Appendix 1

- Stormwater Committee – Attendance List for FY 2023/24

SMCWPPP Steering Committee Attendance FY 2023/24

Agency	Representative	9/21/23	11/31/23	1/18/24	3/21/24	5/16/24
Atherton	Robert Ovadia (Vice Chair) - Public Works Director	X	X	X	X	X
Belmont	Peter Brown - Public Works Director	X	X	X	X	X
Brisbane	Randy Breault (Chair) - Public Works Director/City Engineer	X	X	X	X	X
Burlingame	Syed Murtuza - Public Works Director\ Jennifer Lee - Environmental Compliance Manger (Alternate)	X	X	X	X	X
Colma	Brad Donohue - Director of Public Works and Planning	X	X	X	X	X
Daly City	Richard Chiu - Director of Public Works	X	X	X	X	X
East Palo Alto	Humza Javed - Director of Public Works\ Kamal Fallala (through August)	X	X		X	X
Foster City	Andrew Brozyna - Director of Public Works\ Louis Sun - Public Works Director (through September)	X	X		X	X
Half Moon Bay	Maziar Bozorginia - Director of Public Works	X	X	X	X	X
Hillsborough	Paul Willis - Director of Public Works \Natalie Gribben - Deputy Director of Public Works (Alternate)	X	X	X	X	X
Menlo Park	Azalea Mitch - Director of Public Works \ Nikki Nagaya - Public Works Director (through November)	X	X	X	X	X
Millbrae	Sam Bautista - Director of Public Works		X	X	X	X
Pacifica	Roland Yip - Deputy Director of Public Works\ Lisa Petersen (alternative representative/non-voting)	X	X		X	X
Portola Valley	Howard Young - Director of Public Works	X	X	X	X	X
Redwood City	James O'Connell - City Engineer\ Saber Saraway - Supervising Civil Engineer (through October)	X		X	X	X
San Bruno	Matt Lee - Deputy Director of Public Works\ Hae Won Ritchie - Deputy Director of Public Works	X	X	X	X	X
San Carlos	Steven Machida - Director of Public Works	X	X	X	X	X
San Mateo	Matt Fabry - Director of Public Works\ Brad Underwood - Interim Director of Public Works (Starting September through March) \ Azalea Mitch - Director of Public Works (through July)	X	X	X	X	X
South San Francisco	Eunejune Kim - Director of Public Works	X	X	X	X	X
Woodside	Yaz Emrani - Director of Public Works\ Sean Rose - Public Works Director (through November)	X	X		X	X
San Mateo County	Ann Stillman - Director of Public Works\ Krzysztof Lisaj - Deputy Director of Engineering and Resource Protection (Alternate)	X	X	X	X	X
Regional Water Quality Control Board	Derek Beauduy - Watershed Management Supervisor\Tom Mumley - Assistant Executive Officer (through November)	X	X		X	X

Appendix 2

- Municipal Maintenance Subcommittee – Attendance List for FY 2023/24

SMCWPPP Municipal Maintenance Subcommittee Attendance FY 2023/24

NAME	MUNICIPALITY	03/27/2024
Marcus Escobedo	Belmont	✓
Clay Poskas	Belmont	✓
Brandon Tyler	Belmont	✓
Ryan Talavera	Belmont	✓
Tim Murray	Belmont	✓
Dolan Shoblo	Brisbane	✓
Louis Gotelli	Colma	✓
Sibely Calles	Daly City	✓
Diana Tran	East Palo Alto	✓
Zack Tschresitika	Foster City	✓
Justin Levers	Foster City	✓
Sangita Duff	Hillsborough	✓
Rick Pina	Hillsborough	✓
Mario Zertuch	Millbrae	✓
Robin Kim	Redwood City	✓
Linda Chang	Redwood City	✓
Gino Quinn	San Bruno	✓
Ed Maxion	San Bruno	✓
Nidhi Thanki	San Carlos	✓
Gustavo Lopez	San Mateo	✓
Reid Bogert	C/CAG	✓
Ryan Thorndike	San Mateo County Mosquito and Vector Control	✓
Kristin Kerr	EOA, Inc.	✓

Appendix 3

- New Development Subcommittee – Attendance List for FY 2023/24
- Annual Development (C.3) Workshop – June 18, 2024
    - Workshop Agenda
    - Workshop Attendance
    - Workshop Evaluation Summary
- Communication to San Mateo County Mosquito and Vector Control District Re: Transmittal of FY 2023/24 List of Newly Installed Treatment Measures in San Mateo County

NDS Attendance
FY 2023-24

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Representing	Name	Phone Number	Nov	May
Atherton	Ralph Robinson/William Burse	650-752-0544		X
Belmont	Selena Lau	650-226-6862/6921	X	X
	Tracy Scramaglia		X	
	Elizabeth Wada/Brian	650-339-2466		X
Brisbane	Ken Johnson, Julia Ayres, Dolan Shoblo	415-508-2120	X	X/X
Burlingame	Jennifer Lee/Victor Voong	650-558-7381	X	X
Colma	Muneer Ahmed, Catherine Chan (CSG)	650-757-8894	X	XX
County of San Mateo	Camille Leung	650-363-1826	X	X
	Julie Casagrande	650-599-1457		
	Sarah Deicke/Chris Chan		X	XX
	Sultan Henson	650-363-4125	X	X
C/CAG – SMCWPPP	Reid Bogert	650-599-1419 x33	X	X
Daly City	Sibely Calles	650-991-8054	X	X
	Michael Van Lonkhuysen, Sam Fielding	650-991-8156	X	X
East Palo Alto	Michelle Daher	650-388-0467		
	Adrian Biggs/ Colleen Hunt	650-338-8404		X
EOA-SMCWPPP	Jill Bicknell	408-720-8811 x1	X	X
	Peter Schultze-Allen/ Bonnie de Berry	510-832-2852 x128	XX	X
Foster City	Kareem Arabi/Pete Garcia	650-286-3270	XX	X
Half Moon Bay	Nick Zigler, Katherine Sheehan, Liz Diaz-Gunning(BV)	925-949-5976	XX	X
	Jonathan Woo, Matt Nichols	650-726-7177		
Hillsborough	Natalie Gribben	650-375-7444		
	Doug Belcik	650-375-7444	X	X
	Irfan Aziz			X
Menlo Park	Rambod Hakhamaneshi	650-330-6740	X	X
	Ed Rangeen/Kaila Jones		X	
Millbrae	Armando Mora			
	Roscoe Mata			
	Nicole Tandel	650-522-2506		
Pacifica	Stephanie Cervantes	650-738-7341		
	James Lin/Christian Murdock	650-738-7341	X	
Portola Valley	Thomas Geisler	650-851-1700		
Redwood City	James O'Connell/ Alex Chan	650-780-5923	X	XX
San Bruno	JV Vergara	650-616-7042		
	Frank Navarro (Ghirardelli Associates)			
	Eliseo Amaya/Steve Ojeda		X	X
	Dalia Manois		X	
San Carlos	Evan Cai	650-802-4212	X	X
San Mateo (City)	Gustavo Lopez	650-522-7342	X	X
	Laura Richstone/ Ella Phillips	650-522-7205/7343	X	X
	Ryan Brunmeier/ Ben Zarrabi	650-522-7314/7349	XX	X
	Sven Edlund/ Jason	650-522-7296	X	X
SM County RCD	Nicole Schmidt	650-712-7765 x117		
South S.F.	Andrew Wemmer	650-829-3840	X	X
	Daniel Garza/ Kim Hopkins/Natasha Gutierriez	650-829-3880	X	X
Woodside	Sindhi Mekala/Muneer Ahmed (CSG)	650-851-6790	X	X

SAN MATEO COUNTYWIDE
Water Pollution Prevention Program
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Annual Development (C.3) Workshop

June 18, 2024

9:00 AM – 12:00 PM

Workshop Registration Link

Meeting ID: 894 0307 4957, Passcode: 317738, 1-669-900-6833

WORKSHOP AGENDA

9:00 AM	Welcome • Logistics and agenda overview	Reid Bogert, *SMCWPPP*
9:10 AM	Addressing MRP 3.0 Challenges in Roadway Projects and Frontage Areas • C.3 requirements • GSI options • Alternative compliance Q&A	Jill Bicknell, *EOA, Inc*.
10:00 AM	Bioretention Areas: Lessons Learned for Improved Performance • Design • Construction Q&A	Peter Schultze-Allen, *EOA, Inc.*
10:40 AM	**BREAK**	
10:50 AM	Bioretention Areas: Best Practices for Plant/Tree Care Q&A	Peter Schultze-Allen, *EOA, Inc.*
11:35 AM	Project Profiles • City of Half Moon Bay • City of Redwood City Q&A	Matt Nichols, *City of Half Moon Bay* James O'Connell, *City of Redwood City*
12:00 PM	**ADJOURN**	

*** Attendance at the workshop is acceptable for 2.5 PDUs toward maintaining CPESC, CESSWI and/or CPSWQ certifications. ***

	First Name	Last Name	Organization
1	Elizabeth	Diaz Gunning	Black & Veatch
2	Yiran	Li	Black & Veatch
3	Pravnesh	Jit	City of Belmont
4	Nima	Mazhari	City of Belmont
5	Brian	Nguyen	City of Belmont
6	Jose	Ortiz	City of Belmont
7	Bozhena	Palatnik	City of Belmont
8	Tracy	Scramaglia	City of Belmont
9	Elizabeth	Wada	City of Belmont
10	Dolan	Shoblo	City of Brisbane
11	Francis	Dollard	City of Burlingame
12	Martin	Quan	City of Burlingame
13	Marvin	Samaile	City of Burlingame
14	Kyle	Ting	City of Burlingame
15	Victor	Voong	City of Burlingame
16	Sibely	Calles	City of Daly City
17	Sam	Fielding	City of Daly City
18	Irene	Chiu	City of East Palo Alto
19	Fatima	Khan	City of East Palo Alto
20	Batool	Zaro	City of East Palo Alto
21	Kareem	Arabi	City of Foster City
22	Laura	Galli	City of Foster City
23	Claire	McWilliams	City of Foster City
24	Amy	Zhou	City of Foster City
25	Matt	Nichols	City of Half Moon Bay
26	Rambod	Hakhamaneshi	City of Menlo Park
27	Jason	Santos	City of Menlo Park
28	Kristian	Alarcon	City of Millbrae
29	Nestor	Guevara	City of Millbrae
30	Ahmad	Haya	City of Millbrae
31	Roscoe	Mata	City of Millbrae
32	Nicole	Tandel	City of Millbrae
33	Amer	Zreika	City of Millbrae
34	James	Lin	City of Pacifica
35	Roland	Yip	City of Pacifica
36	Alex	Chan	City of Redwood City
37	Andrea	Coto	City of Redwood City
38	Christian	Craig	City of Redwood City
39	Rachel	Kirschner	City of Redwood City
40	Avery	Lai	City of Redwood City
41	Vicky	Lau	City of Redwood City
42	Justin	Lee	City of Redwood City
43	Nyal	Nunn	City of Redwood City
44	Christian	Ochoa	City of Redwood City
45	James	O'Connell	City of Redwood City
46	Carlos	Varela	City of Redwood City

	First Name	Last Name	Organization
47	Darcy	Axiaq	City of San Bruno
48	Frank	Navarro	City of San Bruno
49	Steve	Ojeda	City of San Bruno
50	JV	Vergara	City of San Bruno
51	Jana	Cadiz	City of San Carlos
52	Evan	Cai	City of San Carlos
53	Jonathan	Hakim	City of San Carlos
54	Grace	Le	City of San Carlos
55	Jessica	Lee	City of San Carlos
56	Ryan	Martino	City of San Carlos
57	Nidhi	Thanki	City of San Carlos
58	Ryan	Brunmeier	City of San Mateo
59	Sven	Edlund	City of San Mateo
60	Liz	Gagliardi	City of San Mateo
61	Jason	Hallare	City of San Mateo
62	Selena	Lau	City of San Mateo
63	Ella	Phillips	City of San Mateo
64	John	Thompson	City of San Mateo
65	Ben	Zarrabi	City of San Mateo
66	Daniel	Garza	City of South San Francisco
67	Natasha	Gutierrez	City of South San Francisco
68	Andrew	Wemmer	City of South San Francisco
69	Tiffany	Gee	County of San Mateo
70	Julie	Casagrande	County of San Mateo
71	Christopher	Chan	County of San Mateo
72	Atkins	De Guzman	County of San Mateo
73	Sultan	Henson	County of San Mateo
74	Michelle	Mason	County of San Mateo
75	Edward	Nacpil	County of San Mateo
76	Sina	Oshaghi	County of San Mateo
77	John	Schabowski	County of San Mateo
78	Alex	Zhang	County of San Mateo
79	Sarah	Deicke	County of San Mateo
80	Jill	Barnes	CSG Consultants
81	Catherine	Chan	CSG Consultants
82	Samantha	Cho	CSG Consultants
83	Babak	Kaderi	CSG Consultants
84	Chai	Lor	CSG Consultants
85	Paramjit	Uppal	CSG Consultants
86	Lynette	Kong	Ghirardelli Associates
87	Stephen	Tovmassian	Ghirardelli Associates
88	Chin	Hang	Green Civil Engineering Inc
89	Mili	Kontorovsky	KPROX Inc
90	Gabriela	Velasquez	KPROX Inc
91	Peter	Carlino	Lea and Braze Engineering
92	John	Halbom	Lea and Braze Engineering

	First Name	Last Name	Organization
93	Jim	Toby	Lea and Braze Engineering
94	Vergel	Galura	Macleod Associates
95	Dan	Koss	Macleod Associates
96	Adam	Price	Precision EC
97	Andrea	Castro	Schaaf & Wheeler
98	Nasser	Danishyar	Schaaf & Wheeler
99	Robin	Lee	Schaaf & Wheeler
100	Reid	Bogert	SMCWPPP - C/CAG
101	Mike	Mount	Sterling Consultants
102	Kevin	Torbet	Sterling Consultants
103	Peter	Vu	Sterling Consultants
104	Colleen	Hunt	Stone Creek Consulting
105	Tim	Au	Town Of Atherton
106	Will	Burse	Town Of Atherton
107	Irfan	Aziz	Town of Hillsborough
108	Doug	Belcik	Town of Hillsborough
109	Howard	Young	Town of Portola Valley
110	Muneer	Ahmed	Towns of Colma and Woodside

SAN MATEO COUNTYWIDE
Water Pollution Prevention Program
Clean Water. Healthy Community.

Workshop Evaluation Summary

110 Attendees
49 Responses

Annual Development (C.3) Workshop
MRP 3.0 Requirements
Zoom Meeting - Tuesday, June 18, 2024

What Did You Think of the Following Presentations?

1. **"Addressing MRP 3.0 Challenges in Roadway Projects and Frontage Areas,"** – *Jill Bicknell, EOA, Inc.*

   42 very useful **6** somewhat useful **1** not useful

2. **"Bioretention Areas: Lessons Learned for Improved Performance,"** – *Peter Schultze-Allen, EOA, Inc***.**

   41 very useful **8** somewhat useful **0** not useful

3. **"Bioretention Areas: Best Practices for Plant/Tree Care,"** – *Peter Schultze-Allen, EOA, Inc***.**

   38 very useful **11** somewhat useful **0** not useful

4. **"Project Profiles"** – *Matt Nichols, City of Half Moon Bay***.**

   28 very useful **18** somewhat useful **1** not useful

5. **"Project Profiles"** – *James O'Connell, City of Redwood City*

   37 very useful 1**0** somewhat useful **0** not useful

Did this workshop meet your expectations?

48 Yes **1** No

Do you have any suggestions for future workshop topics?

- None (2)
- Ask participants for questions in advance of the presentation, so you have a chance to review and prepare clear answers. It will also give you an idea of what people want/need to know/clarify.
- In-person training (3)

- Making the presentation slightly shorter, just so that we are able to go through all the topics.
- Discuss how agencies can setup an in-lieu program as all agencies will have to resort to this at some point. Maybe even setting up a multiagency in-lieu program.
- MRP updates
- Design plan review
- Grandfathering projects into old MRP. What will trigger a project to comply with the new MRP.
- Ways to catch treatment measure construction errors earlier. We find a lot of times when we show up to a site, the contractor hands us different plan set than the one that was approved.

Do you have any general comments?

- More time for Q&A.(3)
- More time in general (2)
- Great job! (5)
- Thanks! (3)
- Extend the time to 4 hours so we don't run out of time. Lots of good and important information. I would be willing to set aside the extra time and have enough time for Q&A and discussions.
- I found this kind of training is really helpful, especially for people who have just started their career in this area. A shout out to the organizers!
- Take the questions asked during the presentation that were lightly answered and provide more complete answers and distribute it to the people that attended to the presentation.
- Good class/refresher & updates.
- There is so much information covered here that this could/should be split up into two or three workshops over a span of weeks so all can process and maybe discuss/participate in addressing some jurisdictions real issue.
- Thank you for all your hard work guiding the County!!!

Appendix 4

- CII Subcommittee – Attendance List for FY 2023/24
- Business and Illicit Discharge Stormwater Inspector Workshop – June 13, 2024
    - Workshop Agenda
    - Workshop Attendance
    - Workshop Evaluation Summary

SMCWPPP Commercial/Industrial/Illicit Discharge (CII) Subcommittee Attendance – FY 2023/24

Name	Agency	12/05/23	5/7/24
Tim Au	City of Atherton		✓
Bozhena Palatnik	City of Belmont	✓	✓
Jose Ortiz	City of Belmont		✓
Pravnesh Jit	City of Belmont		✓
Dolan Shoblo	City of Brisbane	✓	✓
Jennifer Lee	City of Burlingame	✓	
Laura Suarez	City of Burlingame (Veolia)	✓	
Victor Voong	City of Burlingame		✓
Ward Donnelly	City of Daly City	✓	
Sibely Calles	City of Daly City	✓	✓
Kaila DeFries	City of Daly City	✓	
Bob Legge	City of East Palo Alto/ Stone Creek Environmental Consulting	✓	
Fatima Khan	City of East Palo Alto	✓	✓
Diana Tran	City of East Palo Alto		✓
Kareem Arabi	City of Foster City		✓
Nick Zigler	Half Moon Bay/Black & Veatch	✓	✓
Liz Diaz-Gunning	Half Moon Bay/Black & Veatch	✓	✓
Irfan Aziz	Town of Hillsborough	✓	✓
Kaila Jones	City of Menlo Park	✓	✓
Cliff Ly	City of Millbrae		✓
David Harvey	City of Pacifica	✓	✓
Rey Soriano	City of Pacifica		✓
Roland Yip	City of Pacifica		✓
Robin Kim	City of Redwood City		✓
Vicki Sherman	City of Redwood City	✓	
Linda Chang	City of Redwood City	✓	
Gino Quinn	City of San Bruno		✓
Louis Gotelli	City of San Carlos	✓	
Evan Cai	City of San Carlos		✓
Ben Zarrabi	City of San Mateo	✓	✓
Ella Phillips	City of San Mateo		✓
Gustavo Lopez	City of San Mateo	✓	✓
Daniel Garza	South San Francisco	✓	✓
Kim Hopkins	South San Francisco		✓
Natasha Gutierrez	South San Francisco		✓
Patrick Ledesma	County of San Mateo	✓	✓
Sultan Henson	County of San Mateo	✓	✓
Sarah Deicke	County of San Mateo	✓	✓
Susan Hiestand	Silicon Valley Clean Water (SVCW)	✓	
Ben Padua Jr.	SVCW		✓
Reid Bogert	C/CAG	✓	✓
Kristin Kerr	EOA, Inc.	✓	✓

Name	Agency	12/05/23	5/7/24
Brittani Bohlke	EOA, Inc.	✓	
Jason Wong	EOA, Inc.		✓

SAN MATEO COUNTYWIDE
Water Pollution Prevention Program
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Business and Illicit Discharge Stormwater Inspector Training Workshop

Sponsored by the Commercial/Industrial/Illicit Discharge (CII) Subcommittee

Thursday, June 13, 2024

Social Hall, SSF Library | Parks and Recreation Center
901 Civic Campus Way, South San Francisco

AGENDA

9:00 AM	Registration (and Refreshments)	
9:10 AM	**Welcome**	Patrick Ledesma, *County Environmental Health, Subcommittee Chair*
9:20 AM	Municipal Regional Permit: Provision C.4, C.5 and Beyond	Kristin Kerr, *EOA, Inc.*
9:50 AM	Moderate PCBs Control Program	Lisa Sabin, *EOA, Inc.*
10:20 AM	Group Exercise #1	Everyone
10:40 AM	Break	
10:55 AM	Inspector Resources	Kristin Kerr, *EOA, Inc.*
11:25 AM	Group Exercise #2	Everyone
12:00 PM	**Adjourn**	

Attendance at this workshop is acceptable for 2.5 Contact Hours toward maintaining CWEA certifications.

SMCWPPP CII Business and Illicit Discharge Stormwater Inspector Workshop

June 13, 2024

	First Name	Last Name	Agency/Firm
1	Yiran	Li	Black & Veatch | Half Moon Bay
2	Pravnesh	Jit	City of Belmont
3	Jose	Ortiz	City of Belmont
4	Dolan	Shoblo	City of Brisbane
5	Kaila	DeFries	City of Daly City
6	Anthony	Smith	City of Daly City
7	Boss	Tagaloa	City of Daly City
8	Chin Hang (Ambrose)	Wong	City of East Palo Alto
9	Kareem	Arabi	City of Foster City
10	Pete	Garcia	City of Foster City
11	Kaila	Jones	City of Menlo Park
12	Rey Gian	Soriano	City of Pacifica
13	Victor	Castaneda	City of Redwood City
14	Linda	Chang	City of Redwood City
15	Jason	Claire	City of Redwood City
16	Adalberto	Munguia	City of Redwood City
17	Teli	Tau	City of Redwood City
18	Matt	Lacroix	City of San Carlos
19	Aaron	San Antonio	City of San Carlos
20	Gustavo	Lopez	City of San Mateo
21	Ella	Phillips	City of San Mateo
22	Ben	Zarrabi	City of San Mateo
23	Daniel	Garza	City of South San Francisco
24	Natasha	Gutierrez	City of South San Francisco
25	Kimberly	Hopkins	City of South San Francisco
26	Benjamin	Duong	CSG
27	Justin	Huber	EOA, Inc.
28	Sam	Bajza	San Mateo County Environmental Health
29	Dermot	Casey	San Mateo County Environmental Health
30	Apollonia	Helm	San Mateo County Environmental Health
31	Dirk	Jensen	San Mateo County Environmental Health
32	Patrick	Ledesma	San Mateo County Environmental Health
33	Andy	Meyers	San Mateo County Environmental Health
34	Wes	Wong	San Mateo County Environmental Health
35	Susan	Hiestand	Silicon Valley Clean Water
36	Bob	Legge	Stone Creek Environmental Consulting
37	Louis	Gotelli	Town of Colma
38	Laura	Suarez	Veolia- City of Burlingame

SAN MATEO COUNTYWIDE
Water Pollution Prevention Program
Clean Water. Healthy Community.

BUSINESS AND ILLICIT DISCHARGE STORMWATER INSPECTOR TRAINING WORKSHOP

Evaluation Summary

Number of Attendees: **38**
Number of Evaluations: **25**

South San Francisco, CA — Thursday, June 13, 2024

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1. **Municipal Regional Permit: Provision C.4, C.5 and Beyond –** Kristin Kerr, EOA, Inc.

   Very Useful **25** Somewhat Useful **0** Not useful **0**

   Comments:

   - Excellent presentation
   - Great for new inspectors
   - Great review and update, good pace, lots of examples and appreciate that the recording will be available
   - Great for knowing background information

2. **Moderate PCBs Control Program –** Lisa Sabin, EOA, Inc.

   Very Useful **23** Somewhat Useful **2** Not useful **0**

   Comments:

   - Would like to hear more about which sites will be regulated
   - Helpful
   - Good to know what is coming up
   - Great information on PCBs, thank you for the fact sheet and resources
   - Explained the deliverables and steps well to implement the program

3. **Inspector Resources –** Kristin Kerr, EOA, Inc.

   Very Useful **25** Somewhat Useful **0** Not useful **0**

   Comments:

   - Great for new inspectors
   - Great information, very direct to the point

4. **Group Exercises**

   Very Useful **24** Somewhat Useful **1** Not useful **0**

Comments:

- More time to chat and collaborate with other staff
- I liked comparing enforcement and what people require
- This is the most useful part of the training, more of this would be great
- Nice to interact and learn what others do
- Great discussion
- I like hearing the different approaches each city takes
- Good group discussion, enjoy hearing from other cities and how other agencies handle inspections

5. **Did this training meet your expectations? Yes 25 No 0**

6. **What parts of the training were most useful to you?**
   - Pictures and resources
   - PCB presentation (3)
   - Group exercises (7)
   - Group discussion of sites clean ups/inspections
   - The group project of the case studies were most useful because got to hear different opinions from inspectors.
   - The collaborative case study discussion helped me understand what else needs to be applied to my own ideas.
   - Resources (3)
   - PCB presentation, C4/C5 presentation, and group exercises
   - Really direct and to the point; no fluff group work is annoying, but overall, very useful to hear from other cities.
   - The resources presentation provided me with the proper contacts to receive proper guidance in the future
   - Workshops
   - All

7. **What would have made this training more useful?**
   - It was great as is
   - More time
   - More information on situational instances
   - More group case studies, definitely the best and most useful
   - Additional case studies, field exercises
   - More case studies
   - Go a little more in depth
   - I appreciate the overall directness and comprehensive information provided; discussing pictures/examples as a large group could be better so that we work through more examples.
   - Lunch
   - Breaks every hour and more networking time (2)
   - Go over SMARTS, just on how to find a business/SWPPP

- Recording for future staff training

8. **What topics would you recommend for a future training?**

    - Reporting for inspectors, necessary record keeping, a case study
    - Hazardous Waste, Industrial General Permit
    - Responding to spills, who to contact
    - New programs
    - IDDE cases
    - Enforcement
    - All topics
    - C.6 construction site inspections and enforcement
    - Annual Report common issues for CII reporting
    - More detailed inspections, beginners and intermediate levels of training
    - Topics covered were all beneficial
    - Current updates, more examples of actual versus potential discharge violations
    - Examples of BMPs
    - More of the water and wastewater cases to hear the inspector's opinion and how they handle the situations.

