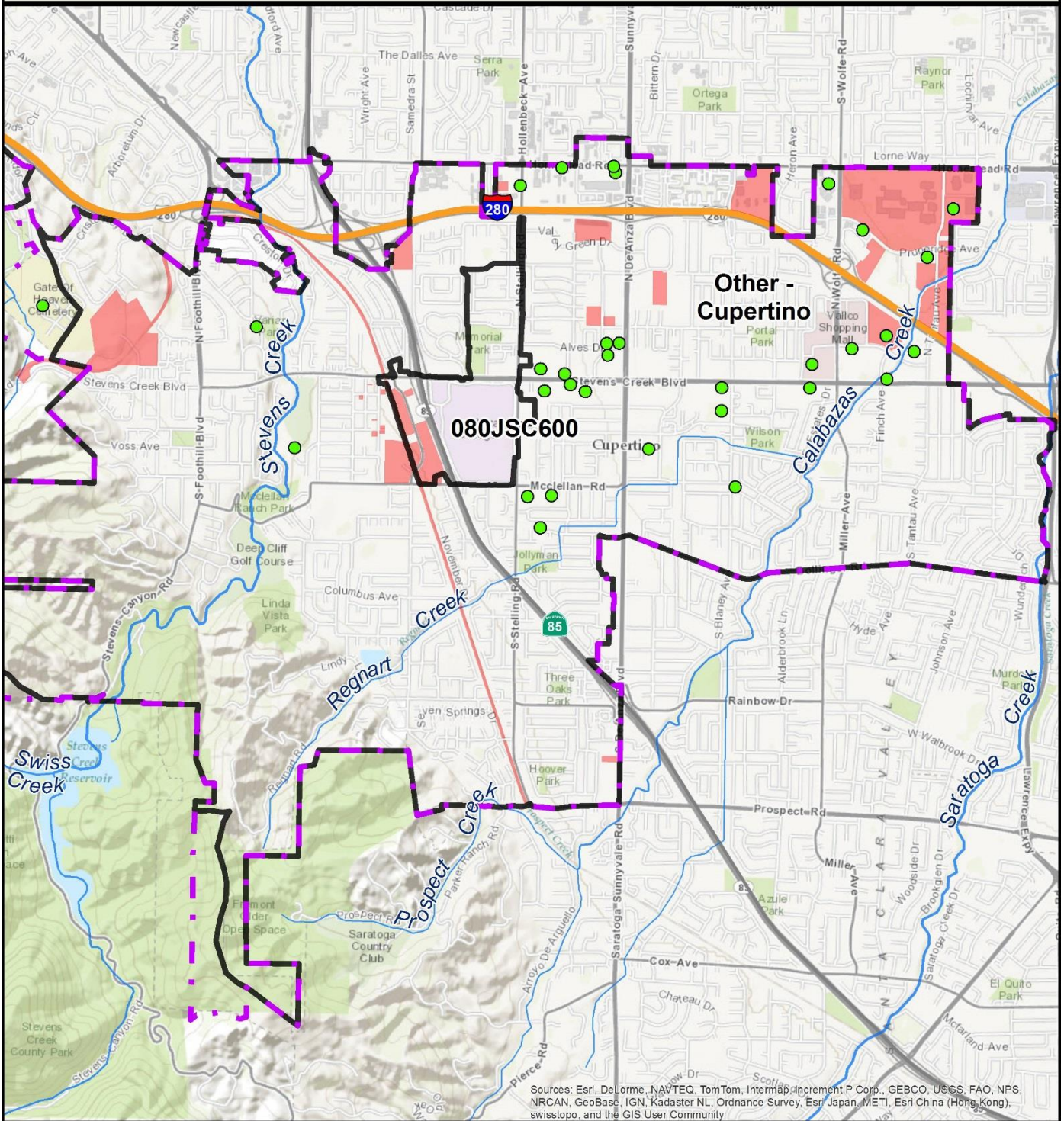
Data Sources:
City Boundaries: Santa Clara County
Catchment Boundaries: Mattern/WLA
Background: ESRI World Topographic Map

Map Created By: EOA, Inc.
Date: September 9, 2016



City of Cupertino

City of Cupertino PCBs/Mercury Watershed Management Areas (WMAs)



Sources: Esri, DeLorme, NAVTEQ, TomTom, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, and the GIS User Community