9. **Which of the following training formats do you prefer? In-person 22 Virtual 0**

10. **General Comments?**

    - Workshops helps improve practices in the field
    - Great job
    - Thank You for the food/coffee
    - Thanks (3)
    - Wish it were longer
    - Love the snacks
    - Outstanding training, loved the snacks and coffee
    - Great training, Thanks
    - Great openers

Appendix 7

- Public Information and Participation (PIP) Subcommittee Quarterly Reports
- SMCWPPP Blog and Analytics
- Rain Barrel Outreach Program Survey Report
    - Program Awareness
    - Resident Satisfaction with Program
    - Motivators for Rain Barrel Purchase
    - Rebate Application Process
    - Additional Feedback Provided
- County Office of Education Sustainable and Climate Ready Schools Initiative

Appendix 7A: PIP Subcommittee Quarterly Reports

- **Q1 Update**
- **Q2 Update**
- **Q3 Update**
- **Q4 Update**

Appendix 7B: SMCWPPP Blog and Analytics

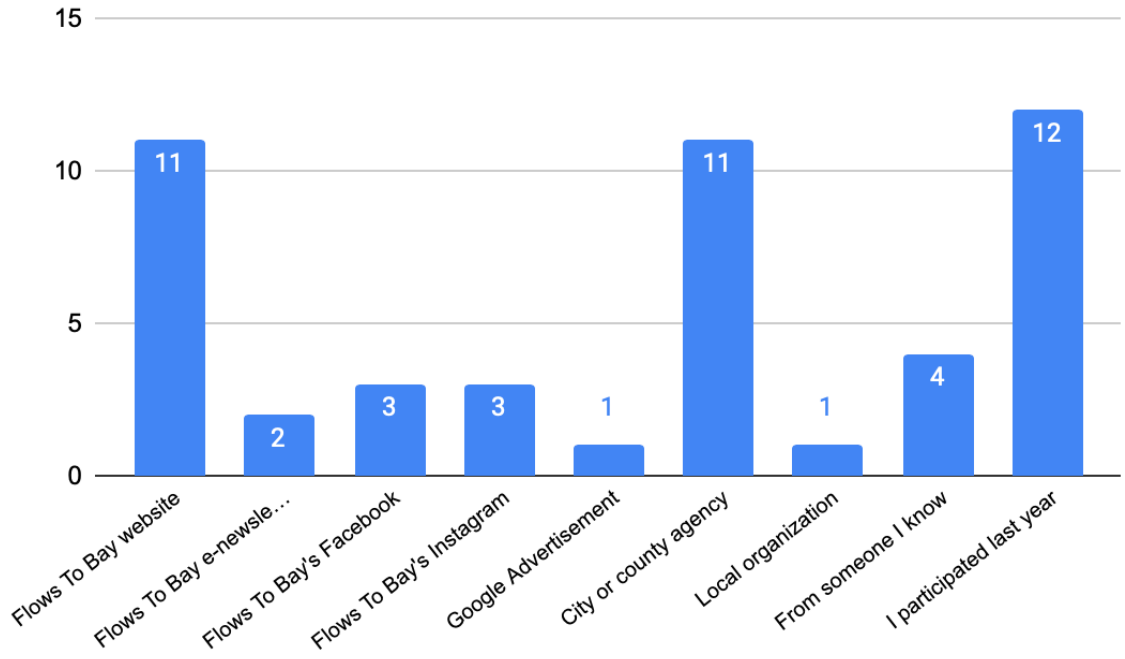
Blog Title	Page Views	Unique Page Views	Time on Page	Bounce Rate
It's Time to Refuse, Reduce, or Reuse Single-Use Plastics	94	54	0:00:58	32.50%
Let's Celebrate The Holidays With Pollution-Free Waterways	200	81	0:00:43	45.60%
San Mateo County is Growing from "Gray" to "Green"	54	41	0:00:57	39.22%

Appendix 7C: Rain Barrel Outreach Program Survey Report
The survey was sent to 177 program participants and received 39 responses.

Program Awareness

As indicated in Figure 1, the majority of respondents heard about the Flows to Bay Rain Barrel Program via one of three ways: participating in the program last year (31%), the Flows To Bay's Website (~28%), or a city or county agency (~28%).

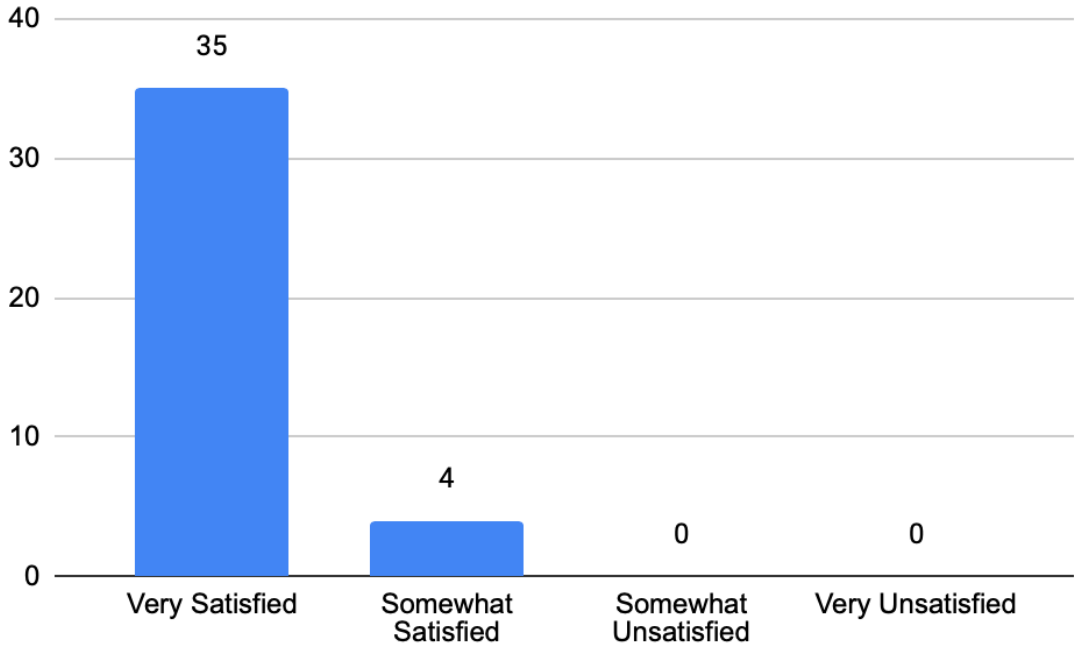
Figure 7C-1. How did you hear about the Flows To Bay Rain Barrel Program?



Resident Satisfaction with Program

Respondents were very satisfied with this rain barrel program, with 90% indicating that they were “very satisfied” and 10% indicating “somewhat satisfied.” No respondents were somewhat or very dissatisfied with the program.

Figure 7C-2. How satisfied were you with this rain barrel program?



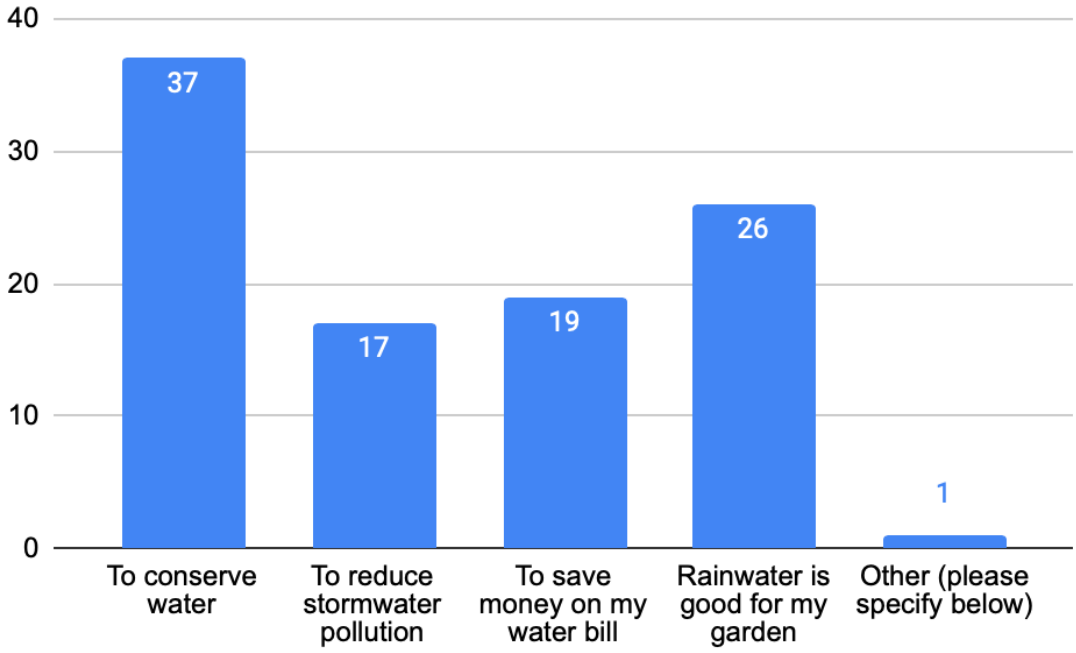
Motivators for Rain Barrel Purchase

Indicated in Figure 3, the strongest motivator for residents is water conservation, with 95% of respondents indicating "to conserve water" as one of the reasons they purchased a rain barrel. Additionally, 67% of respondents noted that they purchased a rain barrel since "rain water is good for my garden." Saving money ranked third in terms of motivators (49% of respondents), followed by reducing stormwater pollution (44%).

For the one resident that responded with "other," the following answer was provided:

- "All of the above, but to include also a sump pump that would typically be pumping this water is now being stored and use for irrigation."

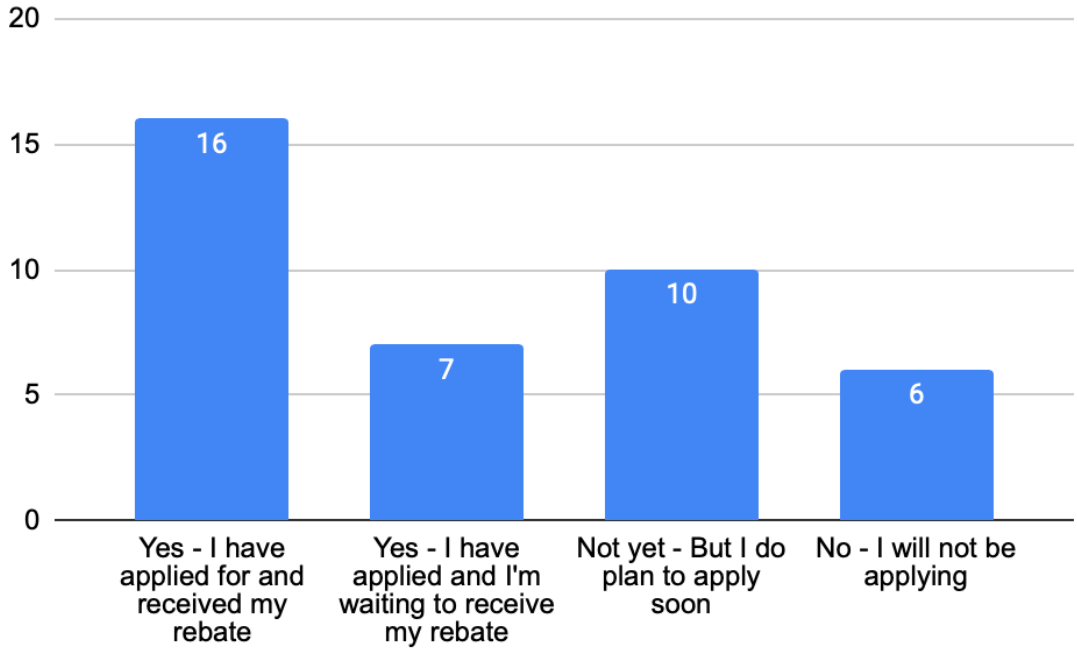
Figure 7C-3. Why did you decide to purchase a rain barrel? (Select all that apply.)



Rebate Application Process

59% of respondents have already applied for a BAWSCA rain barrel rebate for their purchased barrels, 70% of which have already received their rebate 30% of which are still awaiting their rebate. 26% of respondents plan to apply soon and 15% will not be applying.

Figure 7C-4. Have you applied for a BAWSCA rain barrel rebate for your purchased barrel(s)?



Concerns with the BAWSCA rain barrel rebate application process are as follows:

- 1 resident reported not receiving a receipt immediately upon picking up their barrels, eventually received the receipt in January 2024, and had to apply for the rebate later than they expected
- 1 resident struggled with several steps of the rebate process and remains confused about the rebate program.
    - They found the process of finding where to submit photographs to be challenging.
    - They were told they would not be reimbursed for the entire cost of the rain barrels with no explanation, although they reported that the potential of full reimbursement was indicated on the flier promoting the program.
    - As of the time of their survey response, they reported that they had not received any reimbursement from BAWSCA.

Barriers to applying for a rebate were provided as follows:

- 1 resident said they were not able to apply because the rebate only applies to the first two barrels purchased, although they wish they could get a rebate for more barrels
- 2 residents reported not “needing” the rebate

- 2 residents were not (or thought they were not) qualified for the rebate

Additional Feedback Provided

Positive Feedback

- **Pickup Process**: 3 respondents commented on the ease of the pickup process.
  - Ex; "The pickup process was well-coordinated and easy."
  - Ex; "Process was super straightforward. I think everyone should install them"
  - Ex; "I think this is a terrific program that helps people conserve rain water. The barrels were easy to order and pick up."
- **General**: 4 respondents were very appreciative of the program and/or described how helpful the barrels are for capturing and controlling rainwater on their property.
  - Ex; "This is a terrific program and I love being able to capture rainwater for use in the summer!"
  - Ex; "Wow I wish I new about this program last year when my garden flooded. This year after I installed the two barrels, I was able to control the water. For the last couple months, I have been watering my garden entirely from the rain water."

Constructive Feedback

Rebate Process Timeline: 1 respondent commented on the rebate process, specifically with respect to the delay/timeline in obtaining their rebate.

- Ex; "Everything from ordering to picking up went super smoothly for us. The only thing I can't think of that didn't run like clockwork is that It takes a long time to receive the rebate."

Rain Barrels: 1 resident commented on the physical nature of the rain barrels and how the installation process may impact rebate eligibility for some residents.

- Ex; "Choices on how to do the downspouts. To make sure that everyone gets a receipt. Everything else is good."

Miscellaneous Feedback

- **Expanded Outreach:** "Need to publicize it on NextDoor and in front of city councils."
- **Interest in Next Year's Program:** "would like to know how to sign up for the program for this year"

Appendix 7D: County Office of Education Sustainable and Climate Ready Schools Initiative

Notable projects presented at the April 27, 2024 Youth Climate Ambassador Symposium:

A group of three 11th/12th grade students completed a project that involved installing rain barrels at Oceana High School in Pacifica. They prepared a proposal, coordinated with administrators, and ordered relevant materials. One of the group members shared this response regarding what it means to them to be a Youth Climate Ambassador:

- *"Being a Youth Climate ambassador means to be a leader in environmental action and advocacy. It gives me the responsibility to lead others towards a life of sustainable practices and to advocate for environmental justice and sustainable development. Being an ambassador gives me the influence and confidence to raise awareness on how to treat the Earth. And it reminds me everyday to practice sustainable living."*

A group of four 9th-11th grade students had a project that involved rain barrel installation at South Hillsborough Elementary School to divert rainwater to the campus' garden. They coordinated with the school for approvals, coordinated with Reid, conducted research on rain barrel installation, and ordered relevant materials. After they install the rain barrels, they plan to send an announcement about the project in the district newsletter and speak with the school's green team (either Zoom meeting or in person) to:

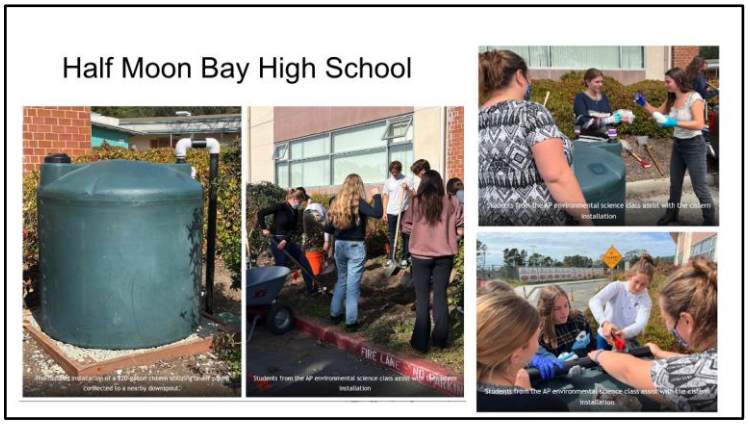
- Explain how the rain barrel works
- Discuss the importance of water conservation
- Discuss the group's process in implementing the project - encourage them to do environmental projects to help their community

One of the group members shared this response when reflecting on their experience:

- *"To me, being a Youth Climate Ambassador means **advocating for climate action** and **raising awareness** about environmental issues among my peers, community, and policymakers. The YCA program has allowed me to **advance upon my leadership, communication, and teamwork skills**. I have been able to work with fellow student leaders and we have been able to **spark an interest for change and progress within the future leaders of tomorrow**. Through hard work, countless text messages, and a unified ambition for sustainability, we have been able to **positively impact our communities**. This program has been extremely rewarding for me and has helped me dedicate myself to **living a more sustainable lifestyle**, with climate action and advocating for the health of our planet being goals I am looking forward to pursuing.*

The complete list of topics and relevant projects discussed by Program Director Reid Bogert during his presentation at the April 30, 2024 Climate Ready School Symposium:

- Resilient Schoolyards
- Green Infrastructure
- Site Scale Green Infrastructure in the County
    - Rain Barrels
        - Laurel Elementary School Demonstration Project
        - Central Middle School – San Carlos
        - Alta Loma – South San Francisco
        - Half Moon Bay High School
        - Redwood High School – Redwood City
    - Rain Garden
        - Belle Haven Elementary School Rain Garden
- Resilient San Carlos Schoolyards - Final Report
- Street Scale Green Infrastructure in the County
    - Safe Routes to Schools/Green Infrastructure
        - 10 Pilot Projects across the county
        - Demonstration Project at Laurel Elementary
    - Countywide Sustainable Streets Master Plan
- Regional Scale Green Infrastructure
    - Regional Multi-Benefit Stormwater Capture Projects
        - Potential to site at schools
        - Leverage funding/ partnerships with municipalities
        - Community/Co-benefits
    - Benjamin Franklin Intermediate School Project Concept Report
    - Tierra Linda/Mariposa Concept
        - Regional capture facility under parking lot (item 15)
        - EPIC field replacement (item 14)
        - Community scale benefit



Slides and topics from presentation by C/CAG Program Director Reid Bogert at the April 30, 2024 Climate Ready School Symposium.

Appendix 9

- Parks Maintenance & IPM Work Group Attendance List FY 2023/24
- Landscape Integrated Pest Management (IPM) Workshop – June 5, 2024
    - Workshop Agenda
    - Attendance List
    - Evaluations Summary
- Pest Control Point of Purchase Outreach

San Mateo Countywide Water Pollution Prevention Program
Parks Maintenance IPM Work Group Attendance List - FY 2023/24

Contact Information			Attendance
MUNICIPALITY	**REPRESENTATIVE**	**EMAIL**	**11/28/2023**
Atherton	Sally Bentz-Dalton	sbentz@ci.atherton.ca.us	
	Tim Au		x
Belmont	Daniel Ourtiague	dourtiague@belmont.gov	
	Matt Ward	mward@belmont.gov	
Brisbane	Keegan Black	kblack@ci.brisbane.ca.us	x
	Dolan Shoblo		x
Burlingame	Rich Holtz	Rholtz@burlingame.org	x
	Pedro Barron		x
	Cornelius (Neil) Brosnan	cbrosnan@burlingame.org	
Colma	Louis Gotelli	Louis.Gotelli@colma.ca.gov	x
	Brian Dossey	brian.dossey@colma.ca.gov	
Daly City	Chris Caliendo	ccaliendo@dalycity.org	x
	Jeff Fornesi	jfornesi@dalycity.org	
	Sibely Calles	scalles@dalycity.org	x
	Dennis Bray	dbray@dalycity.org	
	Nicholas Crescenzi	ncrescenzi@dalycity.org	
	Jeff Templin	jtemplin@dalycity.org	
East Palo Alto	Jay Farr	jfarr@cityofepa.org	
	Lenin Mecgar	lmelgar@cityofepa.org	
	Benjamin Zarrabi	bzarrabi@cityofepa.org	
	Michelle Daher	mdaher@cityofepa.org	
Foster City	Greg Baeza	gbaeza@fostercity.org	
	Frank Fanara	Ffanara@fostercity.org	
	Kareem Arabi	karabi@fostercity.org	
	Garrett Gotthardt		
Half Moon Bay	Katherine Sheehan	katherines@csgengr.com	
	Maziar Bozorginia	MBozorginia@hmbcity.com	
Hillsborough	Garry Francis	gfrancis@hillsca.org	
	Natalie Asai	nasai@HILLSBOROUGH.NET	
Menlo Park	Kaila Jones		x
Millbrae	Ken Crosetti	kcrosetti@ci.millbrae.ca.us	
	John Gianoli	jgianoli@ci.millbrae.ca.us	
Pacifica	Paul Lavorini		
	Estevan Renteria	Lavorinip@ci.pacifica.ca.us	
	Raymond Donguines	donguinesr@ci.pacifica.ca.us	x
Portola Valley	Howard Young	hyoung@portolavalley.net	
	Justin Bixby		x
Redwood City	Lucas Wilder	LWilder@redwoodcity.org	x
	Terence Kyaw	TKyaw@redwoodcity.org	
	Michael Bauer		
	Francisco Espinoza	fespinoza@redwoodcity.org	
San Bruno	Rene Walsh	rwalsh@ci.sanbruno.ca.us	
	Danielle Brewer	DBrewer@sanbruno.ca.gov	

San Mateo Countywide Water Pollution Prevention Program
Parks Maintenance IPM Work Group Attendance List - FY 2023/24

Contact Information			Attendance
MUNICIPALITY	**REPRESENTATIVE**	**EMAIL**	**11/28/2023**
	Dan Venezia	Dvenezia@sanbruno.ca.gov	

San Mateo Countywide Water Pollution Prevention Program
Parks Maintenance IPM Work Group Attendance List - FY 2023/24

Contact Information			Attendance
MUNICIPALITY	**REPRESENTATIVE**	**EMAIL**	**11/28/2023**
San Carlos	Arturo Burgueno	aburgueno@cityofsancarlos.org	
	Chris Zanoni	czanoni@cityofsancarlos.org	
	Luis Estrada	lestrada@cityofsancarlos.org	
	Kathryn Robertson	krobertson@cityofsancarlos.org	
City of San Mateo	Sarah Scheidt	sscheidt@cityofsanmateo.org	
	Gustavo Lopez		x
	Dennis Pawl	dpawl@cityofsanmateo.org	
	Ella Philips		x
	Sven Edlund	sedlund@cityofsanmateo.org	
	Ron Hostick	rhostick@cityofsanmateo.org	
San Mateo Co. Parks	Sam Herzberg	SHerzberg@co.sanmateo.ca.us	
	Scott Lombardi	slombardi@co.sanmateo.ca.us	
	Julie Casagrande	jcasagrande@co.sanmateo.ca.us	
	Kim Springer	kspringer@smcgov.org	
	Dan Krug	dkrug@smcgov.org	
San Mateo Co. Office of Sustainability	John Allan	jallan@smcgov.org	
SM County PW	Jeff Pacini	JPacini@co.sanmateo.ca.us	
	Kevin Lu	khlu@smcgov.org	
County Agriculture Weights and Measures	Ione Yuen	IYuen@smcgov.org	
	Jeremy Wagner	JWagner@smcgov.org	
	Joseph Hannen	JHannen@smcgov.org	x
	Jenny Gossett	jgossett@smcgov.org	
	Richard Garcia	rgarcia@smc.gov	
	Nancy Poss	Nposs@smc.gov	
South San Francisco	Donald Louie	donald.louie@ssf.net	x
	Joshua Richardson		
	Greg Mediati	Greg.Mediati@ssf.net	x
Woodside	Dong Nguyen		
	Sean Rose	srose@woodsidetown.org	
UCCE/UC IPM	Andrew Sutherland	amsutherland@ucanr.edu	
EOA	Jon Konnan	jkonnan@eoainc.com	
	Vishakha Atre	vatre@eoainc.com	
	Eliza Perkins	eperkins@eoainc.com	
SMCWPPP	Reid Bogert	rbogert@smcgov.org	
Other Attendees			
Liz Diaz-Gunning	Black & Veatch		

SAN MATEO COUNTYWIDE
Water Pollution Prevention Program
Clean Water. Healthy Community.

AGENDA

Landscape Integrated Pest Management (IPM) Webinar

(Sponsored by SMCWPPP Parks Maintenance and IPM Workgroup)
Wednesday, June 5, 2024
8:00 am – 12:00 pm

Welcoming Remarks and Instructions for Continuing Education	8:00 am – 8:10 am
Invasive Shothole Borer Dr. Igor Lacan, *UC Cooperative Extension*	8:10 am – 9:10 am
Regulatory Update - Pesticides Toxicity Control Requirements in the Municipal Stormwater Regional Permit Vishakha Atre*, EOA*	9:10 am – 9:25 am
QUIZ AND BREAK	9:25 am – 9:35 am
Turfgrass Weed Control in Sports Fields and Parks Paul Cushing, *PC Turf Pro*	9:35 am – 10:20 am
QUIZ AND BREAK	10:20 am – 10:30 am
Organic and Conventional Pesticides Avneet Kakkar, *San Mateo County Agriculture/Weights and Measures*	10:30 am – 11:00 am
Regulatory Update, Common Violations Joseph Hannen, *San Mateo County Agriculture/Weights and Measures*	11:00 am – 12:00 pm
QUIZ FOR CONTINUING EDUCATION UNITS	12:00 pm
Adjourn	12:15 pm

SMCWPPP Landscape IPM Workshop
June 5, 2024
Attendance List

	First Name	Last Name	Organization
1	Sally	Bentz	City of Atherton
2	Alain	Urruty	City of Belmont
3	Matt	Ward	City of Belmont
4	Keegan	Black	City of Brisbane
5	Caleb	Grimes	City of Brisbane
6	Mike	Terrell	City of Burlingame
7	Fernando	Barron	City of Daly City
8	Chris	Caliendo	City of Daly City
9	Javier	Paredes	City of Daly City
10	Jeff	Templin	City of Daly City
11	Dan	Gagliani	City of East Palo Alto
12	Tammy	Leung	City of East Palo Alto
13	Lenin	Melgar	City of East Palo Alto
14	Luis	Neri	City of East Palo Alto
15	Zack	Quigley	City of East Palo Alto
16	Gregory	Shimizu	City of East Palo Alto
17	Lava	Shimizu	City of East Palo Alto
18	Salvador	Acevedo	City of Foster City
19	Ryan	Barron	City of Foster City
20	Jamie	Echeverria	City of Foster City
21	Frank	Fanara	City of Foster City
22	Manuel	Garcia	City of Foster City
23	Garrett	Gotthardt	City of Foster City
24	Carlos	Munguia	City of Foster City
25	Raul	Salazar	City of Foster City
26	Naz	Schroeder	City of Foster City
27	Carlos	Valerio	City of Foster City
28	Will	Ventura	City of Foster City
29	Daniel	Weber	City of Foster City
30	Glenn	Fukudome	City of Redwood City
31	Oswaldo	Hurtado	City of Redwood City
32	Leonardo	Moreno	City of Redwood City
33	Gelacio	Ramirez	City of Redwood City
34	Arturo	Burgueno	City of San Carlos
35	Luis	Estrada	City of San Carlos
36	Gustavo	Lopez	City of San Mateo
37	Brian	Brunelli	City of South San Francisco
38	Donald	Louie	City of South San Francisco
39	Joshua	Richardson	City of South San Francisco
40	Peter	Shea	City of South San Francisco

SMCWPPP Landscape IPM Workshop
June 5, 2024
Attendance List

	First Name	Last Name	Organization
41	German	Castaneda	County of San Mateo
42	Sarah	Deicke	County of San Mateo
43	Melia	Green	County of San Mateo
44	Fernando	Guzman	County of San Mateo
45	Joseph	Hannen	County of San Mateo
46	Sultan	Hensen	County of San Mateo
47	Casagrande	Julie	County of San Mateo
48	Avneet	Kakkar	County of San Mateo
49	Daniel	Krug	County of San Mateo
50	Natalie	Krug	County of San Mateo
51	Briana	Maldonado	County of San Mateo
52	Selena	Verblaauw	County of San Mateo
53	Ione	Yuen	County of San Mateo
54	Bruce	Badzik	National Park Service
55	William	Seagle	Segale Cerini Inc
56	Jason	Tagle	Town of Hillsborough

Summary of Evaluation Forms

56 Attendees
22 Evaluations

Landscape Integrated Pest Management (IPM) Workshop

(Sponsored by SMCWPPP Parks Maintenance and IPM Workgroup)
Zoom Meeting
Wednesday, June 5, 2024

What Did You Think of the Following Presentations?