-  Green Infrastructure/
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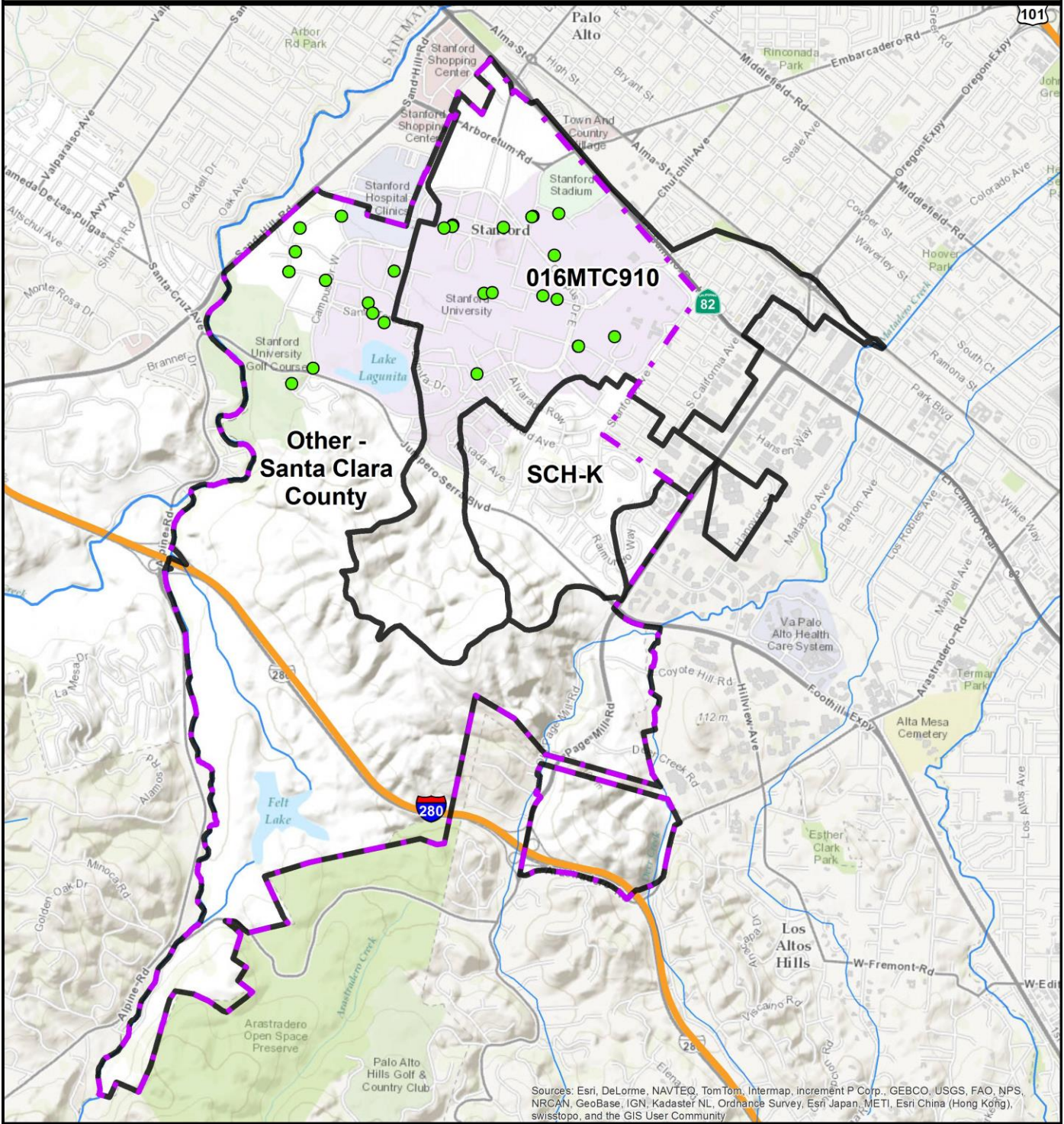
Data Sources:
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Catchment Boundaries: Mattern/WLA
Background: ESRI World Topographic Map

Map Created By: EOA, Inc.
Date: September 9, 2016



Unincorporated Santa Clara County

County of Santa Clara PCBs/Mercury Watershed Management Areas (WMAs)



Sources: Esri, DeLorme, NAVTEQ, TomTom, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, and the GIS User Community

-  Green Infrastructure/
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-  Old Industrial
-  WMA Boundary
-  Permittee Boundary

Data Sources:
City Boundaries: Santa Clara County
Catchment Boundaries: Matter/WLA
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Date: September 9, 2016

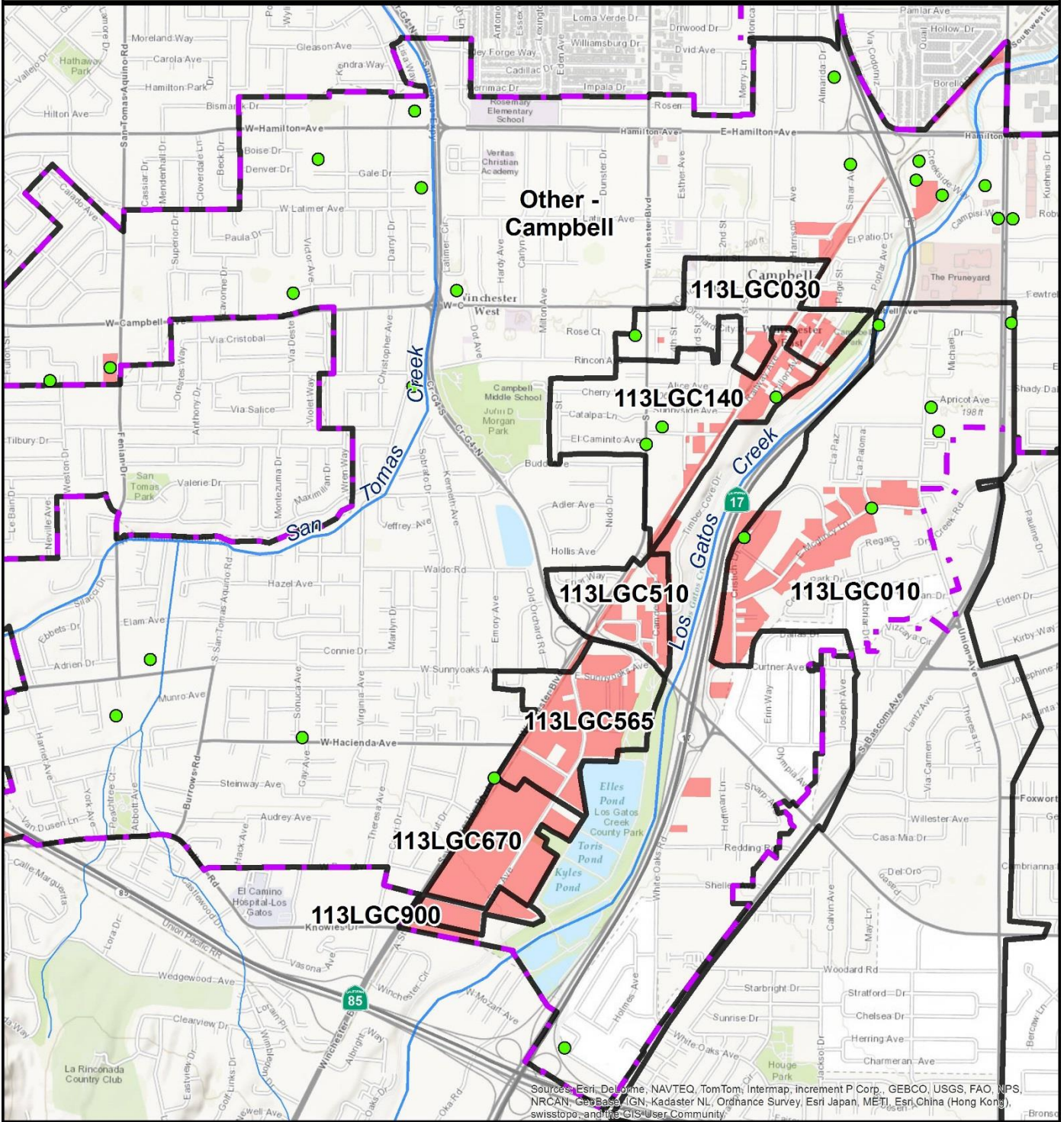


0 0.2 0.4 0.8
 Miles



City of Campbell

City of Campbell PCBs/Mercury Watershed Management Areas (WMAs)



Sources: Esri, DeLorme, NAVTEQ, TomTom, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, and the GIS User Community.