1. **Invasive Shothole Borer** – *Dr. Igor Lacan, UC Cooperative Extension*

   21 very helpful **1** somewhat helpful **0** not helpful **0** did not attend

2. **Regulatory Update - Pesticides Toxicity Control Requirements in the Municipal Stormwater Regional Permit** – *Vishakha Atre, EOA*

   19 very helpful **3** somewhat helpful **0** not helpful **0** did not attend

3. **Turfgrass Weed Control in Sports Fields and Parks** – *Paul Cushing, PC Turf Pro*

   17 very helpful **4** somewhat helpful **0** not helpful **0** did not attend

4. **Organic and Conventional Pesticides –** *Avneet Kakkar, San Mateo County Agriculture/Weights and Measures*

   18 very helpful **4 somewhat helpful** **0 not helpful** **0 did not attend**

5. **Regulatory Update, Common Violations** – *Joseph Hannen, San Mateo County Agriculture/Weights and Measures*

   18 very helpful **4** somewhat helpful **0** not helpful **0** did not attend

Did this workshop meet your expectations? **22** Yes **0** No

Suggestions for future workshop topics:

- Methods invasive plant control in biologically sensitive areas; Bioswale maintenance expectations by water board
- Excellent
- These were great

General Comments:

- 8 am is a rough start time, also perhaps building in time for the zoom issues. Invasive Shothole Borer was a 10/10 presentation, my colleague was very sorry to have missed it.
- Training was great and touched on a lot of useful topics for me.
- Thank you.
- Very informative - thank you for organizing!
- Best class in a long time.
- Great job.
- It was very interesting, and I really enjoyed the presentation from everybody involved.
- Helped reinforce the information.

Appendix 10

- Trash Subcommittee Attendance List – FY 2023/24

Trash Subcommittee Meeting Attendance – FY 2023/24

Name	Agency	Phone	E-Mail	08/29/23	12/12/23	03/12/24	06/17/24
Tim Au	Town of Atherton		tau@ci.atherton.ca.us		X		X
Tim Murray	City of Belmont	(650) 222-6460	tmurray@belmont.gov	X	X	X	X
Marcus Escobedo	City of Belmont	(650) 222- 6459	mescobedo@belmont.gov	X		X	
Brandon Tyler	City of Belmont		btyler@belmont.gov		X		
Reid Bogert	C/CAG	(650) 599-1433	rbogert@smcgov.org	X	X		
Dolan Shoblo	City of Brisbane	(415) 508-2130	dolanshoblo@ci.brisbane.ca.us	X	X	X	X
Randy Breault	City of Brisbane	(415) 508-2131	rbreault@ci.brisbane.ca.us				
Rick Horne	City of Burlingame	(650) 558-7672	rhorne@burlingame.org	X	X	X	
Mike Heathcote	City of Burlingame	(650) 558-7679	mheathcote@burlingame.org				
Jennifer Lee	City of Burlingame	(650) 558-7381	jlee@burlingame.org	X			
Muneer Ahmed	Town of Colma	(650) 757-8894	Muneer.ahmed@colma.ca.gov	X	X	X	X
Catherine Chan	Town of Colma		catherinec@csgengr.com	X			
Louis Gotelli	Town of Colma	(650) 333-0295	louis.gotelli@colma.ca.gov			X	
Jeff Fornesi	City of Daly City	(650) 991-5752	jfornesi@dalycity.org				
John Sanchez	City of Daly City	(650) 991-8265	jsanchez@dalycity.org	X	X	X	
Sibely Calles	City of Daly City	(650) 991-8054	scalles@dalycity.org				
Lejane Kwan	City of Daly City		lkwan@dalycity.org	X			
Richard Chiu	City of Daly City	(650) 991-8064	rchiu@dalycity.org				
Husam Aburabi	City of East Palo Alto		haburabi@cityofepa.org	X			
Diana Tran	City of East Palo Alto		dtran@cityofepa.org	X	X	X	
Fatima Khan	City of East Palo Alto		fkhan@cityofepa.org		X		
Colleen Hunt	City of East Palo Alto		colleen@consultingstonecreek.com		X	X	X
Greg Baeza	City of Foster City		gbaeza@fostercity.org	X	X	X	X
Taniela Mapa	City of Foster City		tmapa@fostercity.org	X			
Kareem Arabi	City of Foster City	(650) 286-3284	karabi@fostercity.org				X
Nick Zigler	City of Half Moon Bay	(925) 949-5976	ziglern@bv.com	X	X	X	X
Brian Henry	City of Menlo Park	(650) 330-6799	bphenry@menlopark.org				
Scott Jaw	City of Menlo Park	(650) 330-6694	scjaw@menlopark.org				
Paige Saber	City of Menlo Park	(650) 330-6773	pesaber@menlopark.gov				
Kaila Jones	City of Menlo Park	(650) 330-6778	KAJones@menlopark.gov		X	X	
Andrea Pappajohn	City of Millbrae		apappajohn@ci.millbrae.ca.us		X		

Trash Subcommittee Meeting Attendance – FY 2023/24

Name	Agency	Phone	E-Mail	08/29/23	12/12/23	03/12/24	06/17/24
Craig Centis	City of Millbrae		ccentis@ci.millbrae.ca.us			X	
Erin Ahlich	City of Millbrae		eahlich@ci.millbrae.ca.us				X
Raymund Donguines	City of Pacifica	(650) 738-3767	donguinesr@ci.pacifica.ca.us	X			
Roland Yip	City of Pacifica		RYip@pacifica.gov			X	X
David Harvey	City of Pacifica	(650) 738-3772	DHarvey@pacifica.gov			X	
Howard Young	Town of Portola Valley	(650) 851-1700 X214	hyoung@portolavalley.net				
Vicki Sherman	City of Redwood City	(650) 780-7472	vsherman@redwoodcity.org	X	X		
Linda Chang	City of Redwood City	(650) 208-6365	lchang@redwoodcity.org	X			X
Robin Kim	City of Redwood City	(650) 780-5971	rkim@redwoodcity.org	X	X	X	
Dennis Bosch	City of San Bruno	(650) 616-7179	dbosch@sanbruno.ca.gov				
Robert Wood	City of San Bruno	(650) 616-7046	rwood@sanbruno.ca.gov				
Ted Chapman	City of San Bruno	(650) 616-7169	TChapman@sanbruno.ca.gov	X			
Sean Morris	City of San Bruno		smorris@sanbruno.ca.gov	X	X	X	
Evan Cai	City of San Carlos		ecai@cityofsancarlos.org			X	X
Jessica Lee	City of San Carlos		jlee@cityofsancarlos.org				
Rick Pina	City of San Mateo	(650) 522-7373	rpina@cityofsanmateo.org				
Sven Edlund	City of San Mateo	(650) 522-7342	sedlund@cityofsanmateo.org	X		X	X
Siliva Pa'uli	City of San Mateo		spauli@cityofsanmateo.org	X	X		
Ella Phillips	City of San Mateo	(650) 522-7343	ephillips@cityofsanmateo.org	X	X	X	X
Ben Zarrabi	City of San Mateo		bzarrabi@cityofsanmateo.org	X	X	X	X
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Trash Subcommittee Meeting Attendance – FY 2023/24

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Chris Sommers	EOA, Inc.	(510) 832-2852 X109	csommers@eoainc.com	X	X	X	X
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No. Attending				**37**	**37**	**35**	**26**

Appendix 11/12

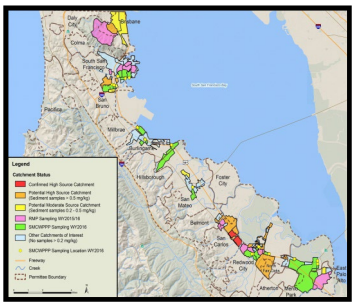
- Mercury and PCBs Control Measures Report (Version 2.0) – DRAFT – August 2024

SAN MATEO COUNTYWIDE
Water Pollution
Prevention Program

Mercury and PCBs Control Measures Report

Version 2.0

Submitted by the San Mateo Countywide Water Pollution Prevention Program on behalf of all MRP 3.0 (NPDES Permit No. CAS612008, Order No. R2-2022-0018) Permittees in San Mateo County, in compliance with Provisions C.11/12.a.iii(2)



September 30, 2024

CREDITS

This report is submitted by the participating agencies in the

SAN MATEO COUNTYWIDE
Water Pollution Prevention Program
Clean Water. Healthy Community.
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Town of Atherton
City of Belmont
City of Brisbane
City of Burlingame
Town of Colma
City of Daly City
City of East Palo Alto
City of Foster City
City of Half Moon Bay
Town of Hillsborough
City of Menlo Park
City of Millbrae
City of Pacifica
Town of Portola Valley
City of Redwood City
City of San Bruno
City of San Carlos
City of San Mateo
City of South San Francisco
Town of Woodside
County of San Mateo
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Prepared for:

San Mateo Countywide Water Pollution Prevention Program (SMCWPPP)
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LIST OF ABBREVIATIONS

BAMSC	Bay Area Stormwater Collaborative
BASMAA	Bay Area Stormwater Management Agencies Association
BMP	Best Management Practice
CWA	Clean Water Act
FY	Fiscal Year
GIS	Geographic Information System
GI	Green Infrastructure
HDS	Hydrodynamic Separator Unit
HHW	Household Hazardous Waste
LID	Low Impact Development
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
PG&E	Pacific Gas and Electric
POC	Pollutant of Concern
POTW	Publicly Owned Treatment Works
RAA	Reasonable Assurance Analysis
Water Board	San Francisco Bay Regional Water Quality Control Board
ROW	Right-of-Way
SMCWPPP	San Mateo Countywide Water Pollution Prevention Program
TMDL	Total Maximum Daily Load
USEPA	United Stated Environmental Protection Agency
WMA	Watershed Management Area

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 (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 reductions in PCBs and 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 Municipal Regional Stormwater National Pollutant Discharge Elimination System (NPDES) Permit no. CAS612008 (MRP 3.0; Order R2-2022-0018) implement the urban runoff requirements of the mercury and PCBs TMDLs. These provisions require Permittees to plan, implement and report on control programs during the permit term to reduce the urban runoff loads of these pollutants.

PURPOSE OF CONTROL MEASURES REPORT

This *Mercury and PCBs Control Measures Report* was developed to comply with the reporting requirements identified in Provisions C.11 and C.12. Each year of the permit, Permittees are required to track and report on the implementation of the control programs described in Provisions C.11.b through C.11.e and C.12.b through C.12.g. The associated mercury and PCBs load reductions reduced or avoided due to implementation of these control programs must be reported in the fourth year of the permit (2026). Loads avoided/reduced will be assessed following the methodologies developed during the previous permit term and submitted with *Pollutant Control Measure Implementation Plan and Reasonable Assurance Analysis* (RAA Plan) that was developed during MRP 2.0 and submitted to the Water Board in September 2020. The RAA Plan included methodologies to account for load reductions for source controls, as described in the *Source Control Load Reduction Accounting for Reasonable Assurance Analysis* (BASMAA 2022). The RAA Plan also presented a model that was used to evaluate loads reduced for green infrastructure implementation across San Mateo County. The RAA Plan will be updated as needed and re-submitted to the Water Board in March 2026.

This Report (Version 2.0) is the second version of this report submitted under MRP 3.0. This report documents the control measure programs that were implemented in San Mateo County during the permit term to date (i.e., through Fiscal Year (FY) 2023/24). This report will be updated each subsequent year of the permit to provide new or revised information on control measure program implementation as required.

Approach to Control Measure Implementation and Tracking

MRP 3.0 provides a renewed focus on implementing mercury and PCBs control measures in old industrial land use areas and/or areas that have moderate to high mercury or PCBs. Old industrial land use areas are defined as parcels that were industrialized prior to 1980, and that continued to have industrial activities through at least 2002 (i.e., the approximate start of the PCBs TMDL). Because PCBs were more heavily used in older industrial areas, these areas are believed to contribute much higher masses of PCBs per unit area than newer urban land use areas. The San Mateo Countywide Water Pollution Prevention Program (SMCWPPP) has identified and mapped all old industrial land use parcels as of 2002 within San Mateo County. As these parcels are redeveloped into new urban land use, or other control measures applied, the masses of mercury and PCBs contributed by these areas is expected to substantially reduce. Therefore, the majority of control measure planning and implementation is focused on catchments containing old industrial parcels.

Stormwater catchments were chosen as the primary geographical scale at which planning, implementation and tracking of control measures is conducted. Catchment areas are based on SMCWPPP's current understanding of the stormwater and runoff patterns and hydrology in the County. In San Mateo County, catchments where control measures are planned and implemented are identified as Watershed Management Areas (WMAs). All mercury and PCBs control measures that are implemented across San Mateo County are tracked and reported for each SMCWPPP Permittee by WMA.

During MRP 2.0, SMCWPPP Permittees developed a web-based system for tracking and mapping Green Infrastructure (GI) and other stormwater treatment implementation in San Mateo County. This system is called the San Mateo County GI Tracking Tool (Tool). During MRP 3.0, SMCWPPP Permittees will continue to track control measure implementation in the Tool. The Tool is available via the Countywide Program's website at this link. The Tool allows for tracking all scales of GI implementation (regional, street, and parcel), and provides the tracking needed to demonstrate that wasteload allocations for TMDLs are being met.

This Report provides data on existing PCBs and mercury control measures implemented during MRP 3.0 to date based on the information currently incorporated into the San Mateo County GI Tracking Tool, as well as information gathered from SMCWPPP Permittees on other types of control measures.

Roles and Responsibilities for Control Measure Implementation

SMCWPPP Permittees are responsible for the implementation of PCBs 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 SMCWPPP (Program) provides assistance to SMCWPPP 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. SMCWPPP does not directly implement PCBs and mercury control measures.

Similar to SMCWPPP, the former BASMAA (and now the Bay Area Municipal Stormwater Collaborative, or BAMSC) did not directly implement control measures. BASMAA conducted projects of regional benefit that developed guidance and tools to assist Permittees with control measures implementation. Regional projects have typically been conducted to reduce costs and/or to develop regional consistency. BAMSC continues to conduct projects of regional benefit to support Permittees implementation of control measures and other MRP requirements.

ORGANIZATION OF THE REPORT

The remainder of this report is organized as follows:

- Section 2 – Source Property Identification and Abatement
- Section 3 – Green Infrastructure and Other Stormwater Treatment Controls
- Section 4 – Controlling PCBs from Bridges and Overpasses
- Section 5 – Controlling PCBs from Electrical Utilities
- Section 6 – Managing PCBs-Containing Materials and Wastes During Building Demolition
- Section 7 – Mercury Collection and Recycling
- Section 8 – Mercury and PCBs Loads Reduced

Section 2 through Section 7 each describe the applicable control measure program, document continuation of actions completed during MRP 2.0 for which load reduction credit was received (if any), and document the actions completed during MRP 3.0 to date (i.e., through FY 2023/24) by providing all supporting data required to calculate the mercury and PCBs loads reduced. Within each control measure section, any controls implemented in old industrial land use areas are also highlighted. Section 8 describes the accounting methods that will be used during MRP 3.0 to calculate mercury and PCBs loads reduced for all control measures described in the report. In the FY 2025/26 version of this report, Section 8 will also present the calculated mercury and PCBs loads reduced for all controls implemented during MRP 3.0.

The information provided includes all information on control measures compiled by SMCWPPP to-date and may not include all existing or planned control measures. The inventory of control measures implemented or caused to be implemented by SMCWPPP Permittees will continue to be updated and refined as additional information becomes available and as new or enhanced actions are implemented.

SECTION 2 - SOURCE PROPERTY INVESTIGATION AND ABATEMENT

This section describes the Source Property Investigation and Abatement control program, documents continuation of actions completed during MRP 2.0 for which load reduction credit was received and provides documentation of the actions completed during MRP 3.0 to date (i.e., through FY 2023/24), including all supporting data required to calculate any mercury and PCBs loads reduced.

CONTROL MEASURE DESCRIPTION

PCBs and mercury source properties are those that disproportionately contribute elevated pollutants to MS4s. PCBs are considered elevated if concentrations[1] in sediment are ≥ 0.2 mg/kg, if stormwater particle ratios are ≥ 0.2 mg/kg, or if stormwater concentrations are ≥ 36 ng/L (i.e., the top 15% of concentrations measured in stormwater across the Bay Area). Mercury is considered elevated if the concentration in sediment (or the stormwater particle ratio) is ≥ 0.3 mg/kg. Land areas that contribute elevated PCBs (or mercury) to the MS4 require control measures to reduce or abate the sources. Identification and subsequent abatement of these properties and/or focused control measure implementation on properties to reduce pollutant release and/or in the public right-of-way (ROW) around source properties to remove historically deposited pollutants can provide an opportunity for meaningful PCBs and mercury stormwater load reductions. Reductions occur through the abatement of properties via referrals to the Water Board or through Permittees working with property owners.

SMCWPPP Permittees have identified and referred PCBs source properties to the Water Board in the recent past, and continue to conduct source property investigations. Source investigations are typically conducted in older industrial land areas or in other areas where mercury or PCBs were historically used, disposed of, or released. SMCWPPP's source investigation efforts during MRP 3.0 are primarily focused on old industrial land use areas that have not already been investigated, and that have not already been addressed via green infrastructure (GI)/low impact development (LID), or source property abatement. At a minimum, SMCWPPP's source investigations will investigate 1,411 acres of old industrial land use areas by the end of the permit term.

SOURCE PROPERTY INVESTIGATION PROCESS

Source investigations use research and monitoring data to identify land areas or parcels that are contributing moderate to high levels of PCBs (or mercury) to the MS4. SMCWPPP has developed a multi-phased investigation approach that starts with screening-level monitoring at the catchment or sub-catchment scale and moves to more site-specific monitoring at the parcel scale. Investigations of all of the unaddressed old industrial land use areas in San Mateo County will proceed through the investigation process until each parcel can be grouped into one of the following four categories based on sampling data:

[1] PCBs, with regards to source property identification and abatement, refers to the total sum of the RMP 40 PCBs congeners. The RMP 40 PCB congeners include: PCB-8, PCB-18, PCB-28, PCB-31, PCB-33, PCB-44, PCB-49, PCB-52, PCB-56, PCB-60, PCB-66, PCB-70, PCB-74, PCB-87, PCB-95, PCB-97, PCB-99, PCB-101, PCB-105, PCB-110, PCB-118, PCB-128, PCB-132, PCB-138, PCB-141, PCB-149, PCB-151, PCB-153, PCB-156, PCB-158, PCB-170, PCB-174, PCB-177, PCB-180, PCB-183, PCB-187, PCB-194, PCB-195, PCB-201, PCB-203.

- **High PCBs Source Properties** – Parcels associated with high PCBs (≥ 0.5 mg/kg), typically identified through onsite sampling. These parcels are prioritized for abatement actions to reduce/prevent the release of high PCBs to the MS4.
- **Moderate PCBs-Contributing Properties (MPCPs)** – Parcels associated with moderate PCBs (≥ 0.2 and < 0.5 mg/kg) typically identified through onsite sampling. These parcels are prioritized for onsite control measures to reduce/prevent the release of moderate PCBs to the MS4.
- **Low PCBs-Contributing Properties** -– Parcels associated with low PCBs (< 0.2 mg/kg). These areas are considered unlikely to contribute elevated PCBs to the MS4, and no PCBs control measures are required at this time.
- **Undetermined Status** – Parcels associated with unknown PCBs concentrations. These areas include parcels associated with elevated public ROW PCBs concentrations, but onsite samples have not been collected due to lack of property/business owner cooperation, or lack of viable sampling locations.

The source property investigation process generally includes screening relatively large areas (i.e., catchment or sub-catchment areas) via MS4 stormwater runoff or sediment samples. Areas that do not have elevated mercury or PCBs are generally deemed unlikely to be sources and are not further investigated. Areas with elevated mercury or PCBs may be targeted for additional investigation aimed at identifying specific properties that are likely contributing to elevated concentrations in the catchment. Samples are collected in the MS4 from locations that drain one or more specific properties. Depending on where the samples were collected, properties may be identified as a source of mercury or PCBs to the MS4 based on these public ROW samples. However, in some cases on-site investigation of specific properties may be required to identify sources. When feasible, this level of investigation involves on-site inspections at suspect properties to determine potential sources and pathways of sediment bound pollutants from the property to the MS4 and collection of sediment samples on the property. This process was described in more detail in SMCWPPP (2023a).

Information collected during source investigations regarding pollutant concentrations observed, evidence of transport to the MS4, previous stormwater violations, and other pertinent information is used to confirm a PCBs source property. The next steps for confirmed High PCBs source properties include one of the following:

1. Submit a referral to the Water Board (or other regulatory agency) for follow-up investigation and abatement. Referrals must include a plan for enhanced operation and maintenance (O&M) in the public ROW adjacent to or downstream of the source property that the City will implement or cause to be implemented until the time the property is deemed abated.
2. Abate or cause the property to be abated directly, without referral to a regulatory agency. For this option, the City will work directly with the property owner to ensure the property is fully abated.

The next steps for MPCPs will entail Permittees working directly with the property owner to require implementation of appropriate controls on the property to reduce/prevent the release of moderate PCBs from the property to the MS4.

CONTROL MEASURE IMPLEMENTATION

CONTINUATION OF MRP 2.0 ACTIONS FOR LOAD REDUCTION CREDIT

During MRP 2.0, SMCWPPP Permittees submitted two PCBs source property referrals for four properties to the Water Board for follow-up investigation and abatement (Table 2.1). SMCWPPP Permittees received 20 g/yr of PCBs load reduction credit and 5 g/yr of mercury load reduction credit during MRP 2.0 for these referrals. This credit represents 50% of the total load reduction available for abatement of the source properties, and has been contingent on continued implementation of enhanced O&M measures or other treatment controls in the vicinity of each referred source property. Although to date, none of these referred properties have been fully abated, ongoing controls have continued in the vicinity of these properties following submittal of the referrals to reduce release of PCBs from these properties and remove historically deposited PCBs in the public ROW. A description of these planned and ongoing activities is provided in Table 2.1. These activities will continue until the properties have been fully abated.

Table 2.1. List of PCBs source properties in San Mateo County that were referred to the Water Board during MRP 2.0 for follow-up investigation and abatement.

City	WMA	Location/APN	Area (Acres)	Referral Date	Enhanced O&M Description
San Carlos	977 and 1007/1011 Bransten Road		2.2	FY 18-19	Installation and maintenance of seven curb extensions with bioretention facilities along Bransten Road on both sides of the street, including four facilities on the same side of the street and adjacent to the 977 and 1007/1011 Bransten Road properties and one facility just downstream. The bioretention areas, some of which were built with underdrains, were designed to remove pollutants from stormwater runoff flowing through the public ROW, including particle-bound pollutants such as PCBs (the underdrains are currently sealed off from the MS4).
San Carlos	270 Industrial Road / 495 Bragato Road		7.7	FY 18-19	Installation and maintenance of temporary sediment barriers at the edge of the property during redevelopment activities; planning for storm drain line cleanout by the property owners is currently underway with support from Water Board and SMCWPPP.

SOURCE INVESTIGATIONS CONDUCTED DURING MRP 3.0 TO DATE

Table 2.2 presents the data on acres of old industrial parcels that have been investigated through stormwater and/or sediment sampling during MRP 3.0 to date (i.e., FY 2022/23 through FY 2023/24) and the current outcomes of these investigations. All of the source investigations conducted during MRP 3.0 to date have focused on old industrial land use areas. Note, investigations are considered complete if an old industrial property is identified as a moderate or high source of PCBs, or if the property is associated with low PCBs (i.e., an unlikely source property). During MRP 3.0 to date, SMCWPPP has started or continued investigations of **375 acres** of old industrial parcels. Of these, investigations are complete on **170 acres** associated with low PCBs. This information demonstrates that Permittees have completed about 12% of the required 1,411 acres that must be investigated during MRP 3.0. Investigations are continuing on another **53 acres** that are associated with elevated PCBs, but sources have not yet been identified. The remaining **153 acres** currently under investigation have been sampled but the results are not yet available. The Program expects the number of acres of completed investigations will increase once the pending results are available. Follow-up investigation of all parcels associated with elevated PCBs will continue during FY 2024/25, as well as new investigations that will screen additional old industrial parcels.

Table 2.2 Outcomes of source investigations conducted in San Mateo County, CA during MRP 3.0 to date (i.e., FYs 2022/23 and 2023/24).[a,b]

		Acres Investigated by Sample Type						
		Public ROW Sediment		High PCBs in Stormwater; Follow-up Public ROW Sediment - Results Pending	Stormwater Screening			
Agency	WMA[c]	Low PCBs	Results Pending		High PCBs	Low PCBs	Results Pending	TOTALS
Belmont	77	--	--	--	9.6	--	--	**10**
Millbrae	1005	--	--	--	--	--	18	**18**
San Bruno	290	--	1.4	15	4.7	--	--	**21**
	1005	--	--	--	--	--	9.4	**9.4**
San Carlos	1016	--	--	--	--	77	--	**77**
San Mateo County	77	--	--	--	23	--	--	**23**
	1005	--	--	--	--	--	15	**15**
South San Francisco	293	1.0	--	--	--	37		**38**
	294	--	58	--	--	--	--	**58**
	314	27	8.9	--	--	--	--	**36**
	315	5.3	41	--	--	--	--	**47**
	358	16	--	--	--	--	--	**16**
	1001	4.9	--	--	--	--	--	**4.9**
TOTALS		**55**	**110**	**15**	**38**	**115**	**43**	**375**

[a] Investigation of old industrial parcels with low PCBs (< 0.2 mg/kg) are considered complete. No additional investigation is planned during MRP 3.0.

[b] Old industrial parcels associated with elevated PCBs (≥ 0.2 mg/kg) during screening sampling will require additional investigation to identify the specific source(s).

[c] WMA = Watershed Management Area.

SECTION 3 -GREEN INFRASTRUCTURE AND OTHER STORMWATER TREATMENT CONTROLS

This section describes GI and other stormwater treatment controls that provide load reduction benefits for mercury and PCBs, demonstrates continuation of controls implemented during MRP 2.0, and provides documentation of the projects built and installed during MRP 3.0 to date (i.e., between July 1, 2021 and June 30, 2024). All supporting data required to calculate the mercury and PCBs loads reduced for these systems are also described. All projects that treat old industrial land use areas are identified.

CONTROL MEASURE DESCRIPTION

GREEN INFRASTRUCTURE (GI)

GI facilities are stormwater management systems that use vegetation, soils, and natural processes to capture and treat stormwater runoff and improve water quality. Examples of GI include bioretention, low impact development (LID), sustainable streets, and other systems that generally use the natural filtration or infiltration of stormwater.

There are three main categories of GI facilities, which are largely based on their location and extent of upstream catchment area:

1. **Parcel-based New Development and Redevelopment Projects**. These projects include LID treatment measures that are designed to capture/treat runoff generated on a parcel. LID measures are implemented during development or re-development of a parcel and are currently required by the MRP for any project creating or replacing greater than 10,000 square feet of impervious area. These projects can be located on either publicly- or privately-owned parcels.
2. **Public Sustainable Street Projects**. These projects include GI facilities that are located along or within a street or public ROW. They are typically designed to capture and treat runoff from the street and possibly portions of adjacent parcels.
3. **Regional Retrofit Projects**. These projects include parcel-based GI measures that capture runoff from off-site areas. Typically located on publicly owned lands, development and implementation of regional projects may involve collaboration among multiple municipalities and/or public agencies to construct large facilities that capture and treat stormwater from large drainage areas. Collaboration among multiple jurisdictions may allow for larger projects with greater economies of scale, specifically cost-sharing opportunities and greater flood control and pollutant reduction capacity.

The most common types of GI facilities that are constructed in urban areas include bioretention, stormwater tree well filters, pervious pavement, infiltration facilities, green roofs, and rainwater harvesting and use facilities.

OTHER STORMWATER TREATMENT SYSTEMS

High-flow capacity and inlet-based stormwater treatment systems are devices or series of devices that trap all particles retained by a 5 mm mesh screen and have a design treatment capacity of not less than the peak flow rate resulting from a one-year, one-hour, storm in the tributary drainage catchment area.

The State and Regional Water Boards have approved a variety of proprietary stormwater treatment devices as achieving full trash capture. These systems are grouped into two general categories - "large devices" (i.e., high-flow capacity systems), treating hundreds of acres, and "small devices" (i.e., catch basin inserts), typically treating an acre or less of land. Examples of large devices include hydrodynamic separator (HDS) devices, debris-separating baffle boxes (DSBBs) and in-line gross solid removal devices (GSRDs). Small inlet-based devices are generally screens or baskets that are installed in storm drain catch basins or inlets.

CONTROL MEASURE IMPLEMENTATION

The locations of GI facilities and other stormwater treatment systems are illustrated on control measure maps included as **Attachment A**. These maps include projects reported to date within San Mateo County since the start of the PCBs TMDL (i.e., about 2002).

KEY PLANNING AND EVALUATION EFFORTS TO SUPPORT FUTURE IMPLEMENTATION OF PUBLIC GI PROJECTS

San Mateo County Permittees have conducted a number of key planning and evaluation efforts to support future implementation of public GI projects in San Mateo County, including development of the San Mateo County Stormwater Resource Plan in 2017, Permittee-specific Green Stormwater Infrastructure Plans completed in 2019, and an additional countywide analysis completed in 2022 of regional stormwater capture project opportunities based on key performance indicators, including control of PCBs. The guidance, tools, project concepts, and prioritized project opportunity maps developed through these efforts provide a foundation for public GI planning and implementation during MRP 3.0. It is important to note that these countywide analyses and planning efforts have illustrated the challenges with identifying old industrial land use areas or other areas with moderate/high PCBs that are feasible and cost-effective to treat via GI in the public ROW. Despite the comprehensive countywide evaluation and screening processes conducted in San Mateo County, which included potential for PCBs load reduction as a priority screening factor, the potential for PCBs load reduction via feasible public ROW GI opportunities identified to date, including green streets and regional stormwater capture projects, has been relatively small.

CONTINUATION OF MRP 2.0 ACTIONS FOR LOAD REDUCTION CREDIT

During MRP 2.0, SMCWPPP Permittees were credited with 790 g/yr mercury and 334 g/yr PCBs for implementation of GI/LID and other stormwater treatment controls through June 30, 2021, as reported in the FY 2020/21 Annual Report (SMCWPPP 2021). This included treatment of nearly 1,200 acres by GI/LID, and treatment of more than 500 acres via other stormwater treatment controls. These projects are identified in each municipality on the maps provided in **Attachment A**. To continue to receive load reduction credit for these controls, SMCWPPP Permittees must conduct inspections to ensure GI/LID projects built according to C.3 regulations are properly maintained and operated. SMCWPPP Permittees have continued to implement their ongoing C.3 inspection programs to ensure appropriate maintenance for all C.3 regulated projects. SMCWPPP Permittees report on inspections conducted each year at C.3 regulated projects in their Annual Reports to the Water Board. In addition, SMCWPPP Permittees conduct the appropriate maintenance to ensure proper functioning of all public green street projects and full trash capture devices located within the public ROW. These efforts are fully documented in SMCWPPP Permittee Annual Reports submitted in September of each year to the Water Board.

GI/LID Projects Completed During MRP 3.0 To Date

SMCWPPP Permittees continue to track and report on completed GI projects in San Mateo County via the San Mateo County GI Tracking Tool (Tool). The information on these projects in the Tool provides the documentation needed to calculate mercury and PCBs load reductions associated with projects that drain to the Bay. Those estimates will be based on updated Reasonable Assurance Analysis modeling that will be done near the end of the permit term. The data collected on all GI projects that have been completed for credit during MRP 3.0 to date (i.e., since July 1, 2021)[2] are summarized in Table 3.1 for parcel-based C.3 redevelopment projects and Table 3.2 for sustainable streets and regional retrofit GI projects. To ensure Permittees document all newly completed GI projects within their jurisdictions during MRP 3.0, all projects completed since the start of FY 2021/22 are included in these tables. These projects are also shown on Permittee maps in **Attachment A**. The information available for the current reporting year is considered preliminary, as the data on all projects completed in FY 2023/24 may not be available until after FY 2023/24 annual reporting. However, Permittees will continue to gather this information as it becomes available and subsequent Annual Reports will be updated as needed. Parcel-based C.3 redevelopment projects built during MRP 3.0 to date treat a total of 368 acres, including 144 acres of old industrial land use areas. Sustainable street projects constructed during MRP 3.0 to date treat a total of 17 acres, including 3.3 acres of old industrial land use areas. A regional retrofit project in South San Francisco currently provides partial treatment of a nearly 2,500 acre catchment, which includes 38 acres of old industrial land use areas.

[2] Data on projects that were built during previous fiscal years (FY 2021/22 and FY 2022/23) but were not reported in V.1 of this Control Measures Report because the information was not yet available are documented in this Control Measure Report. These are projects for which load reduction credit under C.11/12 will be achieved during MRP 3.0.

Table 3.1. Parcel-based Green Infrastructure/Low Impact Development (GI/LID) projects reported in San Mateo County during MRP3.0.[a]

Agency	Fiscal Year (FY) Built	WMA ID	Total Area (Acres)	Area by Land Use Category (Acres)				
				Old Industrial	Old Urban - Commercial/ Transportation	Old Urban - Residential	New Urban	Ag/ Open Space
Atherton	2021/22	ATH	0.94	--	--	0.94	--	--
	2022/23	261	0.71	--	--	0.71	--	--
	2023/24	261	3.4	--	--	3.4	--	--
		ATH	3.0	--	--	3.0	--	--
		Subtotal	***8.1***	**--**	**--**	***8.1***	**--**	**--**
Belmont	2022/23	1011	1.3	--	--	0.56	--	0.69
		Other - BEL	1.5	--	--	1.5	--	--
		Subtotal	***2.7***	**--**	**--**	***2.0***	**--**	***0.7***
Brisbane	2021/22	1004A	43	43	0.23	--	--	0.01
	2023/24	BRI	32	--	--	--	2.8	29
		Subtotal	***75***	***43***	***0.2***	**--**	***2.8***	***29***
Burlingame	2021/22	139	5.4	5.4	--	--	--	--
		164	1.3	1.3	--	--	--	--
		Other-BUR	1.2	--	0.77	0.45	--	--
	2022/23	149	0.51	0.15	--	--	--	--
		Other - BUR	3.4	0.47	2.2	0.8	--	--
		Subtotal	***12***	***7.3***	***3.0***	***1.2***	**--**	**--**
Daly City	2021/22	329	0.17	--	0.17	--	--	--
		Subtotal	***0.2***	**--**	***0.2***	**--**	**--**	**--**
East Palo Alto	2023/24	68	1.9	--	--	1.9	--	--
		Subtotal	***1.9***	**--**	**--**	***1.9***	**--**	**--**
Foster City	2022/23	FCY	1.7	--	--	1.7	--	--
		Subtotal	***1.7***	**--**	**--**	***1.7***	**--**	**--**
Half Moon Bay	2022/23	Ocean	2.8	--	2.8	--	--	--
	2023/24	Ocean	2.5	--	--	--	--	2.5
		Subtotal	***5.3***	**--**	***2.8***	**--**	**--**	***2.5***

Agency	Fiscal Year (FY) Built	WMA ID	Total Area (Acres)	Area by Land Use Category (Acres)				
				Old Industrial	Old Urban - Commercial/ Transportation	Old Urban - Residential	New Urban	Ag/ Open Space
Menlo Park	2021/22	66	1.2	1.2	--	--	--	--
		238	16	16	--	--	--	--
		252	9.1	7.4	1.7	--	--	--
	2022/23	247	16	--	--	16	--	--
		Other-MPK	8.4	6.0	2.4	--	--	--
	2023/24	1014	2.3	2.3	0.01	--	--	--
		238A	6.7	2.7	0.04	3.9	--	--
		238B	2.6	2.6	0.04	--	--	--
	Subtotal		***62***	***39***	***4.2***	***19***	***--***	***--***
Millbrae	2021/22	1005	0.75	--	0.75	--	--	--
	2023/24	1005	17	0.01	15	--	--	1.8
	Subtotal		***18***	***--***	***16***	***--***	***--***	***1.8***
Portola Valley	2021/22	PVY	12	--	--	12	--	--
	Subtotal		***12***	***--***	***--***	***12***	***--***	***--***
Redwood City	2021/22	266	0.43	--	0.4	--	--	--
		269	4.4	--	--	--	4.4	--
		388	0.43	0.16	0.20	0.08	--	--
		Other-RCY	27	1.2	15	3.3	7.7	--
	2022/23	266	2.5	--	--	--	2.5	--
		324	0.15	0.15	--	--	--	--
		336	1.8	--	1.8	--	--	--
		379A	5.7	5.7	--	--	--	--
		Other - RCY	1.8	--	0.44	1.4	--	--
		Other SMC	0.40	--	--	0.40	--	--
		RCY	7.1	--	7.1	--	--	--
	2023/24	379A	1.9	0.4	1.5	--	--	--
		RCY	2.0	--	--	0.21	--	--
	Subtotal		***56***	***7.6***	***27***	***5.3***	***15***	***--***

Agency	Fiscal Year (FY) Built	WMA ID	Total Area (Acres)	Area by Land Use Category (Acres)				
				Old Industrial	Old Urban - Commercial/ Transportation	Old Urban - Residential	New Urban	Ag/ Open Space
San Bruno	2021/22	Other-SBO	0.52	--	--	0.52	--	--
	2022/23	290	3.7	--	3.7	--	--	--
		Subtotal	***4.2***	**--**	***3.7***	***0.5***	**--**	**--**
San Carlos	2021/22	32	0.63	--	0.63	--	--	--
		Other - SCS	0.53	--	--	0.53	--	--
	2023/24	1016	1.5	1.4	--	--	--	--
		Subtotal	***2.6***	***1.4***	***0.6***	***0.5***	**--**	**--**
San Mateo City	2021/22	156	1.1	--	1.1	--	--	--
		1009	12	12	--	--	--	--
		Other-SMO	0.40	--	--	--	0.40	--
	2022/23	111	0.88	0.26	0.62	--	--	--
		149	1.2	--	--	1.2	--	--
		Other-SMO	0.37	--	0.37	--	--	--
	2023/24	111	2.4	--	--	--	--	--
		1007	0.93	--	--	--	--	--
		SMO	1.8	--	--	--	--	--
		Subtotal	***21***	***12***	***2.1***	***1.2***	***0.4***	**--**
San Mateo County	2021/22	327A	1.8	1.8	0.02	--	--	--
		Other - SMC	2.8	--	--	2.0	--	0.8
		Other-SMO	5.6	--	--	5.6	--	--
	2022/23	327A	1.3	1.1	0.2	--	--	--
		Non MRP Area	0.77	--	--	--	--	--
		Other - SMC	5.0	--	--	4.0	--	0.2
		Other-SMO	3.9	--	--	3.9	--	--
	2023/24	379	1.4	--	0.82	0.6	--	--
		1000	2.5	--	--	--	--	--
		Other - SMC	0.65	--	0.65	--	--	--
		Subtotal	***26***	***2.8***	***1.7***	***16***	**--**	***1.0***

Agency	Fiscal Year (FY) Built	WMA ID	Total Area (Acres)	Area by Land Use Category (Acres)				
				Old Industrial	Old Urban - Commercial/ Transportation	Old Urban - Residential	New Urban	Ag/ Open Space
South San Francisco	2021/22	293	20	16	3.1	--	--	--
		296	0.54	--	0.54	--	--	--
		307	12	--	12	--	--	--
		316	1.9	1.9	--	--	--	--
		319	2.0	2.0	--	--	--	--
		357	1.5	--	1.5	--	--	--
		Other-SSF	1.7	--	1.7	--	--	--
	2022/23	313	7.9	7.5	0.36	--	--	--
		1001	1.7	--	--	1.7	--	--
	2023/24	293	1.3	--	0.78	--	--	--
		1001D	1.3	--	--	--	--	--
		239A	2.1	--	--	--	--	--
		293A	3.0	2.9	0.03	--	--	--
		Other - SSF	3.6	--	--	--	--	--
	Subtotal		***60***	***31***	***20***	***1.7***	**--**	**--**
Grand Total			**368**	**144**	**81**	**71**	**18**	**34**

[a] Any projects built during FY 2023/24, but not reported here because data were not yet available will be reported in future Annual Report.

Table 3.2. Sustainable Street and Regional Retrofit projects reported in San Mateo County during MRP3.0.[a]

Project Type	Agency	Fiscal Year (FY) Built	WMA ID	Total Area (Acres)	Area by Land Use Category (Acres)				
					Old Industrial	Old Urban - Commercial/ Transportation	Old Urban - Residential	New Urban	Ag/ Open Space
Sustainable Street GI Projects	Belmont	2022/23	Other - BEL	4.0	--	--	4.0	--	--
		Subtotal		***4.0***	--	--	***4.0***	--	--
	Burlingame	2022/23	Other - BUR	0.47	--	0.47	--	--	--
		Subtotal		***0.47***	--	***0.47***	--	--	--
	East Palo Alto	2023/24	71	1.7	--	--	--	--	--
		Subtotal		***1.7***	--	--	--	--	--
	Menlo Park	2022/23	238A	1.1	--	1.1	--	--	--
		Subtotal		***1.1***	--	***1.1***	--	--	--
	Pacifica	2022/23	Ocean	0.035	--	0.035	--	--	--
		Subtotal		***0.035***	--	***0.035***	--	--	--
	Redwood City	2021/22	266	0.46	0.1	0.3	--	--	--
			Other-RCY	0.38	0.09	0.09	0.2	--	--
		2022/23	1000	3.1	3.13	--	--	--	--
		Subtotal		***4.0***	***3.3***	***0.44***	***0.2***	--	--
	San Carlos	2021/22	Other-SCS	1.4	--	--	1.4	--	--
		2022/23	Other-SCS	1	--	--	1	--	--
		Subtotal		***2.4***	--	--	***2.4***	--	--
	San Mateo City	2021/22	Other-SMO	2.3	--	2.3	--	--	--
		Subtotal		***2.3***	--	***2.3***	--	--	--
	San Mateo County	2022/23	Other-SMC	1.2	--	--	1.2	--	--
		Subtotal		***1.2***	--	--	***1.2***	--	--
	South San Francisco	2021/22	293	0.02	--	0.02	--	--	--
		Subtotal		***0.02***	--	***0.02***	--	--	--
	Sustainable Street Totals			**17**	***3.3***	***4.4***	***7.8***	--	--
Regional Retrofit Project	South San Francisco	2022/23	1001	2,486	38	451	1,042	3	952
	Regional Retrofit Total			**2,486**	**38**	**451**	**1,042**	**3**	**952**

[a] Any projects built during FY 2023/24, but not reported here because data were not yet available will be reported in future Annual Reports.

OTHER STORMWATER TREATMENT SYSTEMS COMPLETED DURING MRP 3.0 TO DATE

Permittees continue to track and report on all completed high-flow capacity and inlet-based stormwater treatment systems/devices that have been installed during MRP 3.0 to date in San Mateo County (Table 3.3). These devices and treatment systems are also shown on Permittee maps in **Attachment A**. The data required to calculate mercury and PCBs load reductions for these projects, including the device type, and the area treated by land use category are provided in Table 3.3. Some portion of the areas treated by the systems/devices shown in Tables 3.3 may also be addressed by GSI/LID projects. Any overlapping areas will be removed from the load reduction calculations for other stormwater treatment systems that will be conducted at the end of the permit term. There are a total of 444 acres across San Mateo County that are being treated by small, inlet-based devices installed during MRP 3.0 to date, including treatment of 62 acres of old industrial land uses. There are 995 acres treated via high-flow capacity stormwater treatment systems installed during MRP 3.0 to date in San Mateo County, including treatment of 37 acres of old industrial land use areas.

Table 3.3. Land areas treated by inlet-based and high flow capacity stormwater treatment devices installed in San Mateo County during MRP 3.0 to date.

Device Type	Agency	Fiscal Year Installed	WMA ID	Area by Land Use Category (Acres)				
				Old Industrial	Old Urban - Commercial/ Transportation	Old Urban - Residential	New Urban	Ag/ Open Space
Catch-Basin Insert Device	Atherton	2023/24	Other - ATH	0.001	--	--	0.001	--
	Belmont	2023/24	1011	0.14	0.09	0.05	0.002	--
	Daly City	2022/23	Colma Creek Upper	3.0	--	--	3.0	0.04
			Other - DCY	3.0	--	--	3.0	0.04
		2023/24	Non MRP area	0.17	--	--	0.16	0.01
	Millbrae	2022/23	1005	0.95	--	0.69	0.26	--
			Other - MIL	16	--	6.2	9.3	0.001
	Redwood City	2023/24	261	0.01	--	0.01	--	--
			379	0.58	0.00	0.52	0.06	--
			379A	0.38	--	0.31	0.06	--
			379B	0.21	0.00	0.21	--	--
	San Bruno	2021/22	292	0.002	--	0.002	--	--
		2022/23	1005	59	1.1	12	46	0.28
			290	73	3.1	16	52	1.9
			291	19	--	19	--	--
			292	61	2.8	56	1.4	--
			296	7.4	--	4.4	0.45	2.5
			307	5.8	--	0.29	5.5	--
			Other - SBO	7.0	--	3.8	3.2	0.10
		2023/24	Other - SBO	5.9	--	0.29	5.6	--
	San Carlos	2023/24	1011	0.01	--	0.01	--	--
	San Mateo County	2023/24	1011	15	7.5	7.0	0.33	--
			261	0.40	0.09	0.21	0.03	0.08
			379	41	16	7.6	17	0.40
			379A	37	13	6.8	17	0.40

Device Type	Agency	Fiscal Year Installed	WMA ID	Area by Land Use Category (Acres)				
				Old Industrial	Old Urban - Commercial/ Transportation	Old Urban - Residential	New Urban	Ag/ Open Space
Catch-Basin Insert Device (cont.)	San Mateo County (cont.)	2023/24	379B	4.6	3.8	0.77	0.03	--
			77	0.95	0.86	0.09	--	--
			Non MRP area	49	--	0.43	48.5	0.03
			Other - SMC	6.5	--	1.1	5.5	--
	South San Francisco	2021/22	291	15	14	1.9	--	0.002
		2022/23	291	0.50	0.01	0.14	--	0.35
			292	0.91	--	0.26	--	0.65
		2023/24	291	8.9	0.03	7.1	0.02	1.8
			296	1.2	--	0.74	--	0.49
			307	0.24	--	0.22	0.01	--
	Catch-Basin Insert Device Total			***444***	***62***	***155***	***218***	***9.1***
High-Flow Capacity Device	Atherton	2022/23	261	0.02	--	--	0.02	--
			Other - ATH	202	--	--	202	--
			Other - SMC	0.000	--	--	0.00	--
	Burlingame	2022/23	149	60	3.8	3.2	53	--
			Other - BUR	116	0.59	0.80	115	--
	San Mateo	2022/23	149	231	14	16	197	3.0
			Other - SMO	16	--	0.06	13	2.9
	San Mateo County	2022/23	253	9.7	8.0	0.91	--	0.74
			261	1.1	0.003	1.1	0.002	--
			379	60	4.5	17	37	1.2
			379A	60	4.5	17	37	1.2
			Other - SMC	240	1.20	19	215	5.4
	High-Flow Capacity Device Total			***995***	***37***	***74***	***870***	***14***
Grand Total				**1,439**	**99**	**229**	**1,088**	**24**

[a] Any projects built during FY 2023/24, but not reported here because data are unavailable will be reported in future Annual Reports.

SECTION 4 -CONTROLLING PCBS FROM BRIDGES AND OVERPASSES

This section describes the Program for Controlling PCBs from Bridges and Overpasses that will provide load reduction benefits for PCBs. Future versions of this report will also provide documentation of implementation of this control measure during bridge and overpass replacement.

CONTROL MEASURE DESCRIPTION

The program for controlling PCBs in bridges and overpasses will implement a new Caltrans specification for removal and handling of potentially PCBs-containing materials during bridge and overpass replacement projects. Use of the new specification will prevent or reduce the release of PCBs into the environment by detailing appropriate methods for the removal, handling, and disposal of caulk or sealant materials during infrastructure replacement or joint maintenance projects for applicable structures (i.e., those built prior to 1980 when PCBs-containing joint sealants and caulk were available).

CONTROL MEASURE IMPLEMENTATION

CONTINUATION OF MRP 2.0 ACTIONS FOR LOAD REDUCTION CREDIT

This is a new control measure in MRP 3.0, therefore no controls (or associated load reduction credits) were implemented by SMCWPPP Permittees during MRP 2.0. The new actions implemented during MRP 3.0 to date are described below.

IMPLEMENTATION DURING MRP 3.0 TO DATE

During FY 2022/23, Permittees developed inventories of applicable bridges and overpasses within their jurisdiction which included bridge ownership and replacement schedules. These inventories were submitted with the Program's FY 2022/23 Annual Report.

As of the end of FY 2023/24, the Caltrans specification was not yet available. Permittees will maintain their bridge inventories and in the future, after the Caltrans specification has been finalized, will implement or cause to be implemented the Caltrans specification during all applicable bridge projects that are under the direction of Permittees.

SECTION 5 -CONTROLLING PCBS FROM ELECTRICAL UTILITIES

This section describes the Program for Controlling PCBs from Electrical Utilities that will provide load reduction benefits for PCBs, demonstrates controls measures implemented by Permittees during MRP 3.0 to date (i.e., through FY 2023/24), and includes all supporting data required to calculate the PCBs loads avoided due to implementation of this control measure.

CONTROL MEASURE DESCRIPTION

For this control measure, municipally-owned electrical utilities will implement the following actions to further avoid/reduce the release of PCBs from oil-filled electrical equipment (OFEE):

1. Develop and implement improved spill response and reporting procedures for PCBs-containing OFEE;
2. Develop and implement a plan to remove all PCBs-containing OFEE from active service; and
3. Document the removal of PCBs-containing OFEE since the start of the PCBs TMDL and in the future until all PCBs-containing OFEE have been removed from active service.

Additionally, it is anticipated that non-municipally owned regional electrical utilities that are not currently subject to PCBs load reduction requirements (i.e., PG&E) have been and will continue to remove PCBs-containing OFEE and document these efforts, past and present, consistent with methods used by applicable MRP permittees.

CONTROL MEASURE IMPLEMENTATION

CONTINUATION OF MRP 2.0 ACTIONS FOR LOAD REDUCTION CREDIT

This is a new control measure in MRP 3.0; therefore, no controls (or associated load reduction credits) were implemented by SMCWPPP Permittees during MRP 2.0.

IMPLEMENTATION DURING MRP 3.0 TO DATE

San Mateo County Permittees do not own or operate any municipal electrical utilities. Thus, most of the related MRP requirements do not apply to San Mateo County Permittees. However, during the permit term to date, Countywide Program staff tracked the activities of the BAMSC Municipal Electrical Utility Workgroup (Workgroup), which was formed to facilitate implementation of the requirements in this sub-provision and ensure coordination across the MRP area.

As of the end of FY 2023/24, the Water Board had not transmitted information from the non-municipally owned electrical utilities to the Permittees. Based on updates obtained from Water Board staff during recent BAMSC Monitoring and Pollutants of Concern (MPC) Sub-committee meetings, Water Board staff are planning to meet with representatives from Pacific Gas and Electric (PG&E), the primary non-municipally owned electrical utility that operates in the MRP area, during the next fiscal year.

SECTION 6 -MANAGING PCBS DURING BUILDING DEMOLITION

This section describes the Program for Managing PCBs Containing Materials and Wastes during Building Demolition that provides load reduction benefits for PCBs, demonstrates control measures implemented by Permittees during MRP 3.0 to date (i.e., through FY 2023/24), and includes all supporting data required to calculate the PCBs loads reduced.

CONTROL MEASURE DESCRIPTION

Permittees developed and began implementing PCBs in Building Materials control programs by July 1, 2019, as required by MRP 2.0 Provision C.12.f, and are continuing to implement these programs in MRP 3.0. The programs include the following processes:

- Municipalities inform applicable demolition permit applicants that their projects are subject to the program for managing materials with PCBs, necessitating, at a minimum, an initial screening for priority PCBs–containing materials.
- For every applicable demolition project, applicants implement the BASMAA protocol for identifying building materials with PCBs concentrations of 50 ppm and then complete and submit a version of BASMAA's model "PCBs Screening Assessment Form" (Screening Form) or equivalent to the municipality.
- The municipality reviews the Screening Form to make sure it is filled out correctly and is complete and works with the applicant to correct any deficiencies.
- The municipality then issues the demolition permit or equivalent, according to its procedures.
- The municipality sends each completed Screening Form for applicable structures and any supporting documents to its countywide program. The countywide program compiles the forms and works with the other MRP countywide programs to manage and evaluate the data, and to assist Permittees with associated MRP reporting requirements.

Beginning July 1, 2023, Permittees made updates to the PCBs in Building Materials control programs process as required by MRP 3.0 to include the following:

- The municipalities require demolition contractors of applicable structures containing building materials with PCBs concentrations of 50 ppm or greater to provide notification to the municipalities, the Water Board, and U.S. EPA at least one week before any demolition is to occur.
- The municipalities have enhanced their construction site control programs to inspect construction sites of applicable structures containing building materials with PCBs concentrations of 50 ppm or greater during demolition, to minimize migration of PCBs into the MS4.
- For demolished Applicable Structures that had building materials with PCBs concentrations ≥50 ppm, the municipalities are requiring verification that materials from demolished buildings were appropriately managed and disposed appropriately according to state/federal regulations.

Applicants that determine, through implementation of the BASMAA protocol, that PCBs exist in priority building materials must follow applicable federal and state laws for handling and disposal. This may include reporting to U.S. Environmental Protection Agency (USEPA), the San Francisco Bay Regional Water

Quality Control Board, and the California Department of Toxic Substances Control (DTSC). These agencies may require additional sampling and abatement of PCBs.