-  Green Infrastructure/
Low Impact Development Facility
-  Old Industrial
-  WMA Boundary
-  Permittee Boundary

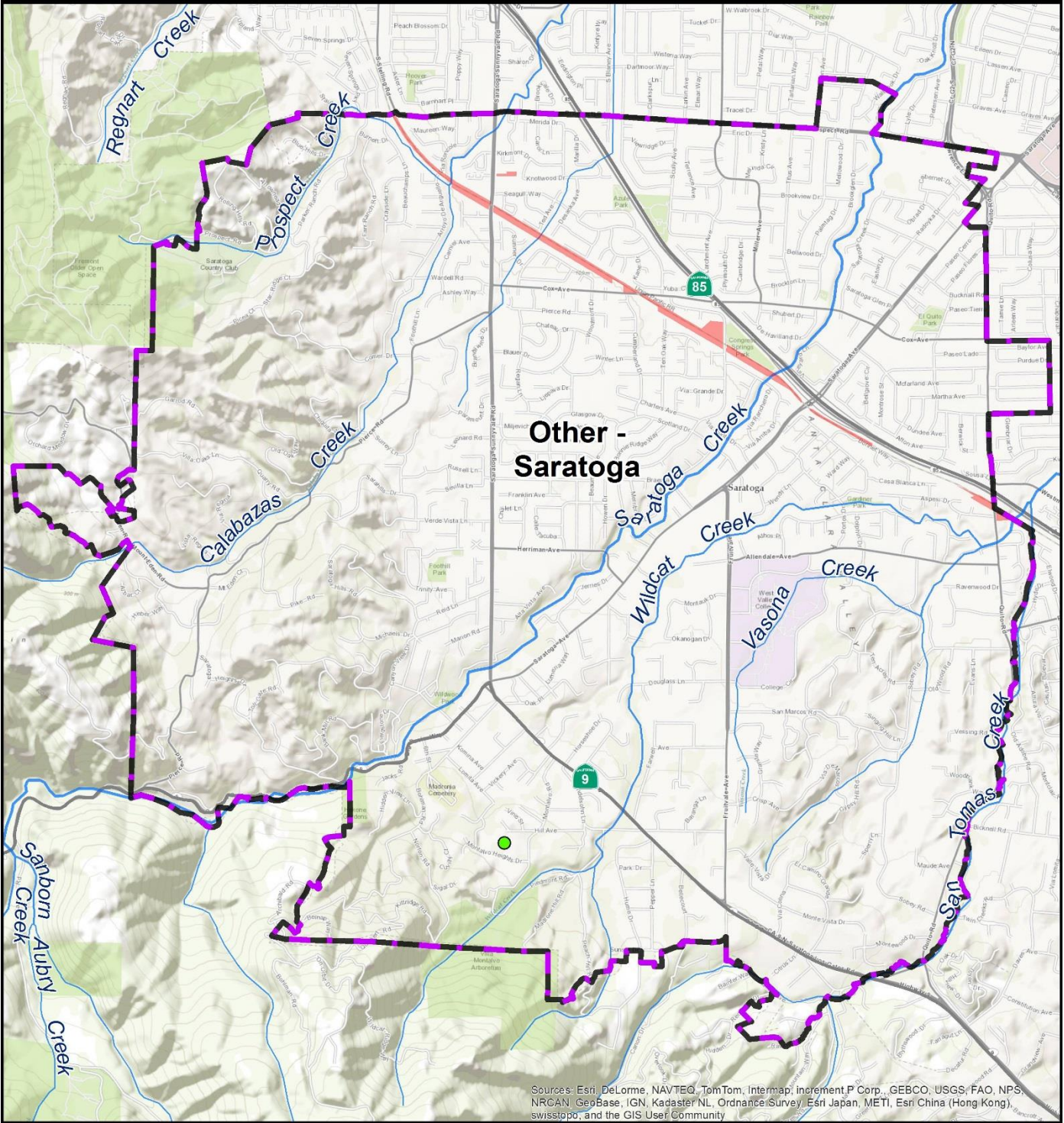
Data Sources:
City Boundaries: Santa Clara County
Catchment Boundaries: Mattern/WLA
Background: ESRI World Topographic Map

Map Created By: EOA, Inc.
Date: September 9, 2016



City of Saratoga

City of Saratoga PCBs/Mercury Watershed Management Areas (WMAs)



Sources: Esri, DeLorme, NAVTEQ, TomTom, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeopBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, and the GIS User Community

-  Green Infrastructure/
Low Impact Development Facility
-  Old Industrial
-  WMA Boundary
-  Permittee Boundary

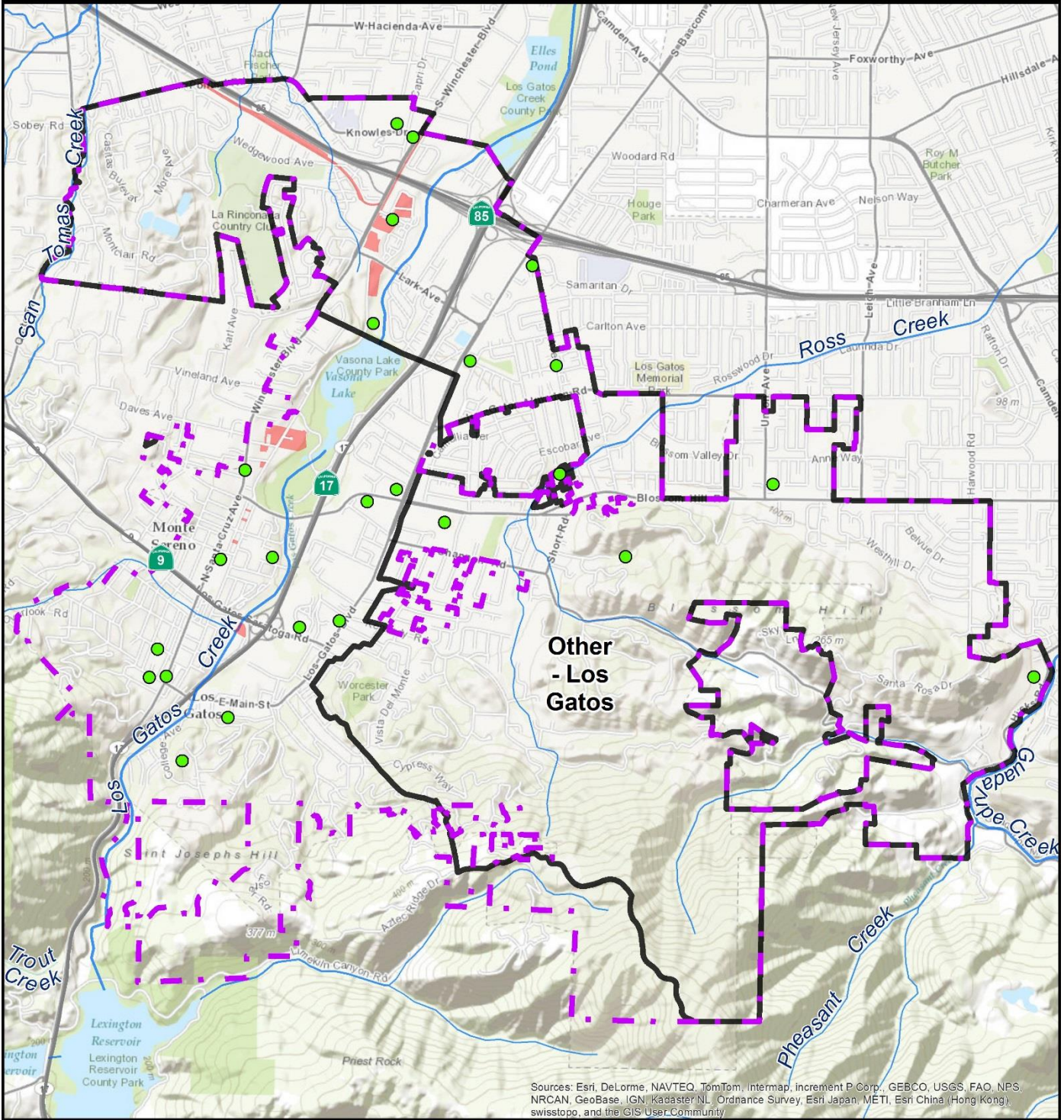
Data Sources:
City Boundaries: Santa Clara County
Catchment Boundaries: Mattern/WLA
Background: ESRI World Topographic Map

Map Created By: EOA, Inc.
Date: September 9, 2016



Town of Los Gatos

Town of Los Gatos PCBs/Mercury Watershed Management Areas (WMAs)

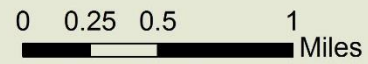


Sources: Esri, DeLorme, NAVTEQ, TomTom, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, and the GIS User Community

-  Green Infrastructure/
Low Impact Development Facility
-  Old Industrial
-  WMA Boundary
-  Permittee Boundary