Depending on the approach for sampling and removing building materials containing PCBs, the applicant may need to notify or seek advance approval from USEPA before building demolition. Even in circumstances where advance notification to or approval from USEPA is not required before the demolition activity, the disposal of PCBs waste is regulated under Toxic Substances Control Act (TSCA). For example, TSCA requires manifesting the waste for transportation and disposal. (See 40 Code of Federal Regulations (CFR) 761 and 40 CFR 761, Subpart K.) TSCA-regulated does not equate solely to materials containing PCBs at or above 50 ppm. There are circumstances in which materials containing PCBs below 50 ppm are subject to regulation under TSCA. (See 40 CFR 761.61(a)(5)(i)(B)(2)(ii).). 40 CFR 761.3 provides information relative to disposal of PCBs-containing building materials, including definitions of PCBs bulk product wastes and PCBs remediation wastes. Further information is provided in a memorandum "PCB Bulk Product Waste Reinterpretation" from the Office of Resource Conservation and Recovery, EPA . Additionally, the disposal of PCBs waste is subject to California Code of Regulations (CCR) Title 22, Section Division 4.5, Chapter 12, Standards Applicable to Hazardous Waste Generators.

CONTROL MEASURE IMPLEMENTATION

CONTINUATION OF MRP 2.0 ACTIONS FOR LOAD REDUCTION CREDIT

All Permittees have continued to implement their PCBs in Building Materials control programs through the present date. During MRP 2.0, Permittees were credited with 247 g/yr PCBs load reduction as a result of implementing these programs. Permittees provided all required data on the implementation of these programs during MRP 2.0 with the Program's Annual Report submitted in September 2022 (SMCWPPP 2022). This information has included the following data: (a) number of applicable structures that applied for a demolition permit during the reporting year, and (b) a running list of the applicable samples from structures that applied for a demolition permit since the start of the PCBs control protocol that had material(s) with PCBs at 50 ppm or greater, with the address, demolition date, and brief description of PCBs control method(s) used. **Attachment B** provides all the data gathered during MRP 2.0 to document implementation of this program. These data demonstrate that Permittees continue to implement their building demolition programs consistent with the load reduction credits that were received during MRP 2.0.

IMPLEMENTATION DURING MRP 3.0 TO DATE

Attachment B provides the countywide data compiled through FY 2023/24 to document ongoing implementation of this program in San Mateo County. Additional information on inspections conducted and hazardous waste manifests received are reported in Permittees Annual Reports for FY 2023/24.

SECTION 7 -MERCURY COLLECTION AND RECYCLING

This section describes the Program for Mercury Collection and Recycling that provides load reduction benefits for mercury, demonstrates controls measures implemented by Permittees during MRP 3.0 to date (i.e., through FY 2023/24), and includes all supporting data required to calculate the mercury loads reduced.

CONTROL MEASURE DESCRIPTION

Many types of devices and equipment (e.g., thermometers, switches, and fluorescent lamps) can contain 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 runoff. 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 at the end-of-life of these devices and equipment.

CONTROL MEASURE IMPLEMENTATION

CONTINUATION OF MRP 2.0 ACTIONS FOR LOAD REDUCTION CREDIT

Permittees have conducted mercury collection and recycling as described above since MRP 1.0 and even earlier. However, because this control measure was not a requirement under MRP 2.0, Permittees did not receive mercury load reduction credits for these actions during MRP 2.0. The actions implemented during MRP 3.0 to date are described below.

IMPLEMENTATION DURING MRP 3.0 TO DATE

Collection/Recycling of Mercury-Containing Products, Devices, and Equipment

San Mateo County municipalities participate in San Mateo County Health Department's Household Hazardous Waste (HHW) Program and Very Small Quantity Generator Business Collection (VSQG) Program. The HHW Program offers residents the opportunity to drop-off mercury-containing devices and equipment and other hazardous wastes at designated drop-off points or drop-off events free of charge. The VSQG Program provides an inexpensive hazardous waste disposal option to eligible businesses, non-profits, and other government agencies that generate less than 100 kilograms of waste per month. It operates by appointment only and charges a fee to cover the cost of transportation and disposal. Many San Mateo County municipal agencies promote the availability of the HHW Program and VSQG Program on their agency websites. The estimated mass of mercury collected in FY 2021/22 through FY 2023/24 via these programs is shown in Table 7-1. It should be noted that these mass estimates are not directly comparable to pollutant load reductions in stormwater runoff discharges.

Table 7.1. Estimated mercury mass collected via the San Mateo County Health Department's Household Hazardous Waste (HHW) and Very Small Quantity Generator Business Collection (VSQG) programs

Mercury Containing Device	FY 2021/22		FY 2022/23		FY 2023/24	
	Total Amount of Devices Collected	Estimated Mass of Mercury Collected (kg)	Total Amount of Devices Collected	Estimated Mass of Mercury Collected (kg)	Total Amount of Devices Collected	Estimated Mass of Mercury Collected (kg)
Fluorescent Lamps (linear ft)[1,2]	112,938	0.2	49,759	0.1	51,558	0.11
CFLs (number of)[3]	8,843	0.04	9,937	0.04	3,942	0.02
Thermostats (number of)[4]	12	0.05	25	0.1	22	0.09
Thermometers (number of)[5]	115	0.07	19	0.01	120	0.07
Switches (number of)[6]	26	0.1	7	0.02	3	0.01
Total Mass of Mercury Collected (kg)		**0.5**		**0.3**		**0.3**

[1] The County HHW Program reported the number of circle tubes and U-bent lights. A conservative assumption was made that all U-bent tubes were 22 inches and all circle tubes were 8 inches based on the most available, smallest sizes found on Internet searches.

[2] The average mercury content for a four-foot linear fluorescent lamp is 8.3 milligrams (mg). This is equal to 2.075 mg per linear foot. Source: NEMA 2005. Fluorescent and Other Mercury-Containing Lamps and the Environment: Mercury Use, Environmental Benefits, Disposal Requirements. National Electrical Manufacturers Association. March 2005. 14p.

[3] The National Electrical Manufacturers Association (NEMA) announced that under the new voluntary commitment, effective October 1, 2010, participating manufacturers will cap the total mercury content in CFLs that are under 25 watts at 4 mg per unit, and CFLs that use 25 to 40 watts of electricity will be capped at 5 mg per unit. Each CFL recycled is assumed to have an average mass of 4.5 mg mercury. New CFLs are also assumed to have 4.5 mg mercury on average. Source: NEMA 2010. NEMA Lamp Companies Agree to Reduction in CFL Mercury Content Cap. Available at http://www.nema.org/media/pr/20101004a.cfm. Accessed April 11, 2012.

[4] The amount of mercury in a thermostat is determined by the number of ampoules. There are generally one or two ampoules per thermostat (average is 1.4) and each ampoule contains an average of 2.8 grams (g) of mercury. Therefore, each thermostat recycled is assumed to contain approximately 4.0 g of mercury. Source: TRC 2008. Thermostat Recycling Corporation's Annual Report for the U.S. Prepared by the Thermostat Recycling Corporation. http://www.thermostat-recycle.org/files/u3/2008 TRC Annual Report.pdf.

[5] USEPA reports that glass mercury fever thermometers contain about 0.61 g of mercury. Source: USEPA 2012. Thermometers. Available at http://www.epa.gov/mercury/thermometer-main.html. Accessed April 11, 2012.

[6] The Recycling Corporation reports that one mercury switch contains 2.87 g (0.00287 kg) of mercury. Source: TRC 2010. Thermostat Recycling Corporation's Annual Report for California. Prepared by the Thermostat Recycling Corporation. Prepared for the State of California's Office of Pollution Prevention and Green Technology, Department of Toxic Substances Control. March 31, 2010.

SECTION 8 -MERCURY AND PCBS LOADS REDUCED DURING MRP 3.0

SMCWPPP Permittees began implementing PCBs and mercury control measures with the adoption of the PCBs and Mercury TMDLs. Enhanced control measure implementation throughout MRP 3.0 primarily focuses on: 1) conducting source investigation projects that will likely lead to referrals to the Water Board for further investigation and abatement, and/or identify properties contributing moderate PCBs to the MS4 for abatement; 2) implementation of green infrastructure and other treatment controls on both public and private property, and in the public ROW; 3) implementing other types of control measures in old industrial land use areas; 4) implementing a program to manage PCBs-containing joint caulking during bridge or roadway overpass rehabilitation or major repair; 5) reducing the release of PCBs from oil-filled electrical equipment; 6) continuing to implement a protocol to manage PCBs in building materials during demolition, and 7) continuing to collect and recycle mercury-containing products. In the 2026 Annual Report, MRP 3.0 SMCWPPP Permittees will be required to report the annual PCBs and mercury load reductions achieved due to implementation of these control measures each year of the permit term.

APPROACH TO REPORTING PCBS AND MERCURY LOADS REDUCED

The data needed to calculate the loads reduced for each control measure are provided in Sections 2 through 7 of this report. These data include the total acres (and associated land-uses) addressed by each type of control measure. The methods used to calculate the loads reduced are consistent with the methodologies and data collection programs that were developed by BASMAA member agencies in consultation with the Water Board, and in accordance with MRP provisions C.11.b.iii(1) and C.12.b.iii(1). These methods were fully described in the *SMCWPPP Pollutant Control Measure Plan and RAA* (SMCWPPP 2020) and the *Source Control Load Reduction Accounting for Reasonable Assurance Analysis* (BASMAA 2022), which was approved by the Water Board's Executive Officer in Spring 2022 for use by SMCWPPP Permittees for source controls during MRP 3.0. The *SMCWPPP Pollutant Control Measure Plan and RAA* will be updated as needed and re-submitted to the Water Board in March 2026.

PCBS LOADS REDUCED

PCBs loads reduced for the control measured implemented in San Mateo County during MRP 3.0 will be reported in the 2026 Annual Report.

MERCURY LOADS REDUCED

Mercury loads reduced for the control measured implemented in San Mateo County during MRP 3.0 will be reported in the 2026 Annual Report.

SECTION 9 -REFERENCES

BASMAA (2022). Source Control Load Reduction Accounting for Reasonable Assurance Analysis. January 2022. Prepared for BASMAA by Geosyntec Consultants, Inc. and EOA, Inc.

San Mateo Countywide Water Pollution Prevention Program (SMCWPPP). (2020). *Pollutant Control Measures Implementation Plan and Resasonable Assurance Analysis for San Mateo County, CA.* September 2020.

San Mateo Countywide Water Pollution Prevention Program (SMCWPPP). (2022). *Updated Control Measure Plan for PCBs and Mercury in San Mateo County Stormwater Runoff.* September, 2022.

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San Mateo Countywide Water Pollution Prevention Program (SMCWPPP). (2023b). *Urban Creeks Monitoring Report – Water Quality Monitoring – Water Year 2022 (October 2021 – September 2022)*. March 31, 2023.

San Mateo Countywide Water Pollution Prevention Program (SMCWPPP). (2024a). *Urban Creeks Monitoring Report – Water Quality Monitoring – Water Year 2023 (October 2022 – September 2023)*. March 31, 2024.

San Mateo Countywide Water Pollution Prevention Program (SMCWPPP). (2024b). *Revised Pollutant Control Measure Plan to Reduce PCBs and Mercury in Urban Runoff from Old Industrial Areas in San Mateo County, California*. March 31, 2024.

Attachment A

Maps of GI and Other Stormwater Treatment Controls built/installed in San Mateo County through FY 2023/24

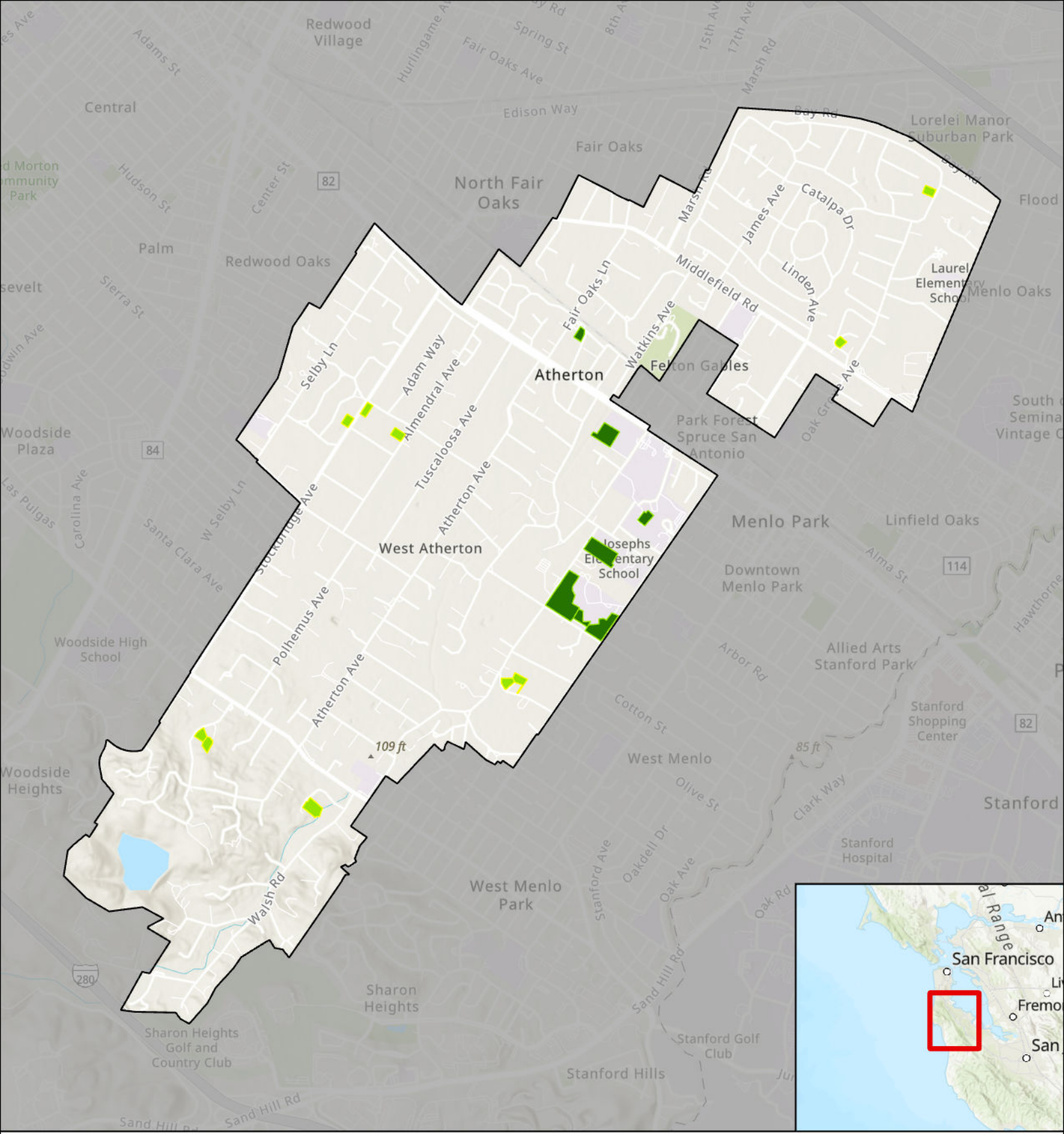


Figure A - 1 GI/LID and Other Stormwater Treatment Systems in Atherton

- GI FY21-22 and Later - Green Streets
- GI Pre FY21-22 - Green Streets
- GI FY21-22 and Later
- GII Pre FY21-22
- City Limits
- High-Flow Capacity System Drainage Area Pre FY21-22
- High-Flow Capacity System Drainage Area FY21-22 and Later
- Catch Basin Inserts Drainage Areas Pre FY21-22
- Catch Basin Inserts Drainage Areas FY21-22 and Later

Data Sources:
City Boundaries: San Mateo County
Background: ESRI World Street Map

Map Created By: EOA, Inc.
Date: August 2024

N

0 0.28 0.55 1.1 Miles

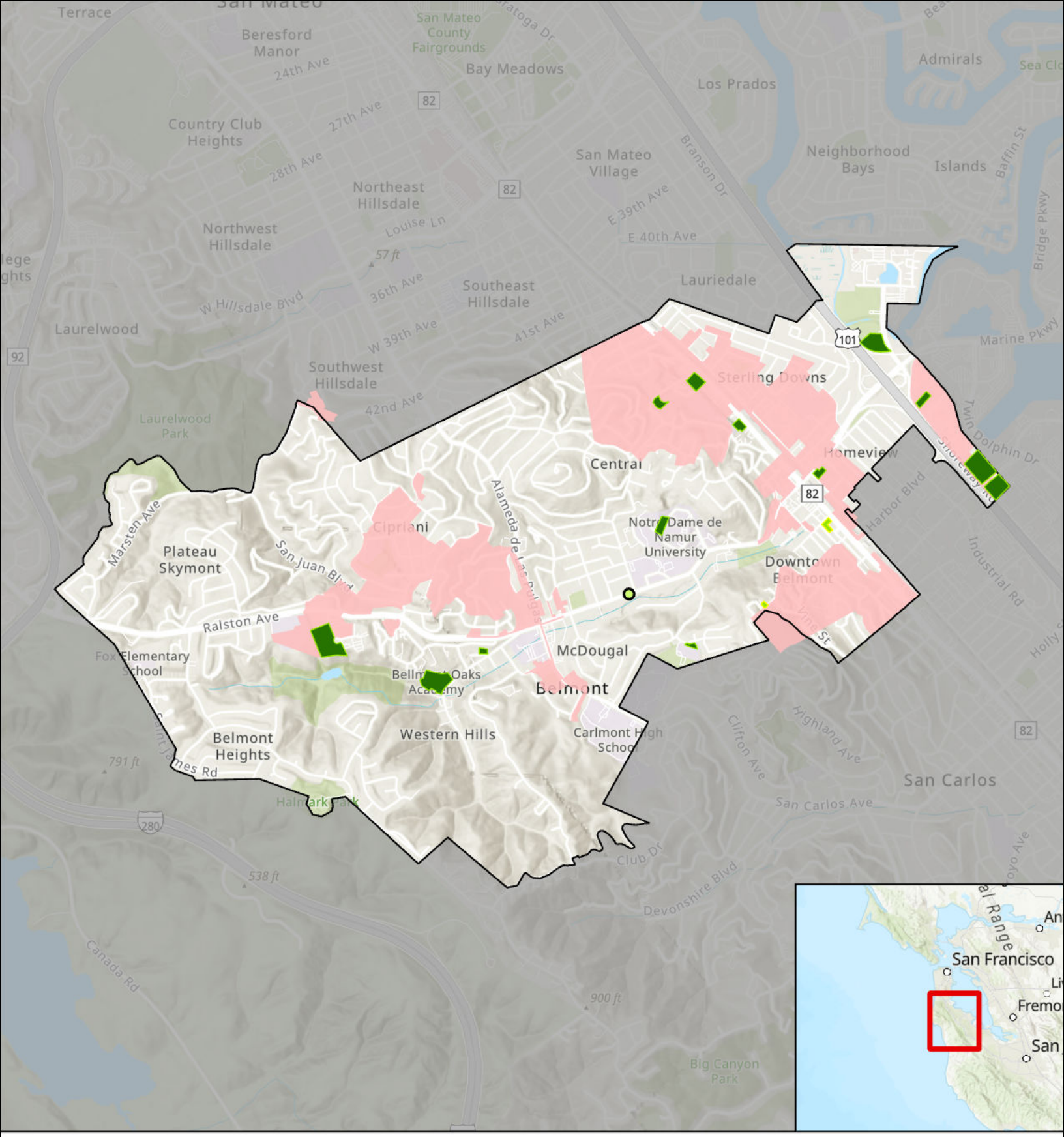


Figure A - 2 GI/LID and Other Stormwater Treatment Systems in Belmont

- GI FY21-22 and Later - Green Streets
- GI Pre FY21-22 - Green Streets
- GI FY21-22 and Later
- GII Pre FY21-22
- City Limits
- High-Flow Capacity System Drainage Area Pre FY21-22
- High-Flow Capacity System Drainage Area FY21-22 and Later
- Catch Basin Inserts Drainage Areas Pre FY21-22
- Catch Basin Inserts Drainage Areas FY21-22 and Later

Data Sources:
City Boundaries: San Mateo County
Background: ESRI World Street Map

Map Created By: EOA, Inc.
Date: August 2024

N

0 0.28 0.55 1.1 Miles

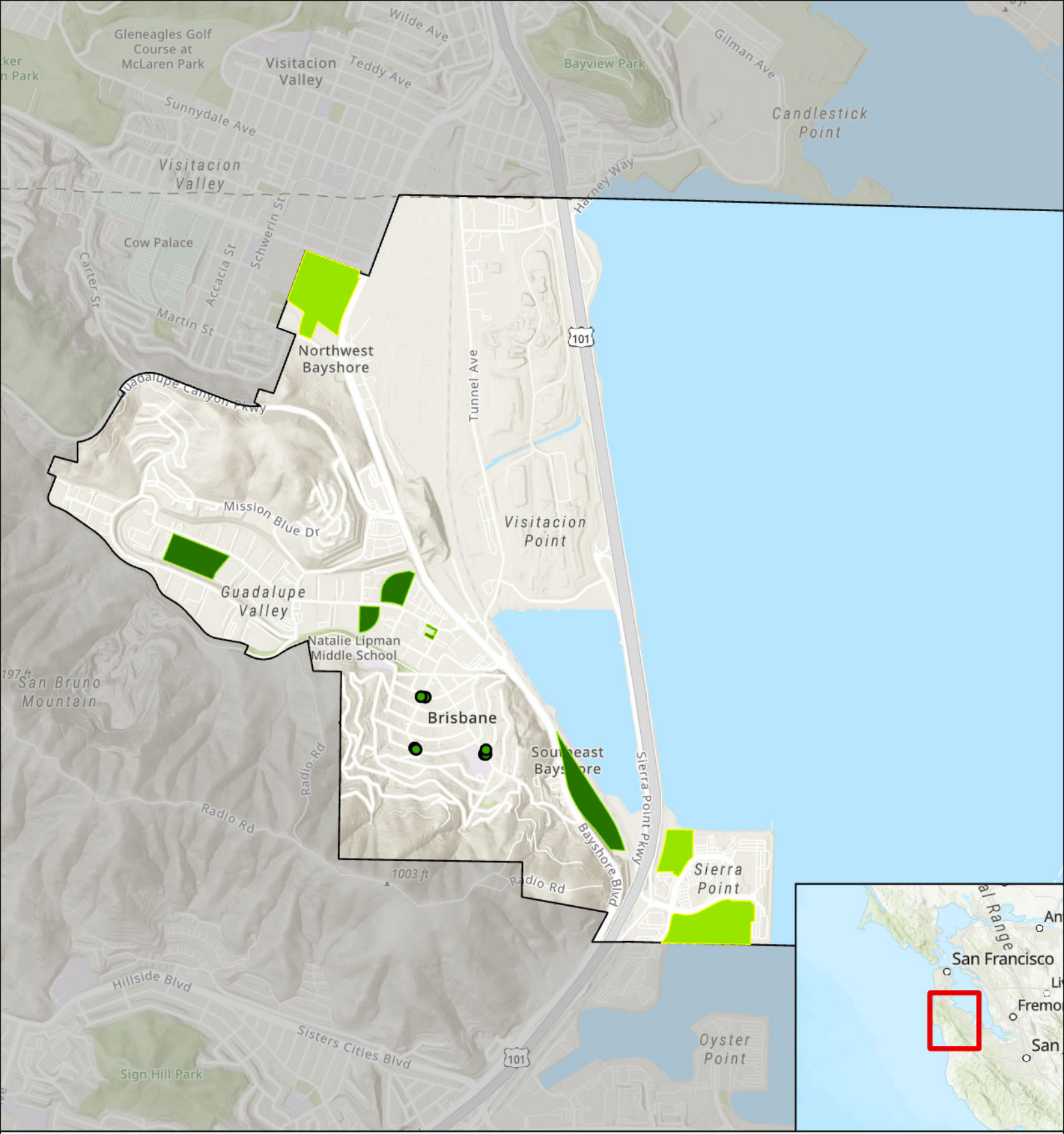


Figure A - 3 GI/LID and Other Stormwater Treatment Systems in Brisbane

- GSI FY21-22 and Later - Green Streets
- GSI Pre FY21-22 - Green Streets
- GSI FY21-22 and Later
- GSI Pre FY21-22
- City Limits
- High-Flow Capacity System Drainage Area Pre FY21-22
- High-Flow Capacity System Drainage Area FY21-22 and Later
- Catch Basin Inserts Drainage Areas Pre FY21-22
- Catch Basin Inserts Drainage Areas FY21-22 and Later

Data Sources:
City Boundaries: San Mateo County
Background: ESRI World Street Map

Map Created By: EOA, Inc.
Date: August 2024

N

0 0.23 0.45 0.9 Miles

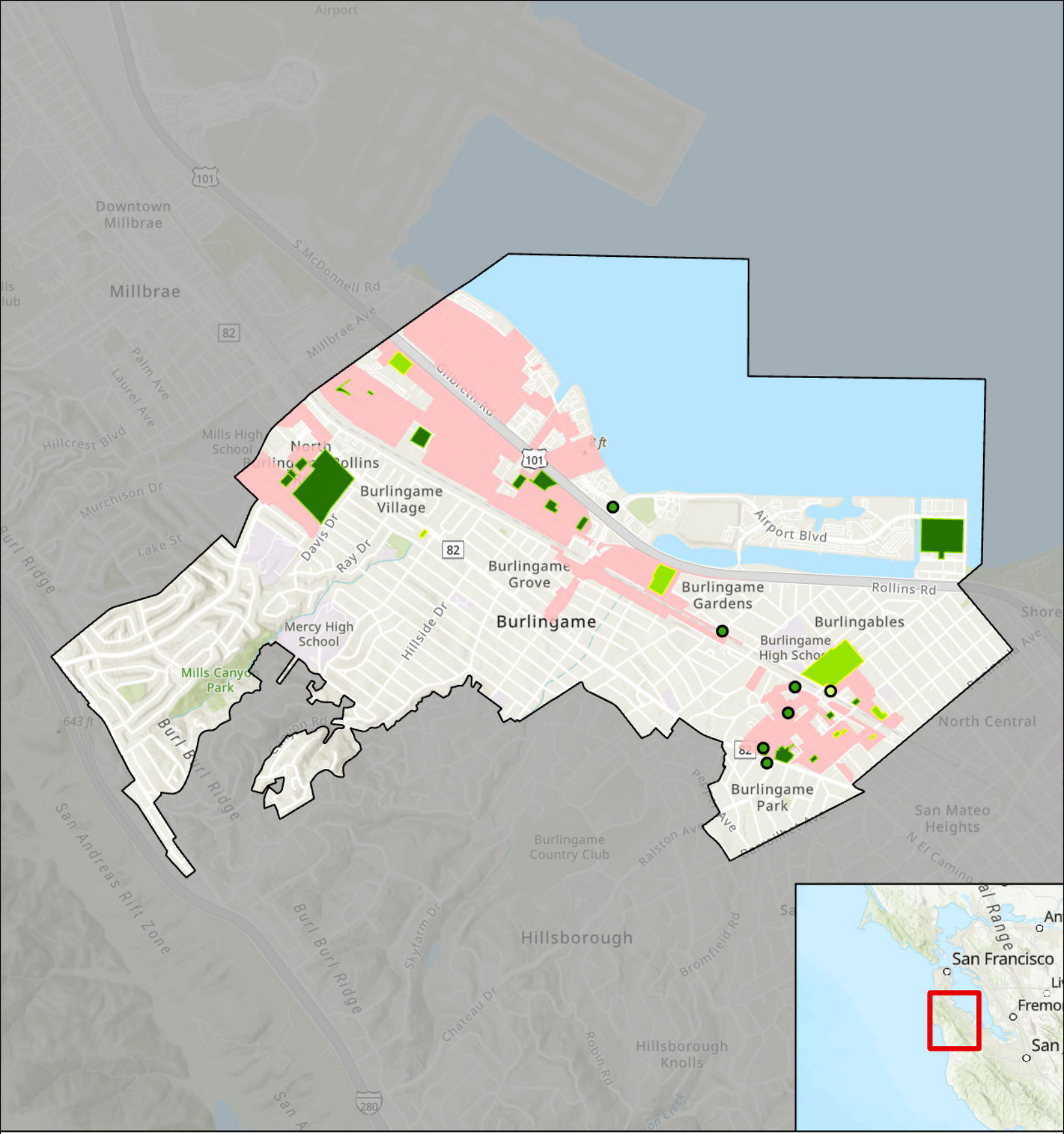


Figure A - 4 GI/LID and Other Stormwater Treatment Systems in Burlingame

- GI FY21-22 and Later - Green Streets
- GI Pre FY21-22 - Green Streets
- GI FY21-22 and Later
- GII Pre FY21-22
- City Limits
- High-Flow Capacity System Drainage Area Pre FY21-22
- High-Flow Capacity System Drainage Area FY21-22 and Later
- Catch Basin Inserts Drainage Areas Pre FY21-22
- Catch Basin Inserts Drainage Areas FY21-22 and Later