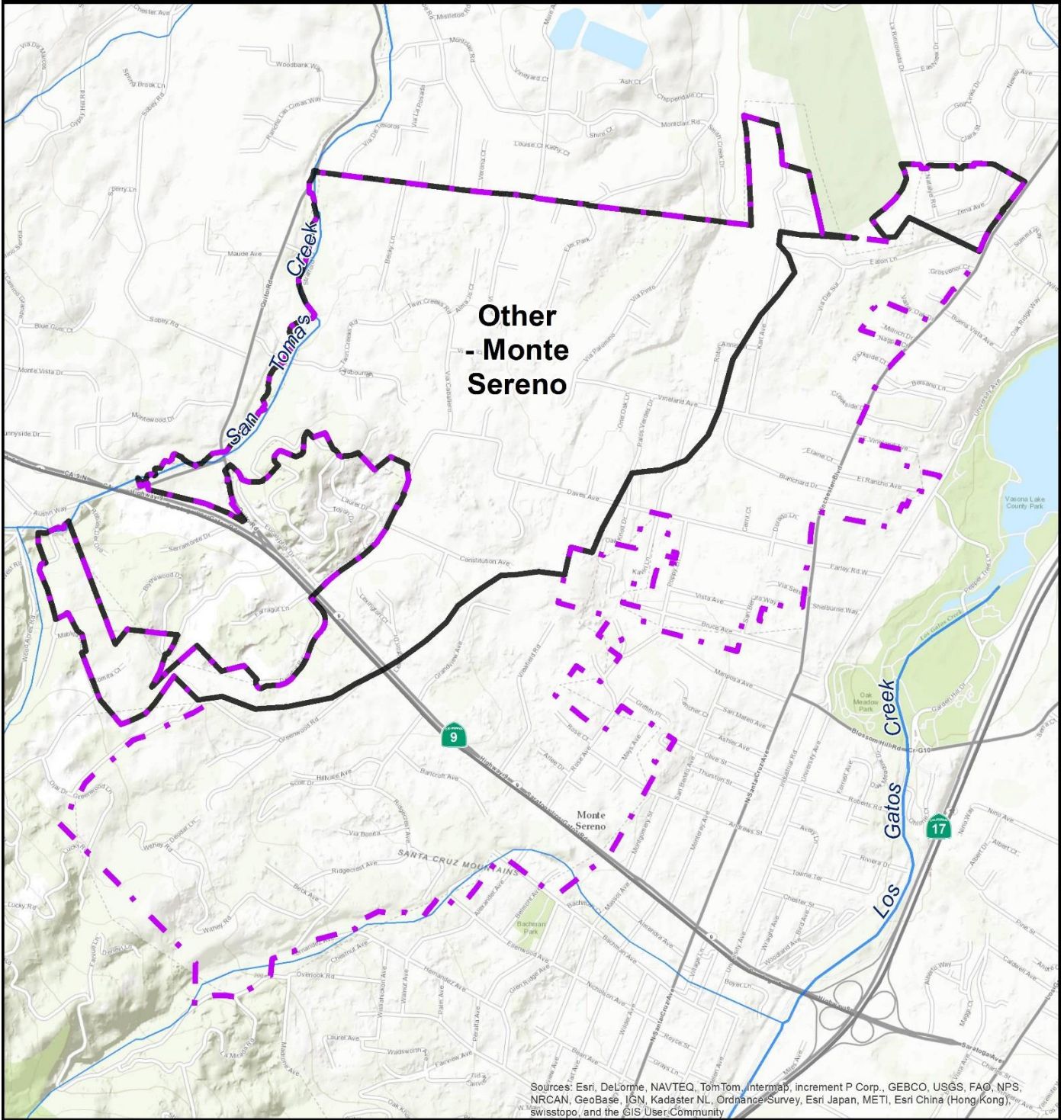
Data Sources:
City Boundaries: Santa Clara County
Catchment Boundaries: Mattern/WLA
Background: ESRI World Topographic Map

Map Created By: EOA, Inc.
Date: September 9, 2016



City of Monte Sereno

City of Monte Sereno PCBs/Mercury Watershed Management Areas (WMAs)



Other
- Monte
Sereno

Sources: Esri, DeLorme, NAVTEQ, TomTom, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), Swisstopo, and the GIS User Community

-  Green Infrastructure/
Low Impact Development Facility
-  Old Industrial
-  WMA Boundary
-  Permittee Boundary

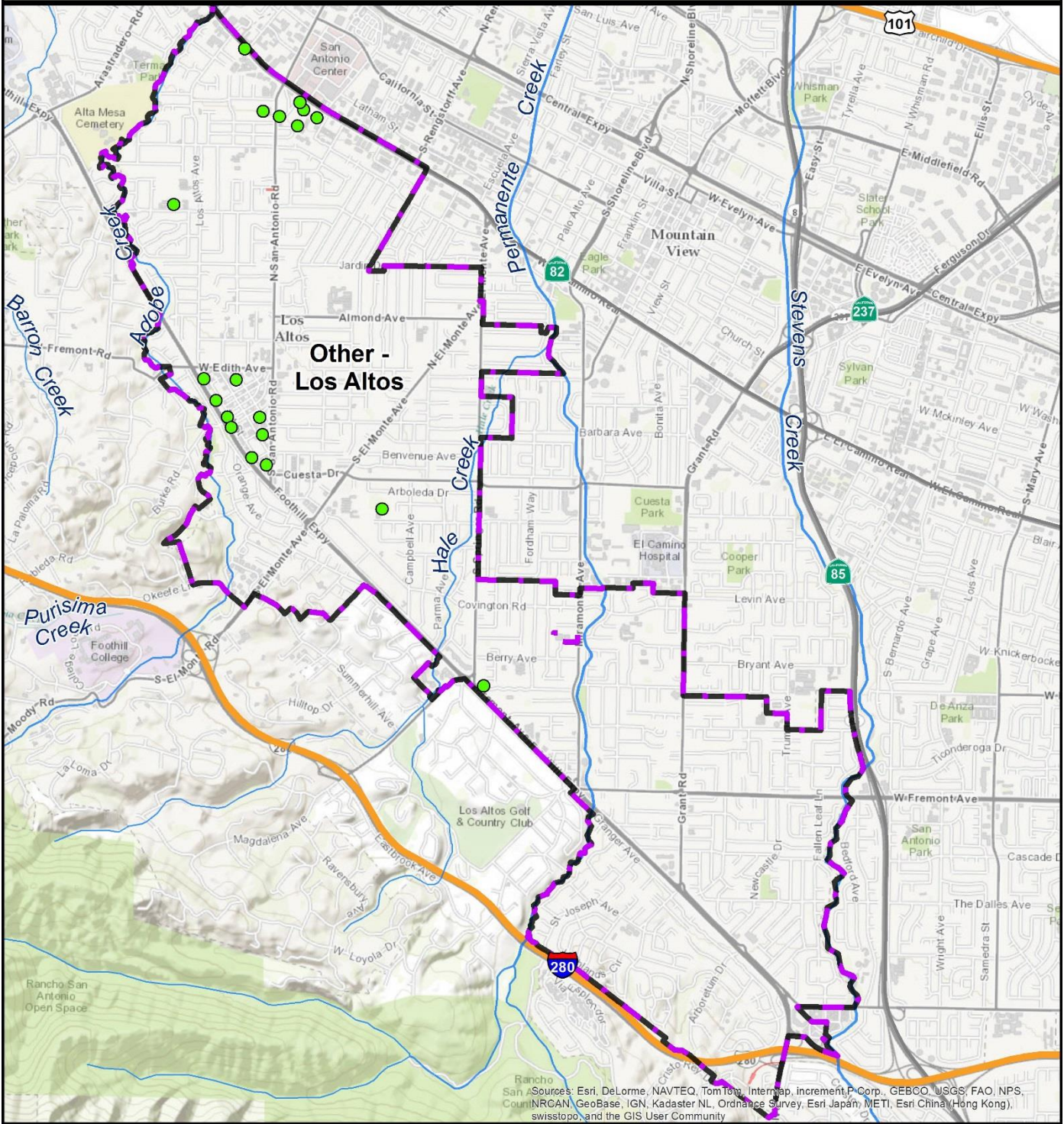
Data Sources:
City Boundaries: Santa Clara County
Catchment Boundaries: Mattern/WLA
Background: ESRI World Topographic Map

Map Created By: EOA, Inc.
Date: September 9, 2016



City of Los Altos

City of Los Altos PCBs/Mercury Watershed Management Areas (WMAs)



-  Green Infrastructure/
Low Impact Development Facility
-  Old Industrial
-  WMA Boundary
-  Permittee Boundary

Data Sources:
City Boundaries: Santa Clara County
Catchment Boundaries: Mattern/WLA
Background: ESRI World Topographic Map