Data Sources:
City Boundaries: San Mateo County
Background: ESRI World Street Map

Map Created By: EOA, Inc.
Date: August 2024

N

0 0.28 0.55 1.1 Miles

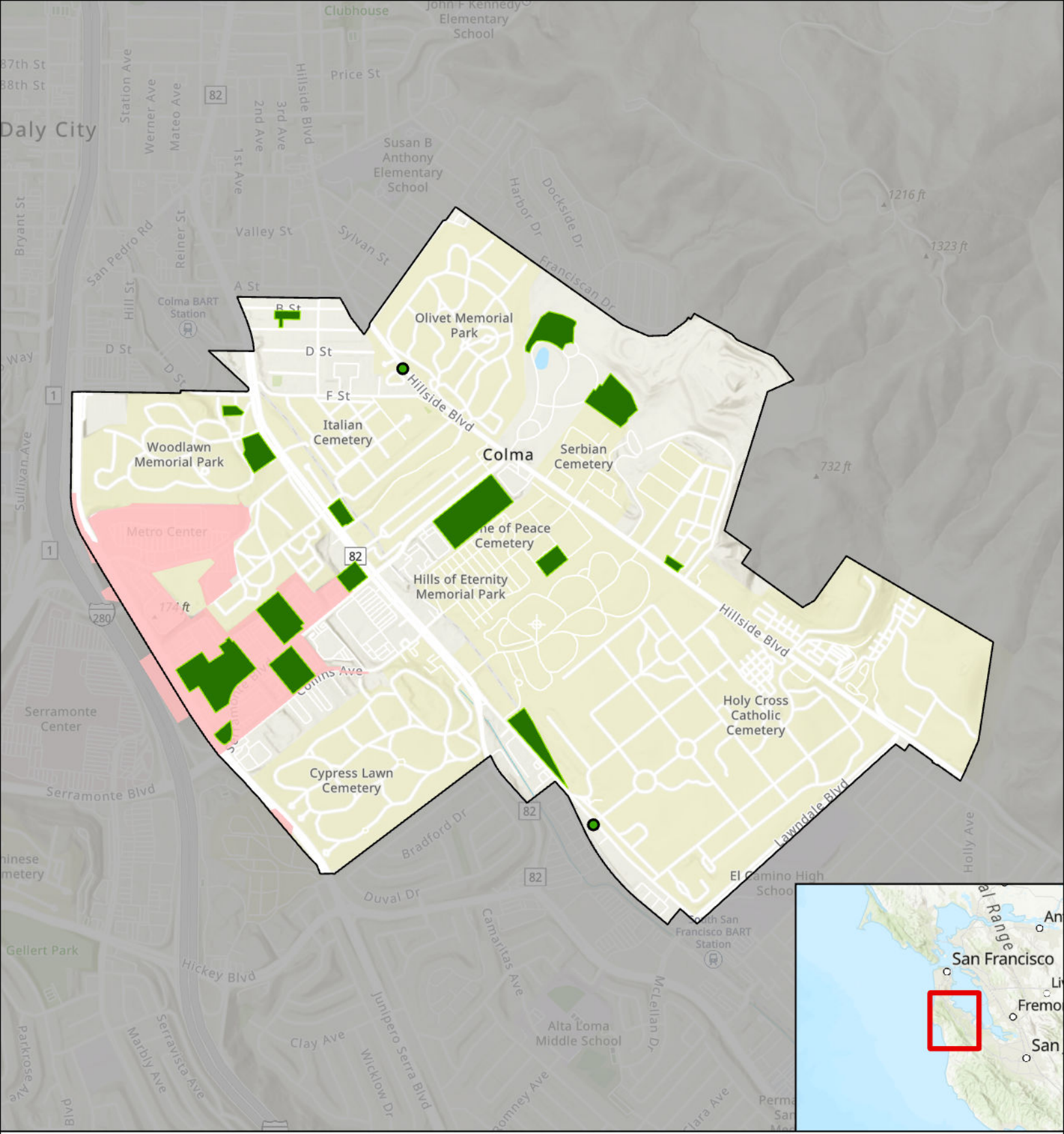


Figure A - 5 GI/LID and Other Stormwater Treatment Systems in Colma

- GI FY21-22 and Later - Green Streets
- GI Pre FY21-22 - Green Streets
- GI FY21-22 and Later
- GII Pre FY21-22
- City Limits
- High-Flow Capacity System Drainage Area Pre FY21-22
- High-Flow Capacity System Drainage Area FY21-22 and Later
- Catch Basin Inserts Drainage Areas Pre FY21-22
- Catch Basin Inserts Drainage Areas FY21-22 and Later

Data Sources:
City Boundaries: San Mateo County
Background: ESRI World Street Map

Map Created By: EOA, Inc.
Date: August 2024

N

0 0.15 0.3 0.6 Miles

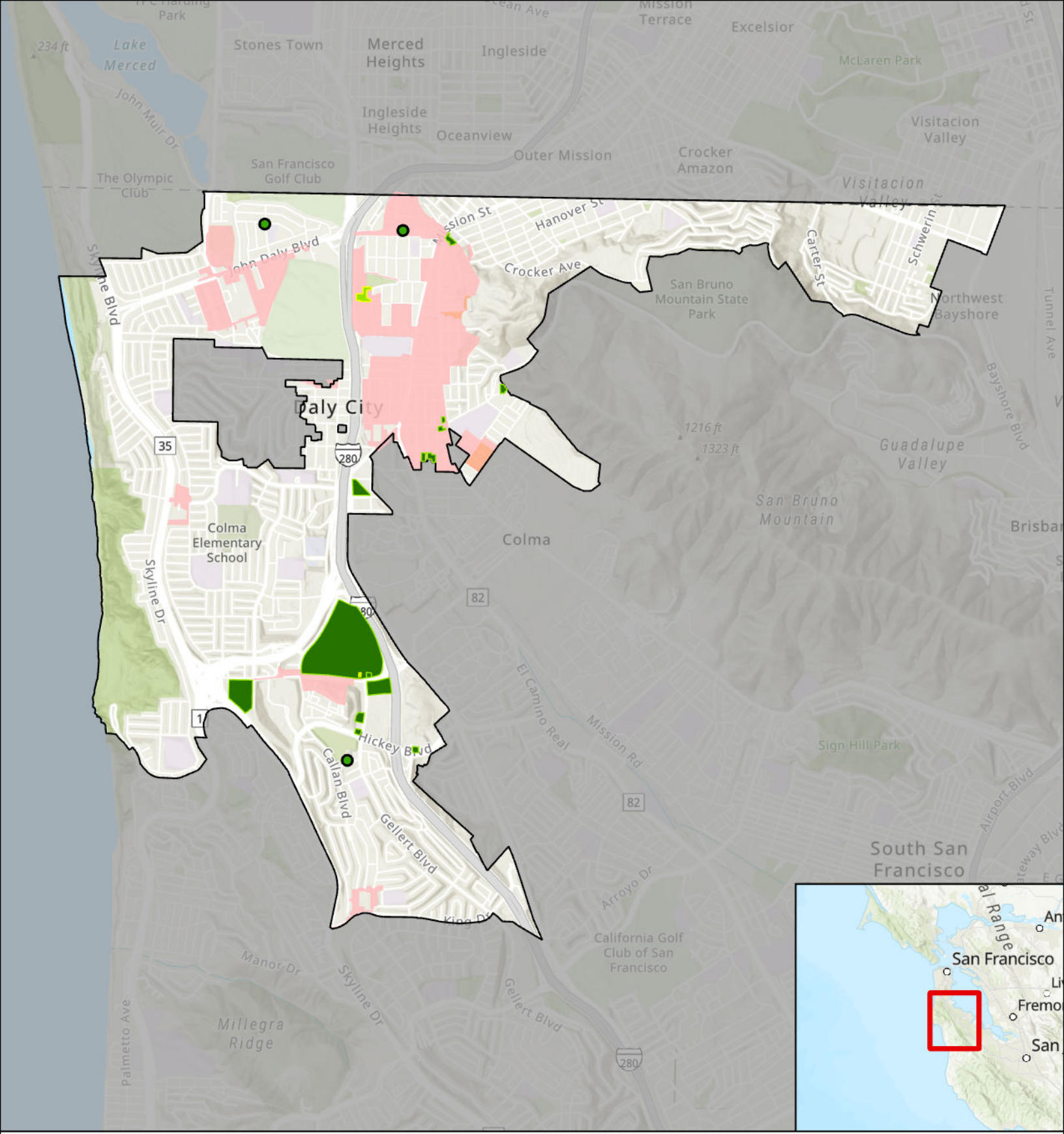


Figure A - 6 GI/LID and Other Stormwater Treatment Systems in Daly City

- GI FY21-22 and Later - Green Streets
- GI Pre FY21-22 - Green Streets
- GI FY21-22 and Later
- GII Pre FY21-22
- City Limits
- High-Flow Capacity System Drainage Area Pre FY21-22
- High-Flow Capacity System Drainage Area FY21-22 and Later
- Catch Basin Inserts Drainage Areas Pre FY21-22
- Catch Basin Inserts Drainage Areas FY21-22 and Later

Data Sources:
City Boundaries: San Mateo County
Background: ESRI World Street Map

Map Created By: EOA, Inc.
Date: August 2024

N

0 0.38 0.75 1.5 Miles

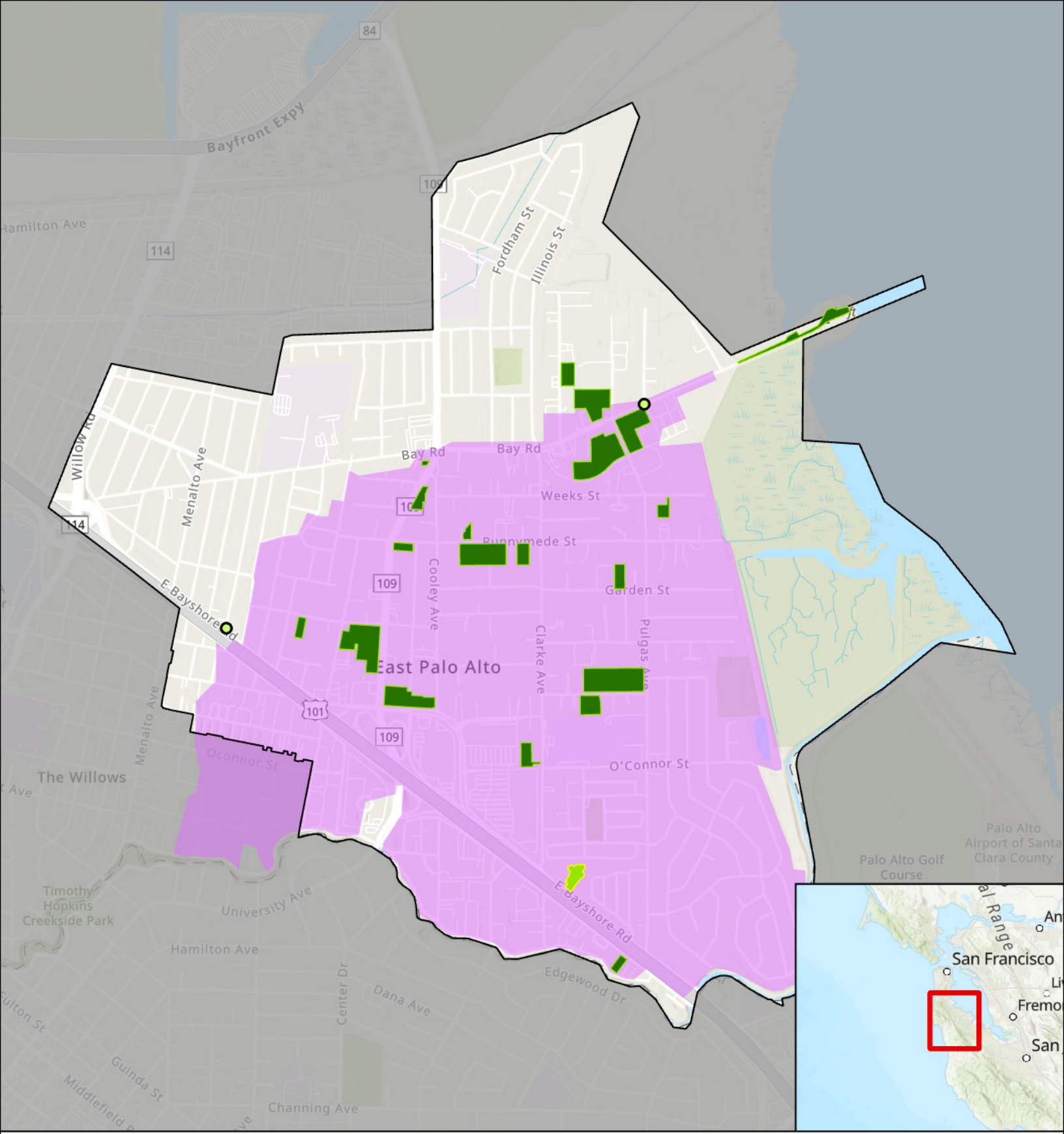


Figure A - 7 GI/LID and Other Stormwater Treatment Systems in East Palo Alto

- GI FY21-22 and Later - Green Streets
- GI Pre FY21-22 - Green Streets
- GI FY21-22 and Later
- GII Pre FY21-22
- City Limits
- High-Flow Capacity System Drainage Area Pre FY21-22
- High-Flow Capacity System Drainage Area FY21-22 and Later
- Catch Basin Inserts Drainage Areas Pre FY21-22
- Catch Basin Inserts Drainage Areas FY21-22 and Later

Data Sources:
City Boundaries: San Mateo County
Background: ESRI World Street Map

Map Created By: EOA, Inc.
Date: August 2024

N

0 0.15 0.3 0.6 Miles

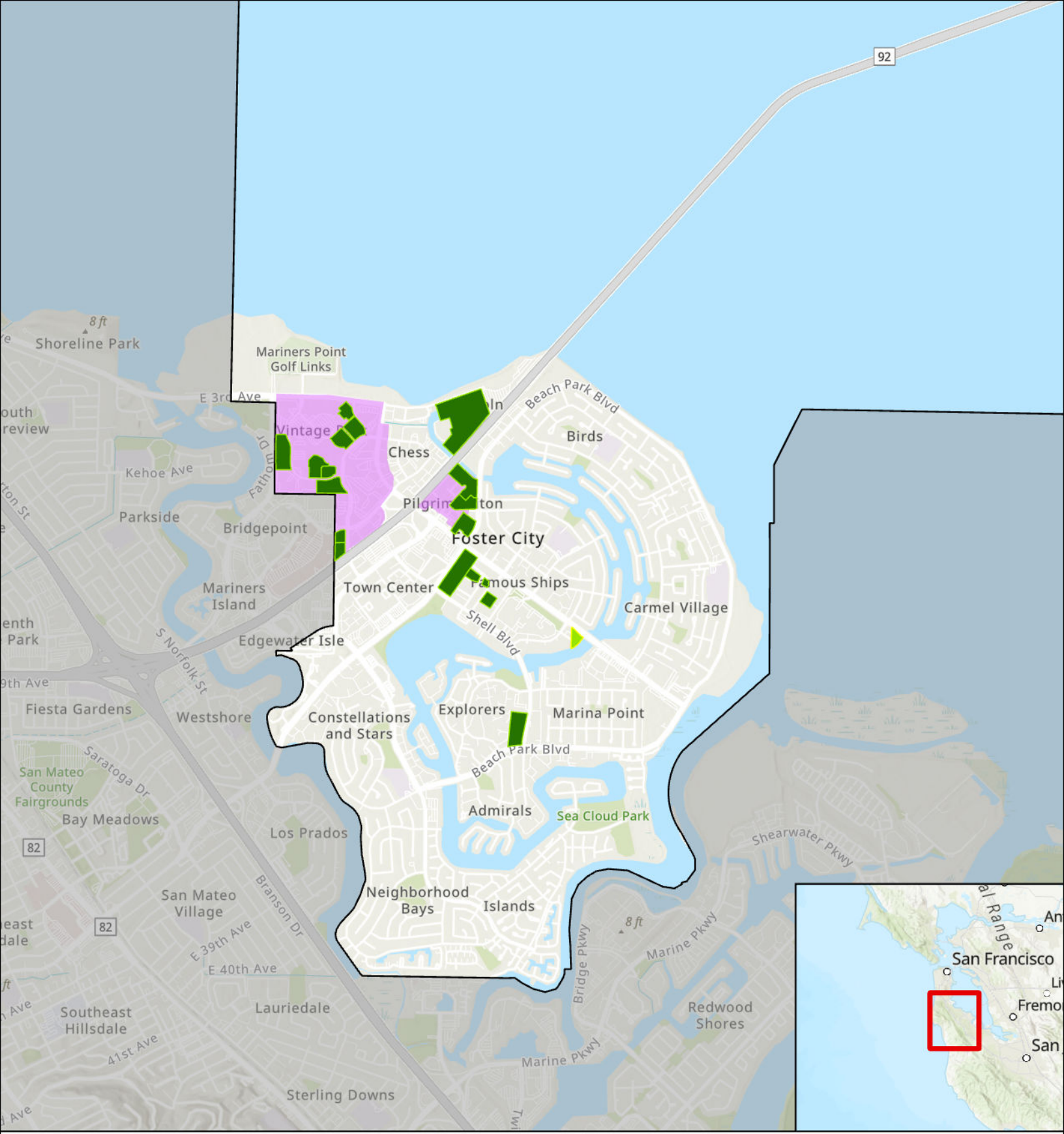


Figure A - 8 GI/LID and Other Stormwater Treatment Systems in Foster City

- GSI FY21-22 and Later - Green Streets
- GSI Pre FY21-22 - Green Streets
- GSI FY21-22 and Later
- GSI Pre FY21-22
- City Limits
- High-Flow Capacity System Drainage Area Pre FY21-22
- High-Flow Capacity System Drainage Area FY21-22 and Later
- Catch Basin Inserts Drainage Areas Pre FY21-22
- Catch Basin Inserts Drainage Areas FY21-22 and Later

Data Sources:
City Boundaries: San Mateo County
Background: ESRI World Street Map

Map Created By: EOA, Inc.
Date: August 2024

N

0 0.38 0.75 1.5 Miles

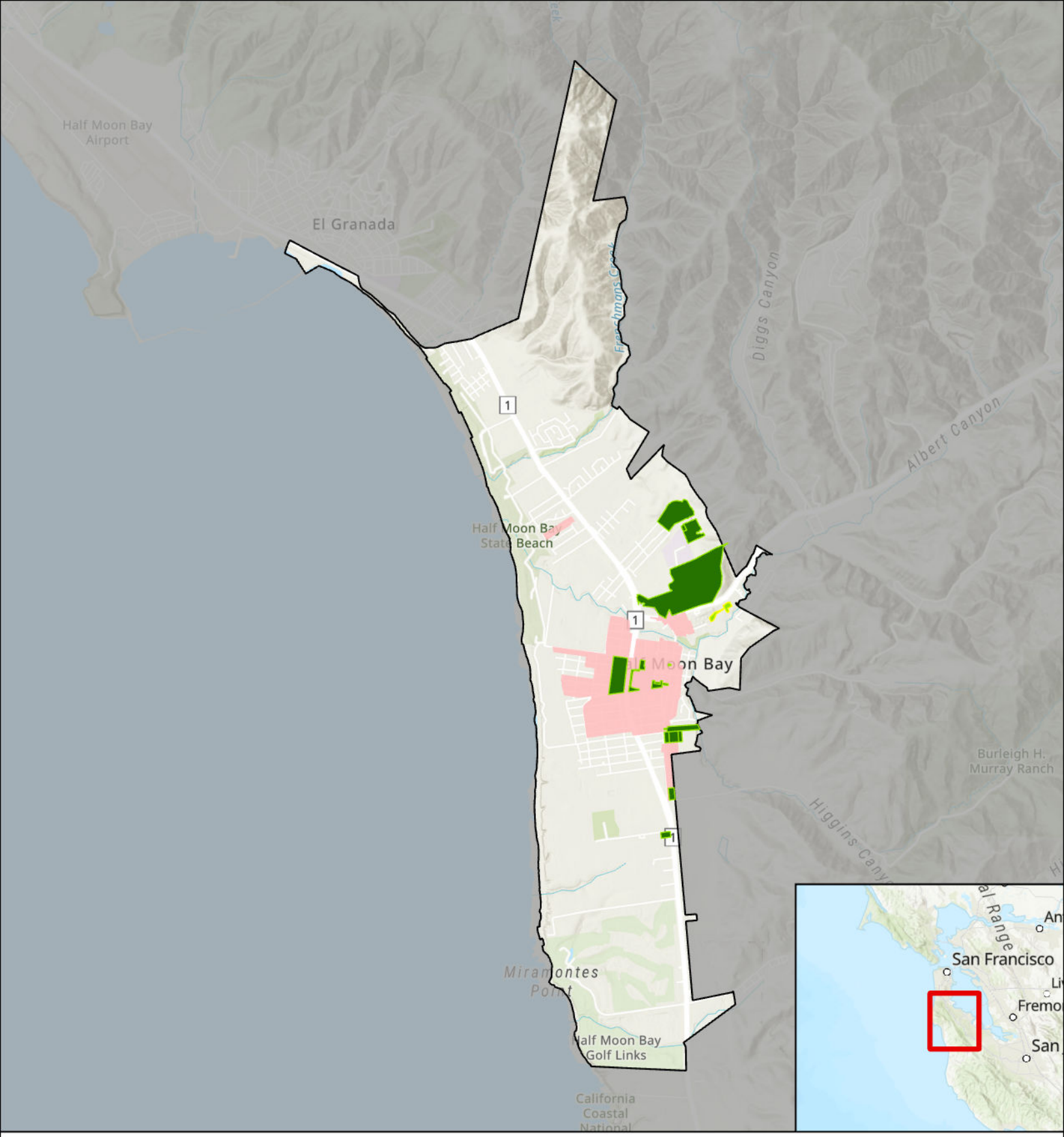


Figure A - 9 GI/LID and Other Stormwater Treatment Systems in Half Moon Bay

- GI FY21-22 and Later - Green Streets
- GI Pre FY21-22 - Green Streets
- GI FY21-22 and Later
- GII Pre FY21-22
- City Limits
- High-Flow Capacity System Drainage Area Pre FY21-22
- High-Flow Capacity System Drainage Area FY21-22 and Later
- Catch Basin Inserts Drainage Areas Pre FY21-22
- Catch Basin Inserts Drainage Areas FY21-22 and Later

Data Sources:
City Boundaries: San Mateo County
Background: ESRI World Street Map

Map Created By: EOA, Inc.
Date: August 2024

N

0 0.45 0.9 1.8 Miles

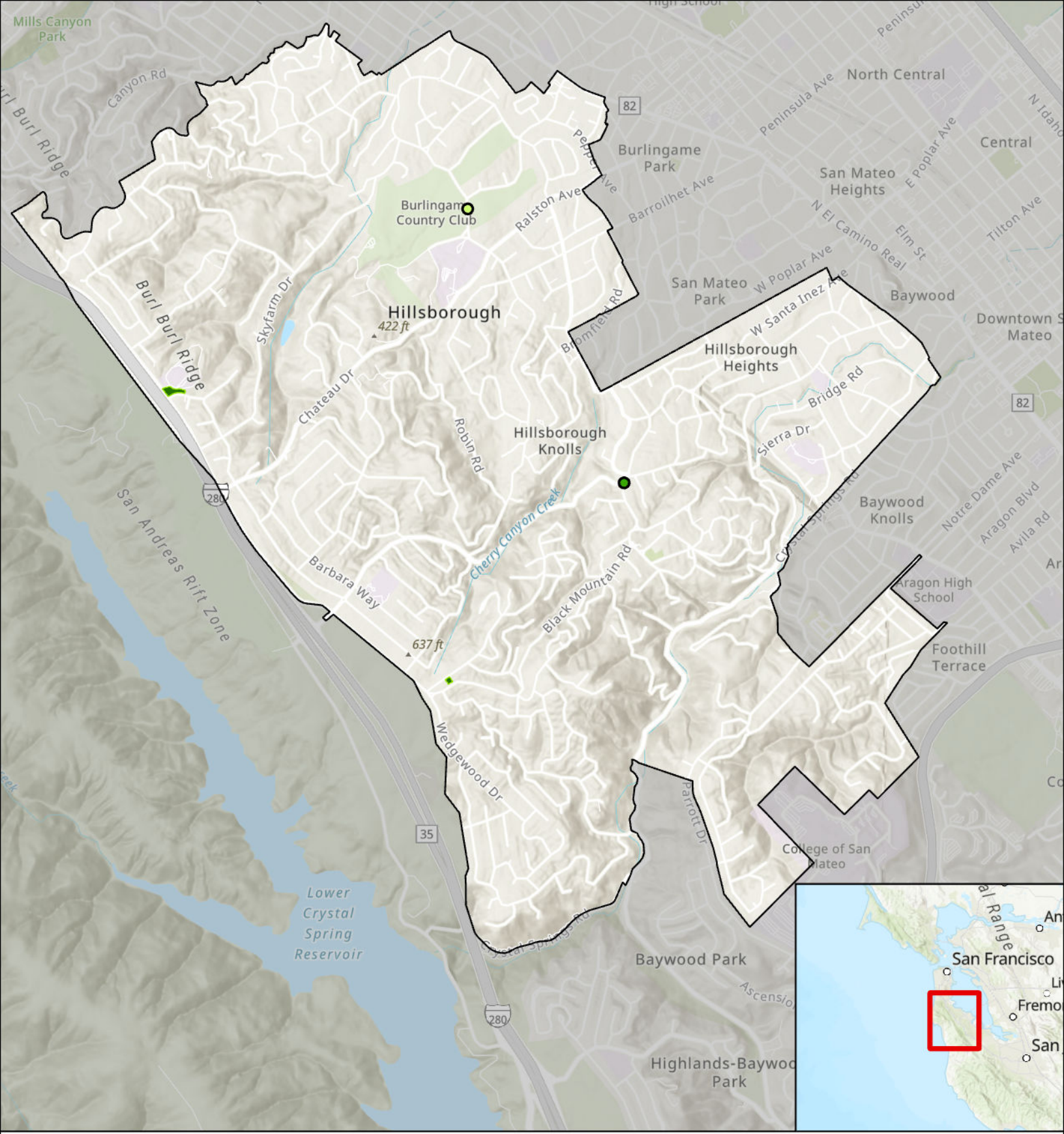


Figure A - 10 GI/LID and Other Stormwater Treatment Systems in Hillsborough

- GSI FY21-22 and Later - Green Streets
- GSI Pre FY21-22 - Green Streets
- GSI FY21-22 and Later
- GSI Pre FY21-22
- City Limits
- High-Flow Capacity System Drainage Area Pre FY21-22
- High-Flow Capacity System Drainage Area FY21-22 and Later
- Catch Basin Inserts Drainage Areas Pre FY21-22
- Catch Basin Inserts Drainage Areas FY21-22 and Later

Data Sources:
City Boundaries: San Mateo County
Background: ESRI World Street Map

Map Created By: EOA, Inc.
Date: August 2024

N

0 0.38 0.75 1.5 Miles

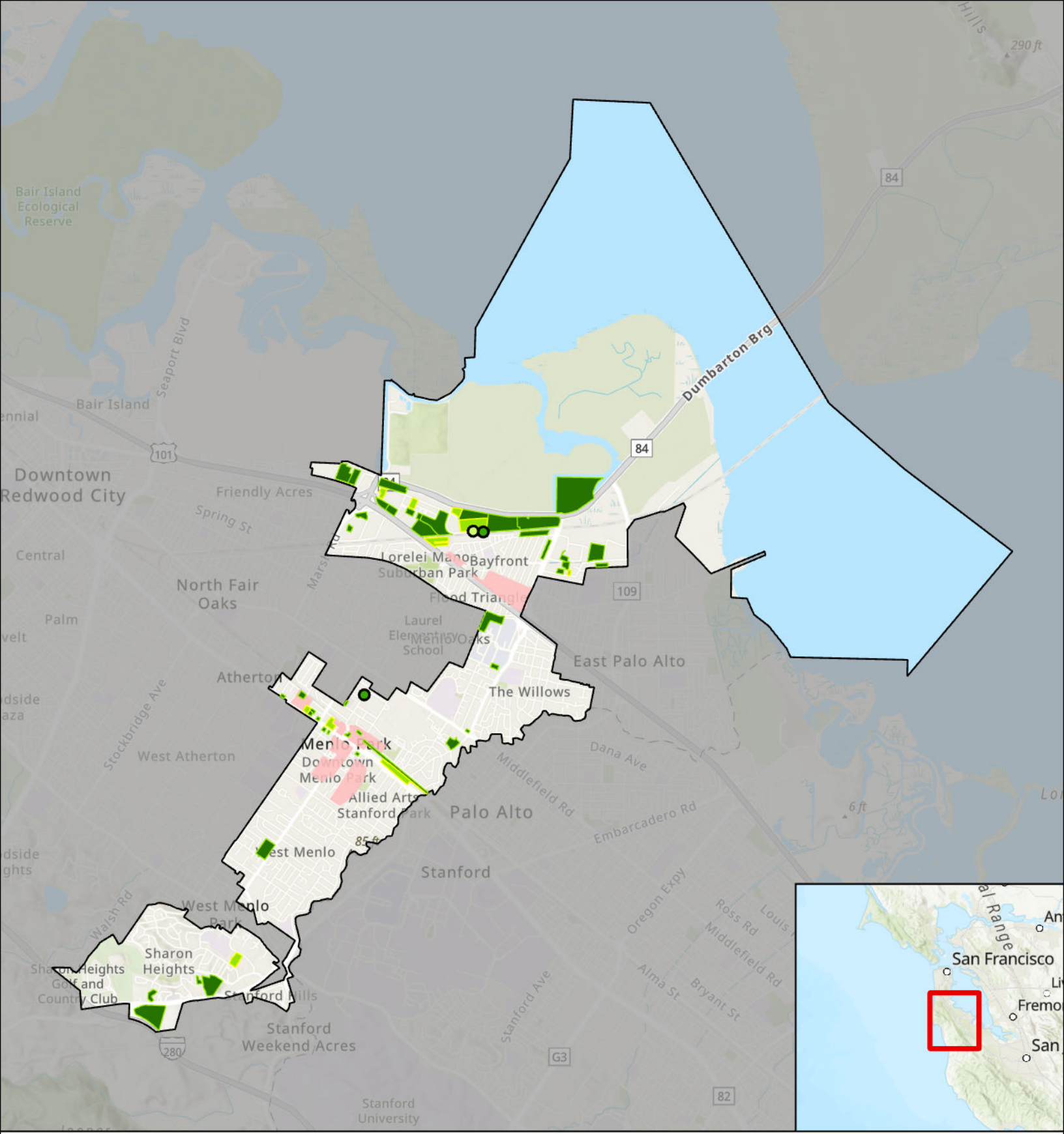


Figure A - 11 GI/LID and Other Stormwater Treatment Systems in Menlo Park

- GI FY21-22 and Later - Green Streets
- GI Pre FY21-22 - Green Streets
- GI FY21-22 and Later
- GII Pre FY21-22
- City Limits
- High-Flow Capacity System Drainage Area Pre FY21-22
- High-Flow Capacity System Drainage Area FY21-22 and Later
- Catch Basin Inserts Drainage Areas Pre FY21-22
- Catch Basin Inserts Drainage Areas FY21-22 and Later

Data Sources:
City Boundaries: San Mateo County
Background: ESRI World Street Map

Map Created By: EOA, Inc.
Date: August 2024

N

0 0.5 1 2 Miles

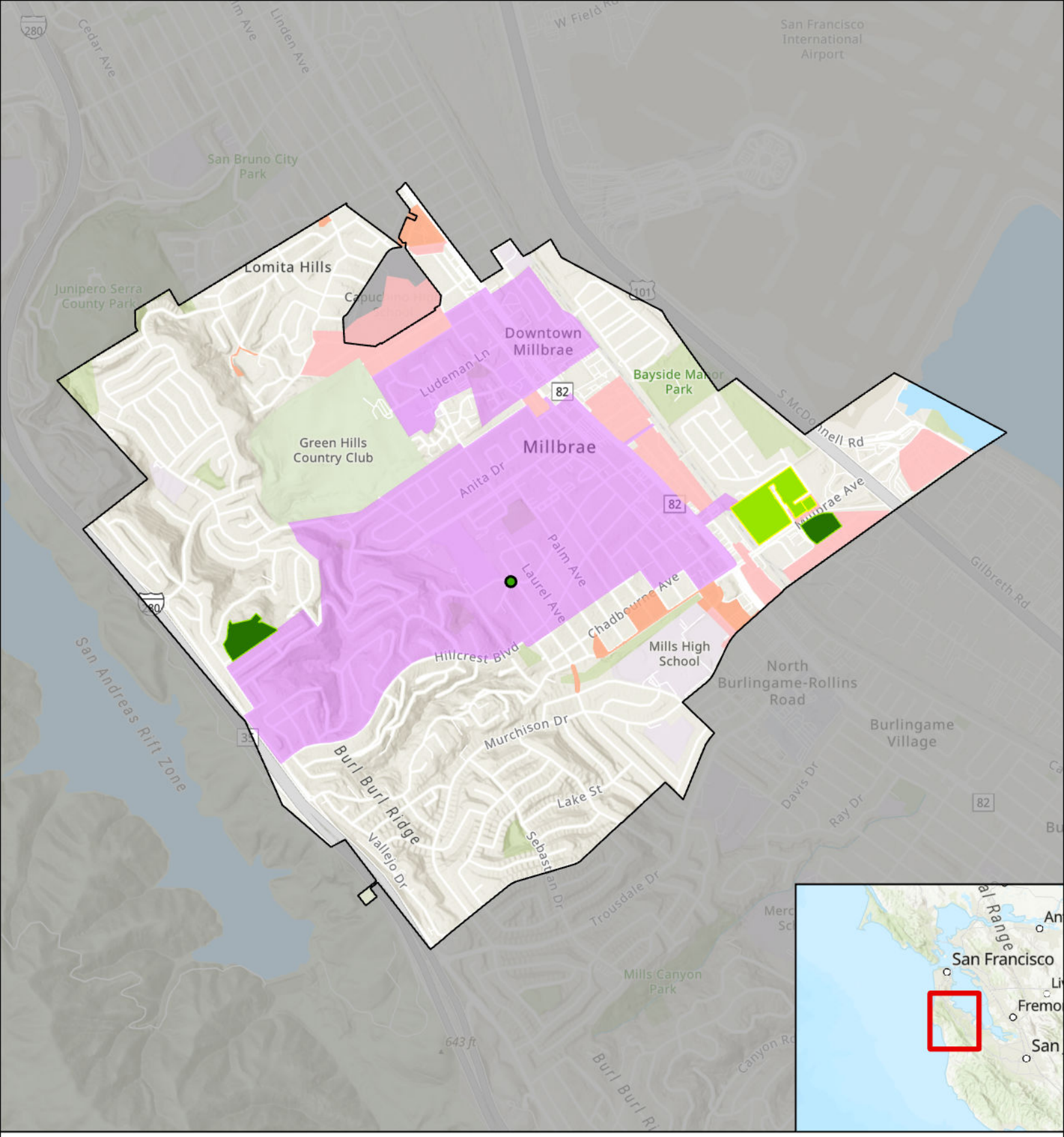


Figure A - 12 GI/LID and Other Stormwater Treatment Systems in Millbrae

- GI FY21-22 and Later - Green Streets
- GI Pre FY21-22 - Green Streets
- GI FY21-22 and Later
- GII Pre FY21-22
- City Limits
- High-Flow Capacity System Drainage Area Pre FY21-22
- High-Flow Capacity System Drainage Area FY21-22 and Later
- Catch Basin Inserts Drainage Areas Pre FY21-22
- Catch Basin Inserts Drainage Areas FY21-22 and Later

Data Sources:
City Boundaries: San Mateo County
Background: ESRI World Street Map

Map Created By: EOA, Inc.
Date: August 2024

N

0 0.2 0.4 0.8 Miles

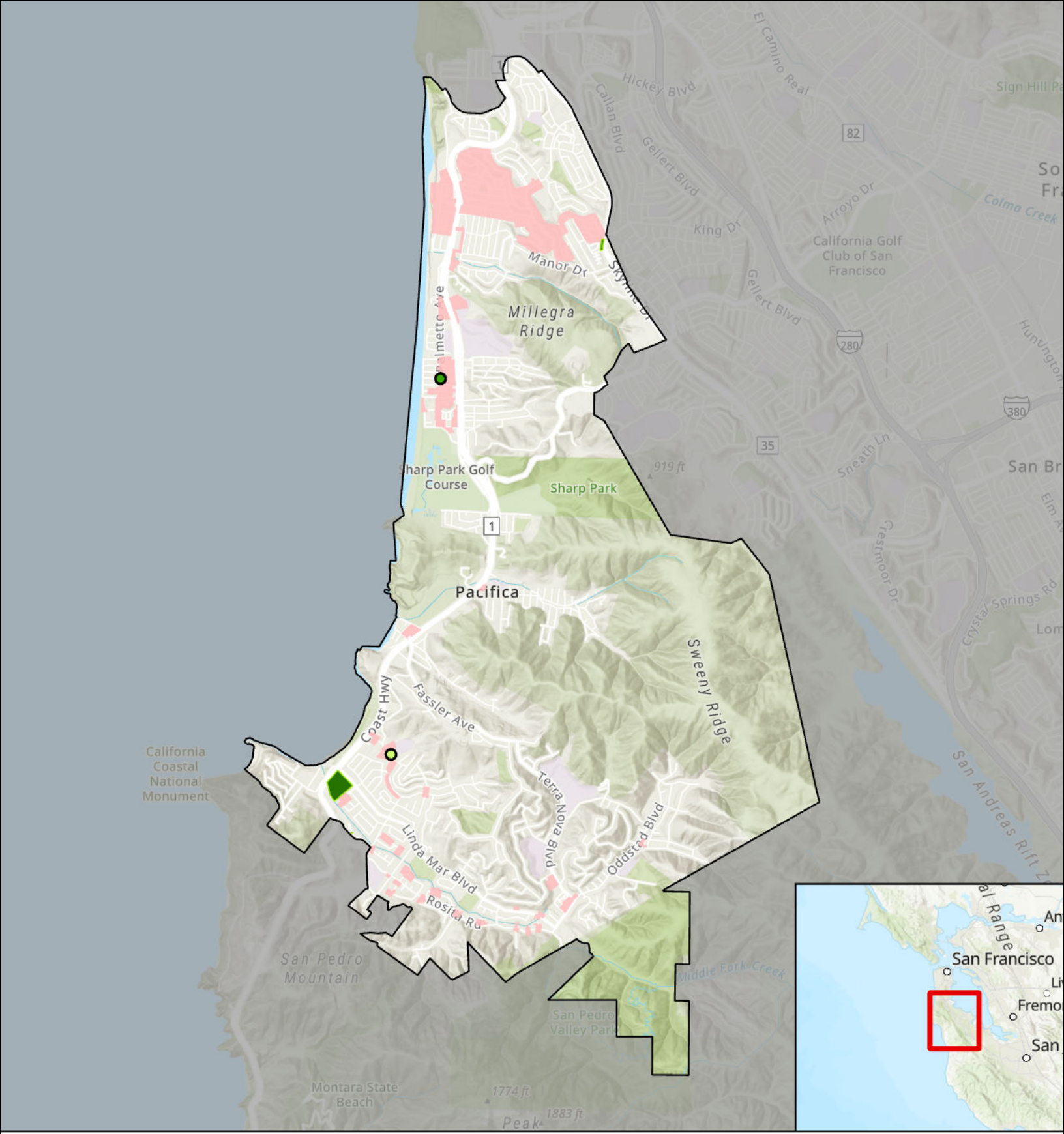


Figure A - 13 GI/LID and Other Stormwater Treatment Systems in Pacifica

- GI FY21-22 and Later - Green Streets
- GI Pre FY21-22 - Green Streets
- GI FY21-22 and Later
- GII Pre FY21-22
- City Limits
- High-Flow Capacity System Drainage Area Pre FY21-22
- High-Flow Capacity System Drainage Area FY21-22 and Later
- Catch Basin Inserts Drainage Areas Pre FY21-22
- Catch Basin Inserts Drainage Areas FY21-22 and Later

Data Sources:
City Boundaries: San Mateo County
Background: ESRI World Street Map

Map Created By: EOA, Inc.
Date: August 2024

N

0 0.5 1 2 Miles

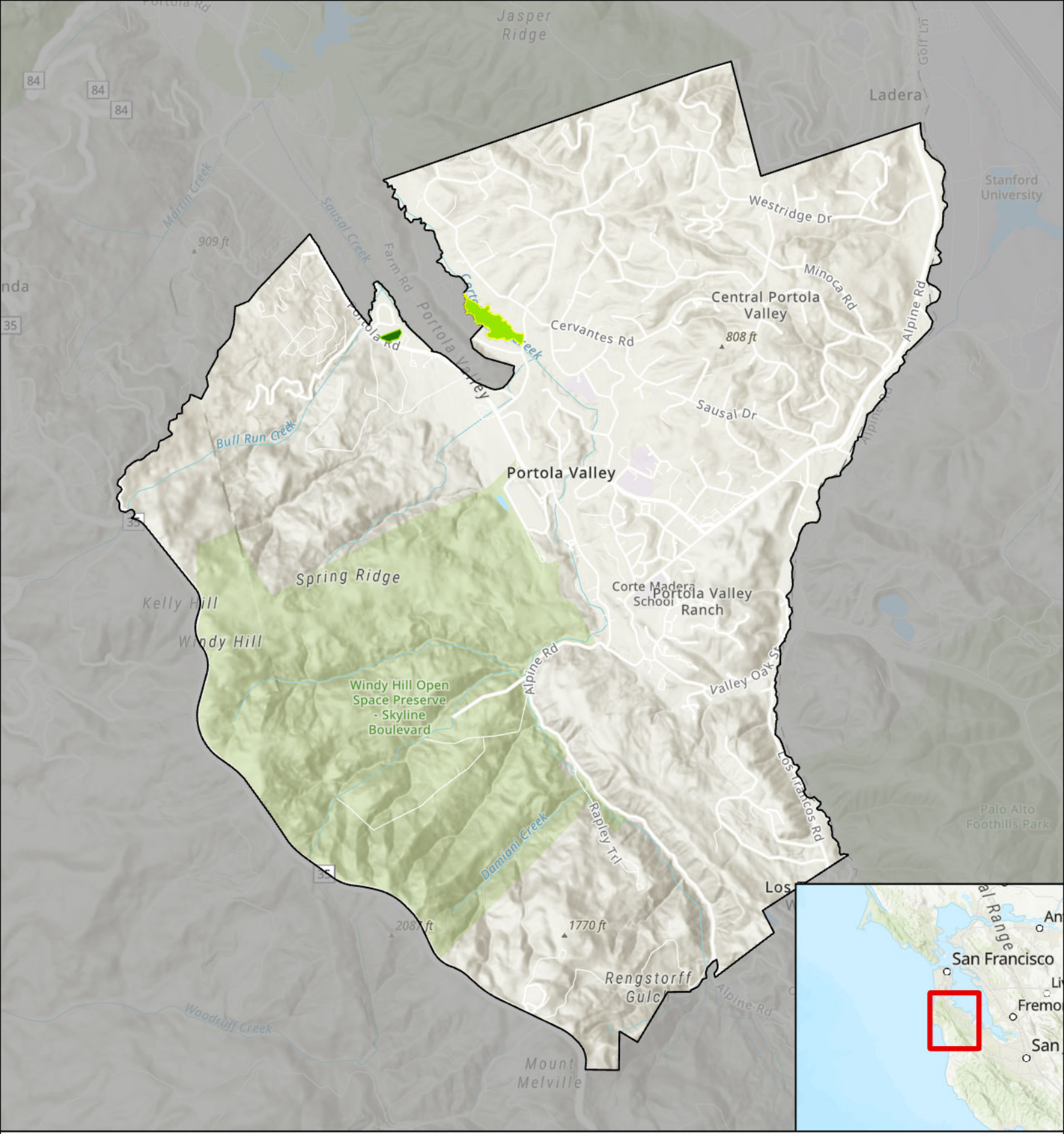


Figure A - 14 GI/LID and Other Stormwater Treatment Systems in Portola Valley

- GI FY21-22 and Later - Green Streets
- GI Pre FY21-22 - Green Streets
- GI FY21-22 and Later
- GII Pre FY21-22
- City Limits
- High-Flow Capacity System Drainage Area Pre FY21-22
- High-Flow Capacity System Drainage Area FY21-22 and Later
- Catch Basin Inserts Drainage Areas Pre FY21-22
- Catch Basin Inserts Drainage Areas FY21-22 and Later

Data Sources:
City Boundaries: San Mateo County
Background: ESRI World Street Map

Map Created By: EOA, Inc.
Date: August 2024

N

0 0.3 0.6 1.2 Miles

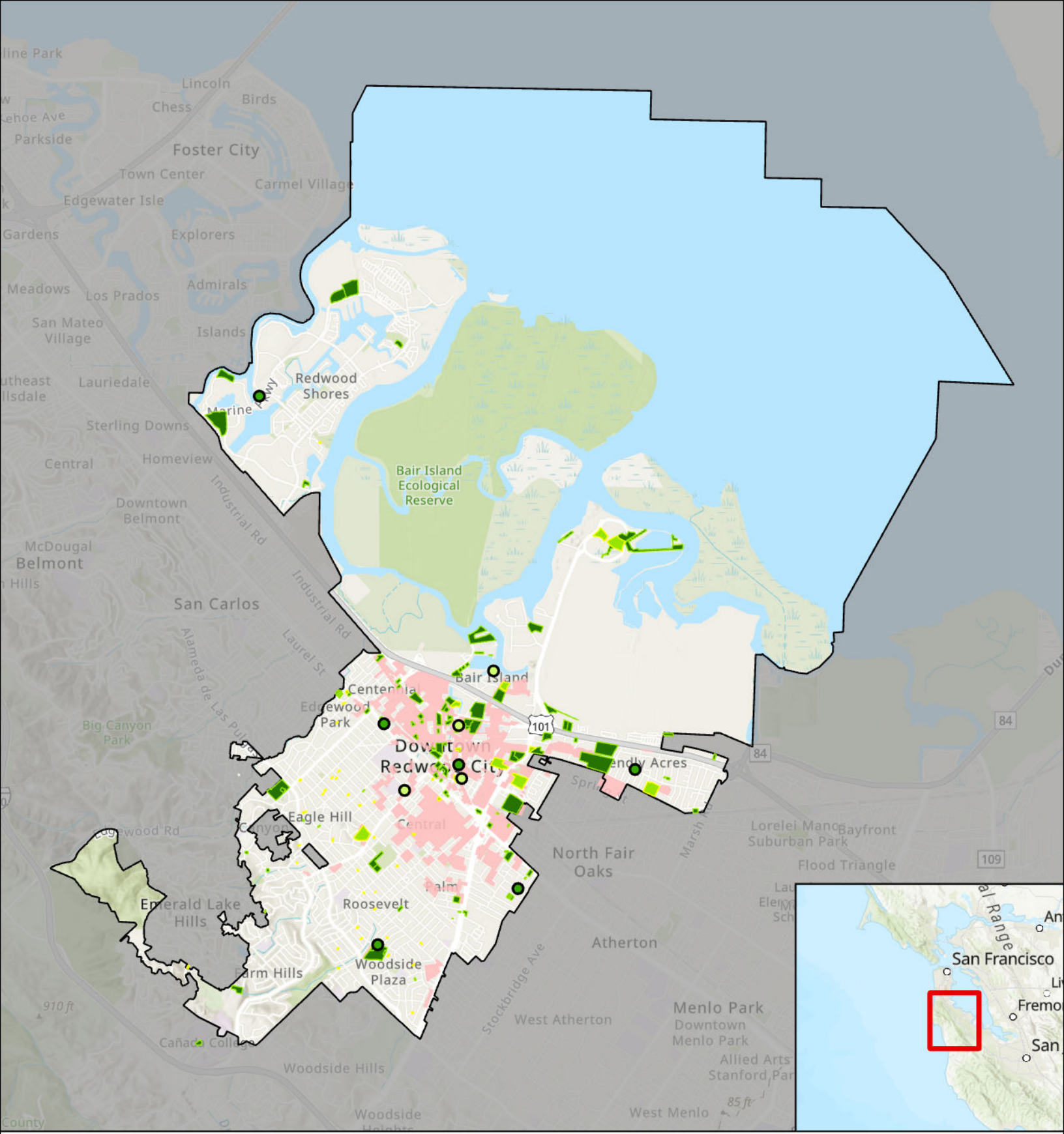


Figure A - 15 GI/LID and Other Stormwater Treatment Systems in Redwood City

- GI FY21-22 and Later - Green Streets
- GI Pre FY21-22 - Green Streets
- GI FY21-22 and Later
- GII Pre FY21-22
- City Limits
- High-Flow Capacity System Drainage Area Pre FY21-22
- High-Flow Capacity System Drainage Area FY21-22 and Later
- Catch Basin Inserts Drainage Areas Pre FY21-22
- Catch Basin Inserts Drainage Areas FY21-22 and Later

Data Sources:
City Boundaries: San Mateo County
Background: ESRI World Street Map

Map Created By: EOA, Inc.
Date: August 2024

N

0 0.5 1 2 Miles

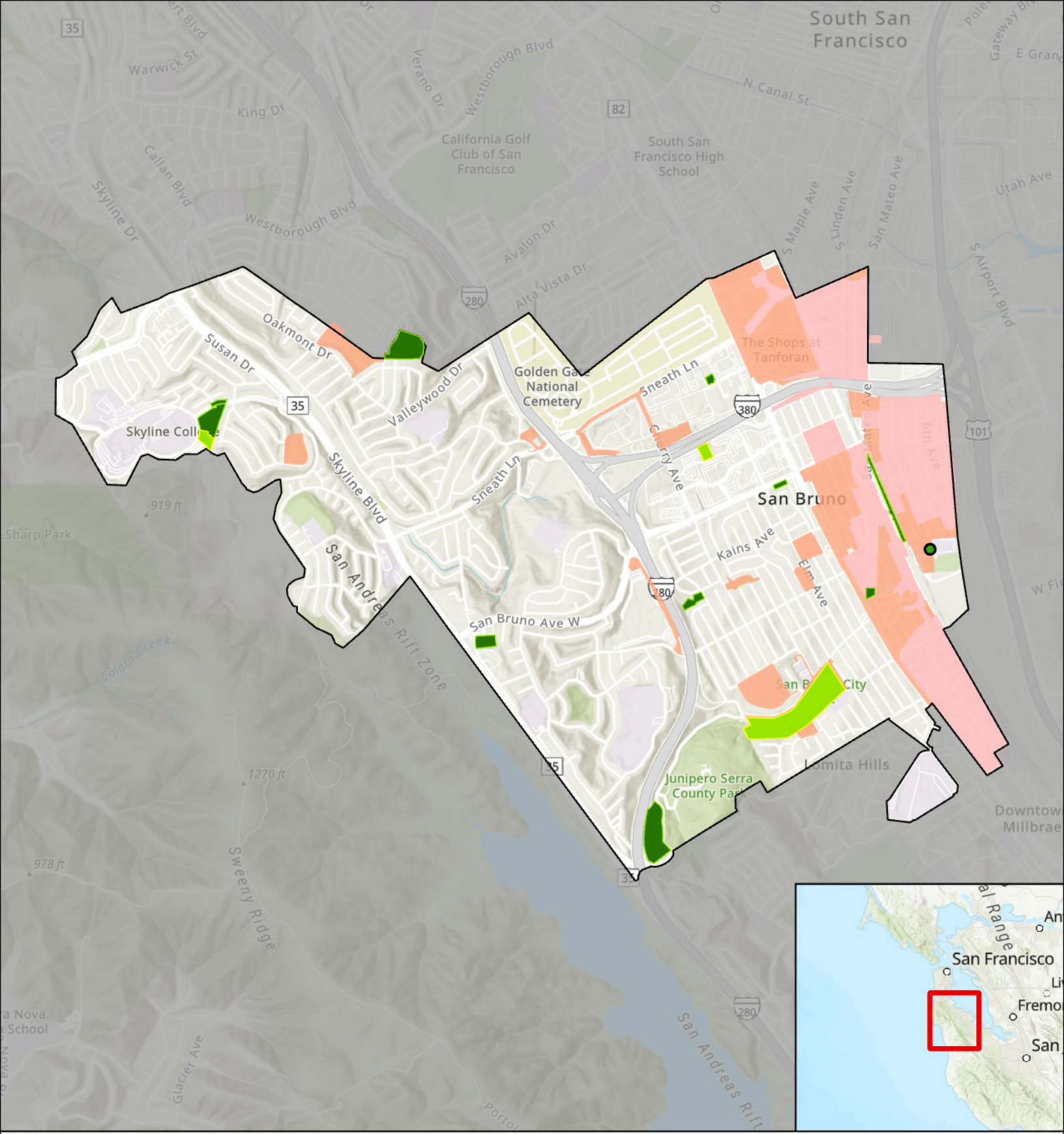


Figure A - 16 GI/LID and Other Stormwater Treatment Systems in San Bruno

- GI FY21-22 and Later - Green Streets
- GI Pre FY21-22 - Green Streets
- GI FY21-22 and Later
- GII Pre FY21-22
- City Limits
- High-Flow Capacity System Drainage Area Pre FY21-22
- High-Flow Capacity System Drainage Area FY21-22 and Later
- Catch Basin Inserts Drainage Areas Pre FY21-22
- Catch Basin Inserts Drainage Areas FY21-22 and Later