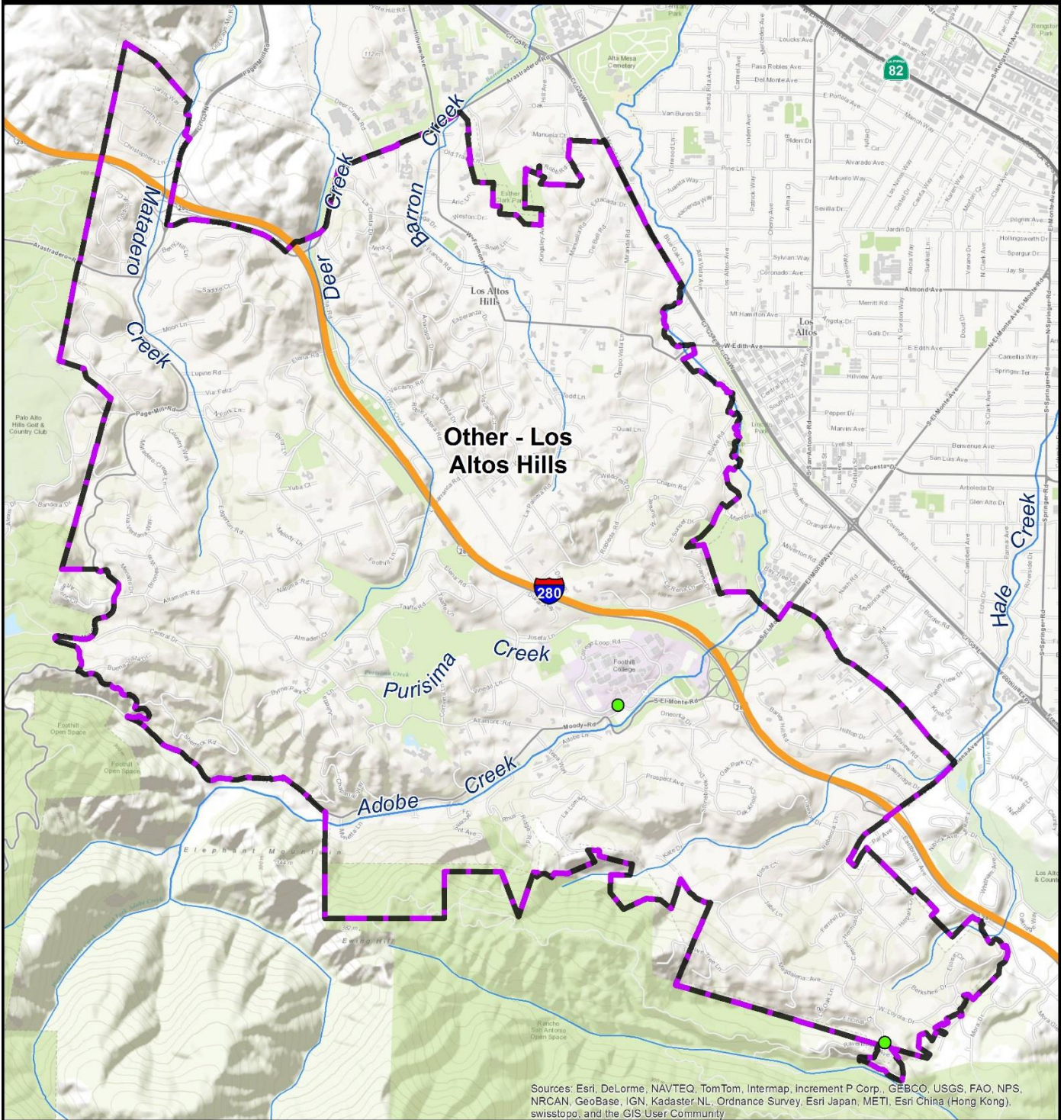
Map Created By: EOA, Inc.
Date: September 9, 2016



Rancho San Antonio Open Space
 Sources: Esri, DeLorme, NAVTEQ, TomTom, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, CIGNA, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), Swisstopo, and the GIS User Community

Town of Los Altos Hills

Town of Los Altos Hills PCBs/Mercury Watershed Management Areas (WMAs)



Sources: Esri, DeLorme, NAVTEQ, TomTom, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, and the GIS User Community

-  Green Infrastructure/
Low Impact Development Facility
-  Old Industrial
-  WMA Boundary
-  Permittee Boundary

Data Sources:
City Boundaries: Santa Clara County
Catchment Boundaries: Mattern/WLA
Background: ESRI World Topographic Map

Map Created By: EOA, Inc.
Date: September 9, 2016