Data Sources:
City Boundaries: San Mateo County
Background: ESRI World Street Map

Map Created By: EOA, Inc.
Date: August 2024

N

0 0.28 0.55 1.1 Miles

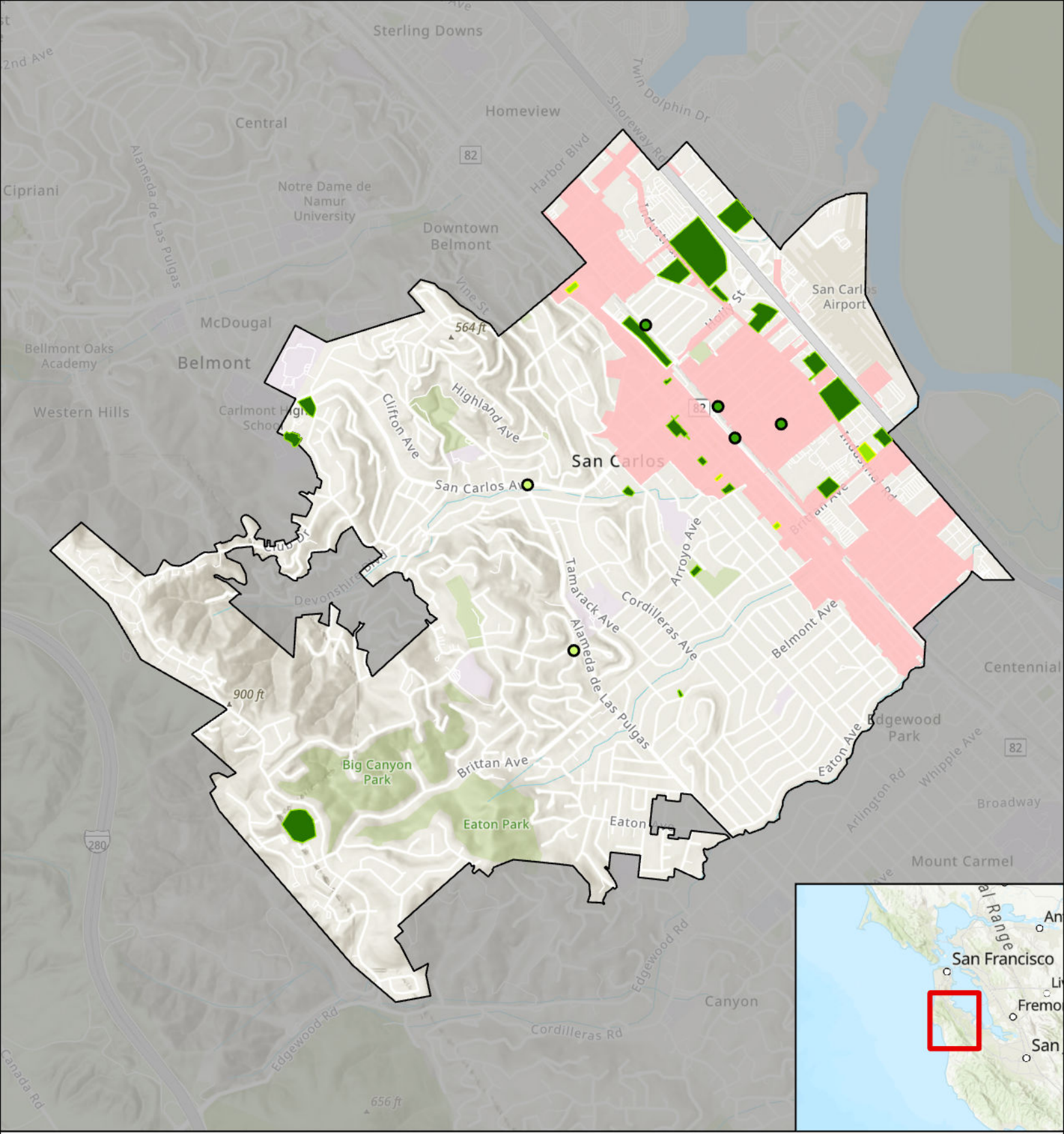


Figure A - 17 GI/LID and Other Stormwater Treatment Systems in San Carlos

- GI FY21-22 and Later - Green Streets
- GI Pre FY21-22 - Green Streets
- GI FY21-22 and Later
- GII Pre FY21-22
- City Limits
- High-Flow Capacity System Drainage Area Pre FY21-22
- High-Flow Capacity System Drainage Area FY21-22 and Later
- Catch Basin Inserts Drainage Areas Pre FY21-22
- Catch Basin Inserts Drainage Areas FY21-22 and Later

Data Sources:
City Boundaries: San Mateo County
Background: ESRI World Street Map

Map Created By: EOA, Inc.
Date: August 2024

N

0 0.25 0.5 1 Miles

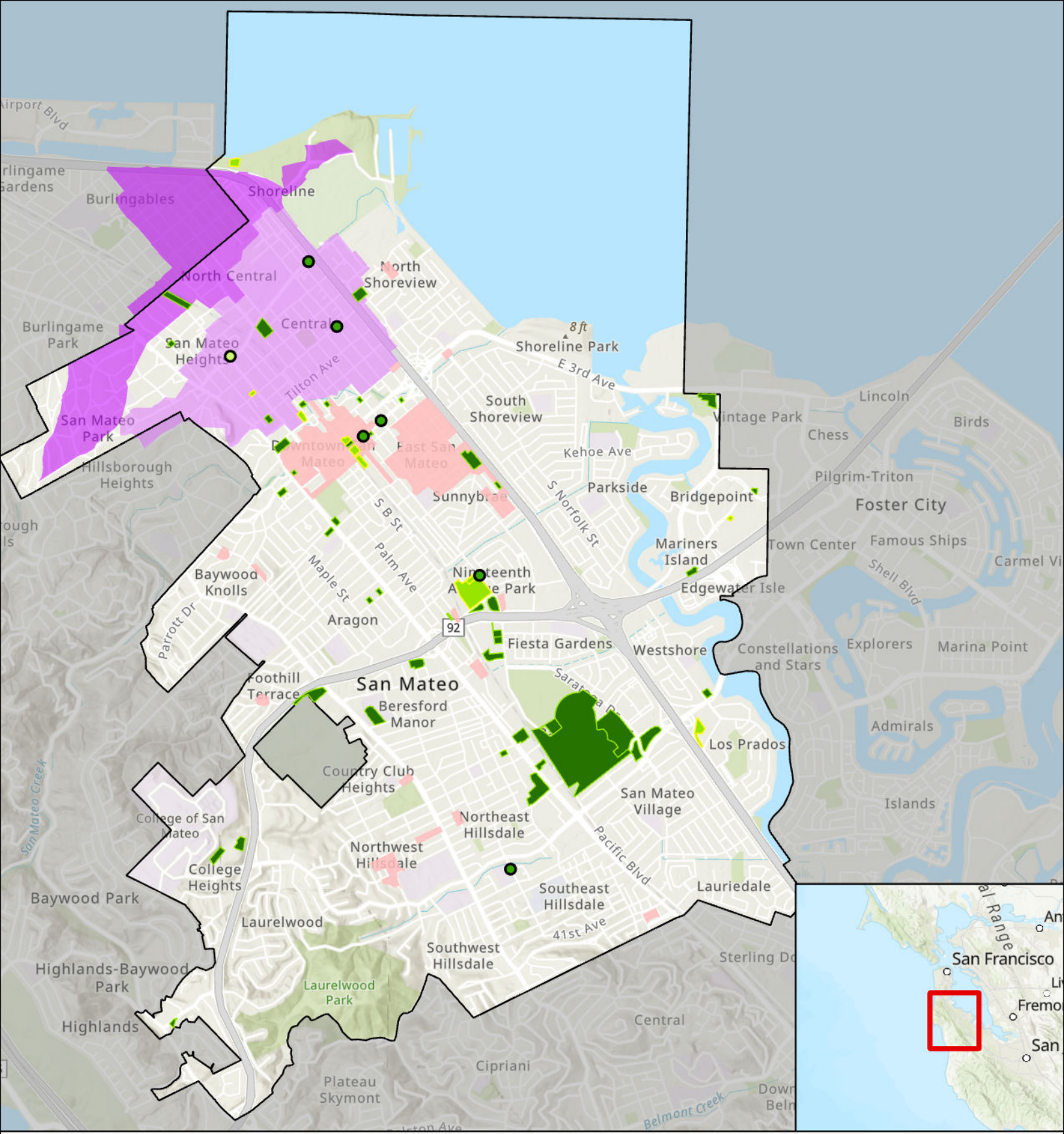


Figure A - 18 GI/LID and Other Stormwater Treatment Systems in San Mateo

- GSI FY21-22 and Later - Green Streets
- GSI Pre FY21-22 - Green Streets
- GSI FY21-22 and Later
- GSI Pre FY21-22
- City Limits
- High-Flow Capacity System Drainage Area Pre FY21-22
- High-Flow Capacity System Drainage Area FY21-22 and Later
- Catch Basin Inserts Drainage Areas Pre FY21-22
- Catch Basin Inserts Drainage Areas FY21-22 and Later

Data Sources:
City Boundaries: San Mateo County
Background: ESRI World Street Map

Map Created By: EOA, Inc.
Date: August 2024

N

0 0.38 0.75 1.5 Miles

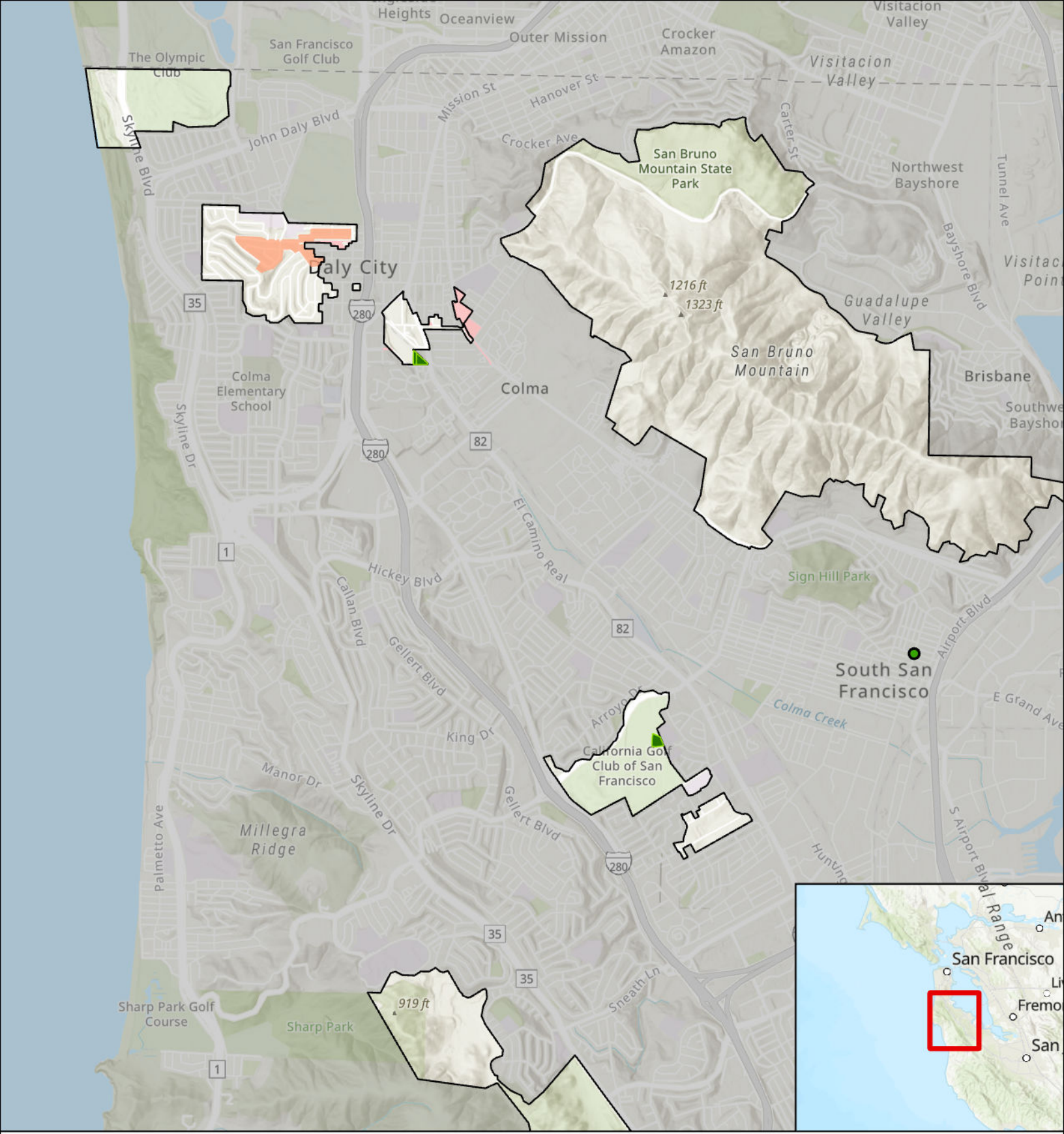


Figure A - 19a GI/LID and Other Stormwater Treatment Systems in San Mateo County

- GSI FY21-22 and Later - Green Streets
- GSI Pre FY21-22 - Green Streets
- GSI FY21-22 and Later
- GSI Pre FY21-22
- City Limits
- High-Flow Capacity System Drainage Area Pre FY21-22
- High-Flow Capacity System Drainage Area FY21-22 and Later
- Catch Basin Inserts Drainage Areas Pre FY21-22
- Catch Basin Inserts Drainage Areas FY21-22 and Later

Data Sources:
City Boundaries: San Mateo County
Background: ESRI World Street Map

Map Created By: EOA, Inc.
Date: August 2024

N

0 0.28 0.55 1.1 Miles

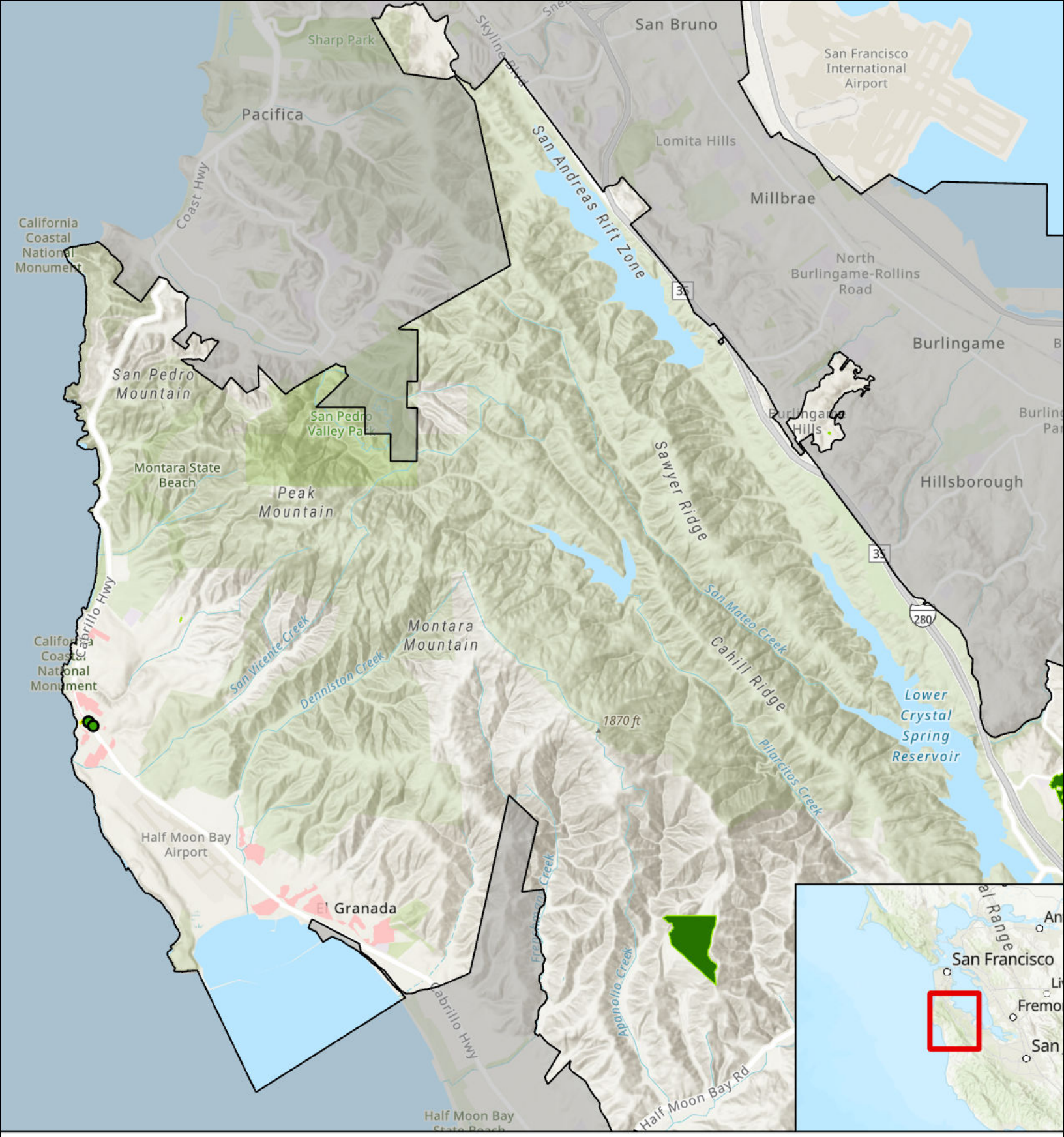


Figure A - 19b GI/LID and Other Stormwater Treatment Systems in San Mateo County

- GSI FY21-22 and Later - Green Streets
- GSI Pre FY21-22 - Green Streets
- GSI FY21-22 and later
- GSI Pre FY21-22
- City Limits
- High-Flow Capacity System Drainage Area Pre FY21-22
- High-Flow Capacity System Drainage Area FY21-22 and Later
- Catch Basin Inserts Drainage Areas Pre FY21-22
- Catch Basin Inserts Drainage Areas FY21-22 and Later

Data Sources:
City Boundaries: San Mateo County
Background: ESRI World Street Map

Map Created By: EOA, Inc.
Date: August 2024

N

0 0.280.55 1.1 Miles

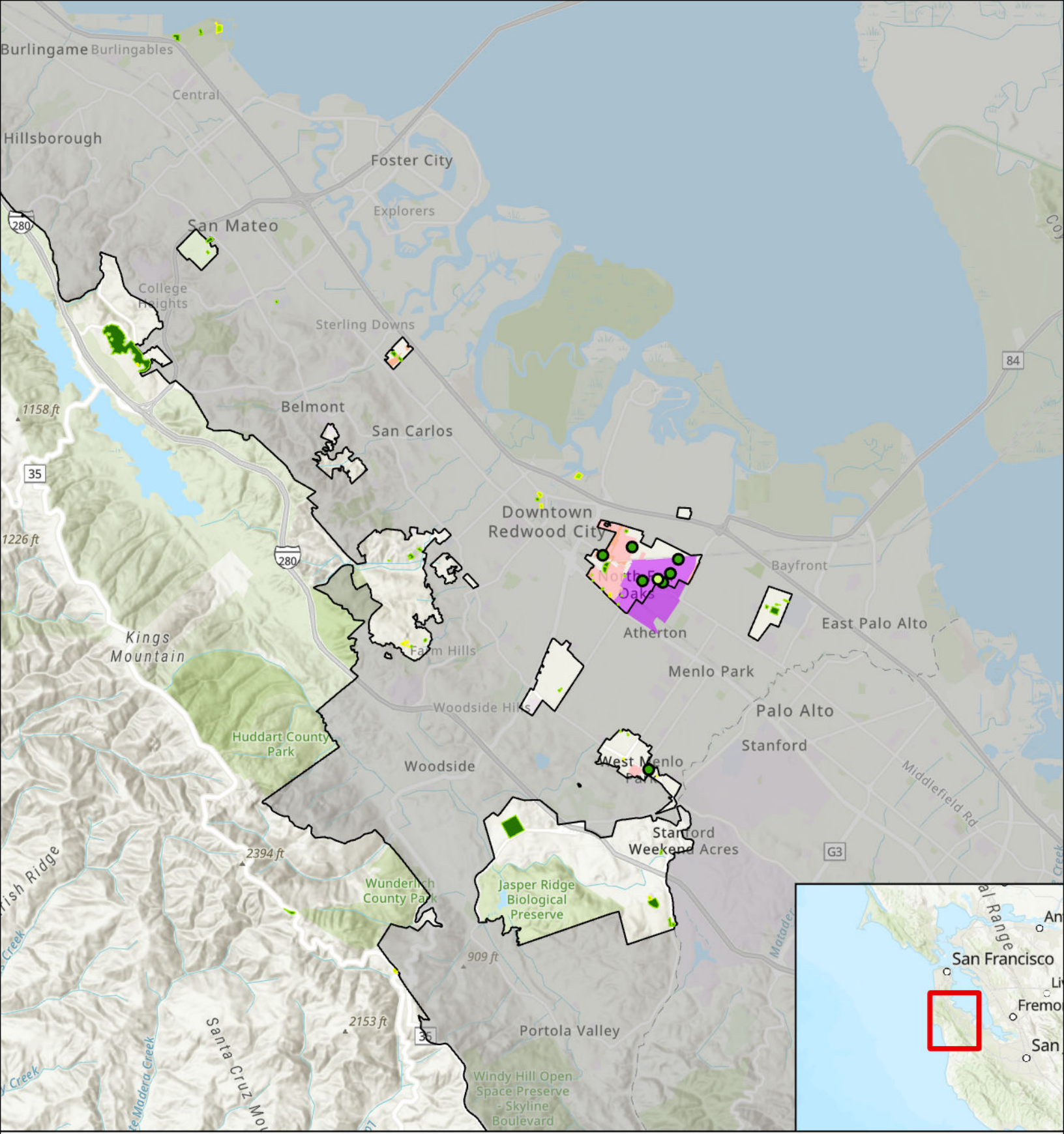


Figure A - 19c GI/LID and Other Stormwater Treatment Systems in San Mateo County

- GSI FY21-22 and Later - Green Streets
- GSI Pre FY21-22 - Green Streets
- GSI FY21-22 and Later
- GSI Pre FY21-22
- City Limits
- High-Flow Capacity System Drainage Area Pre FY21-22
- High-Flow Capacity System Drainage Area FY21-22 and Later
- Catch Basin Inserts Drainage Areas Pre FY21-22
- Catch Basin Inserts Drainage Areas FY21-22 and Later

Data Sources:
City Boundaries: San Mateo County
Background: ESRI World Street Map

Map Created By: EOA, Inc.
Date: August 2024

N

0 0.28 0.55 1.1 Miles

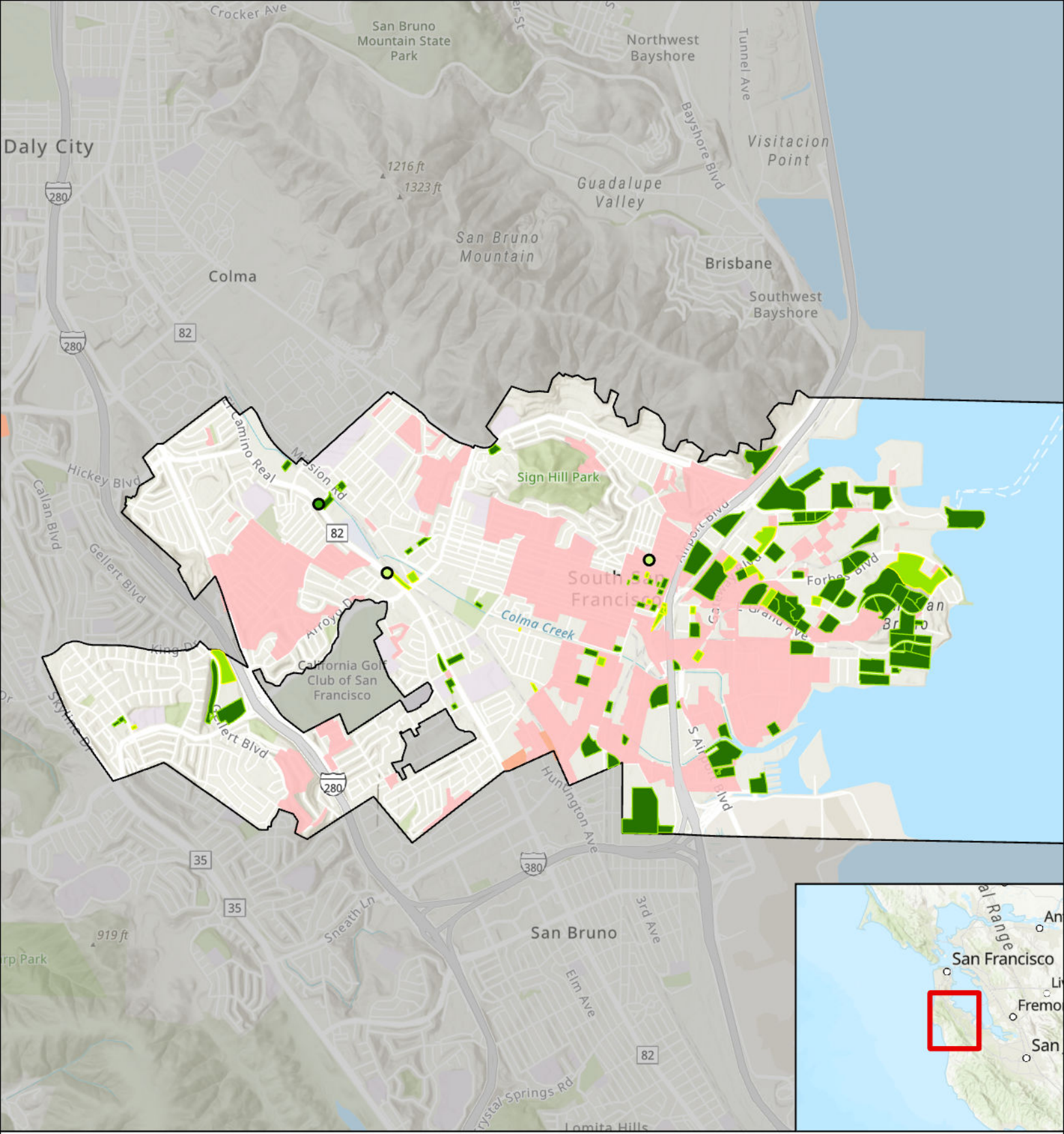


Figure A - 20 GI/LID and Other Stormwater Treatment Systems in South San Francisco

- GSI FY21-22 and Later - Green Streets
- GSI Pre FY21-22 - Green Streets
- GSI FY21-22 and Later
- GSI Pre FY21-22
- City Limits
- High-Flow Capacity System Drainage Area Pre FY21-22
- High-Flow Capacity System Drainage Area FY21-22 and Later
- Catch Basin Inserts Drainage Areas Pre FY21-22
- Catch Basin Inserts Drainage Areas FY21-22 and Later

Data Sources:
City Boundaries: San Mateo County
Background: ESRI World Street Map

Map Created By: EOA, Inc.
Date: August 2024

N

0 0.4 0.8 1.6 Miles

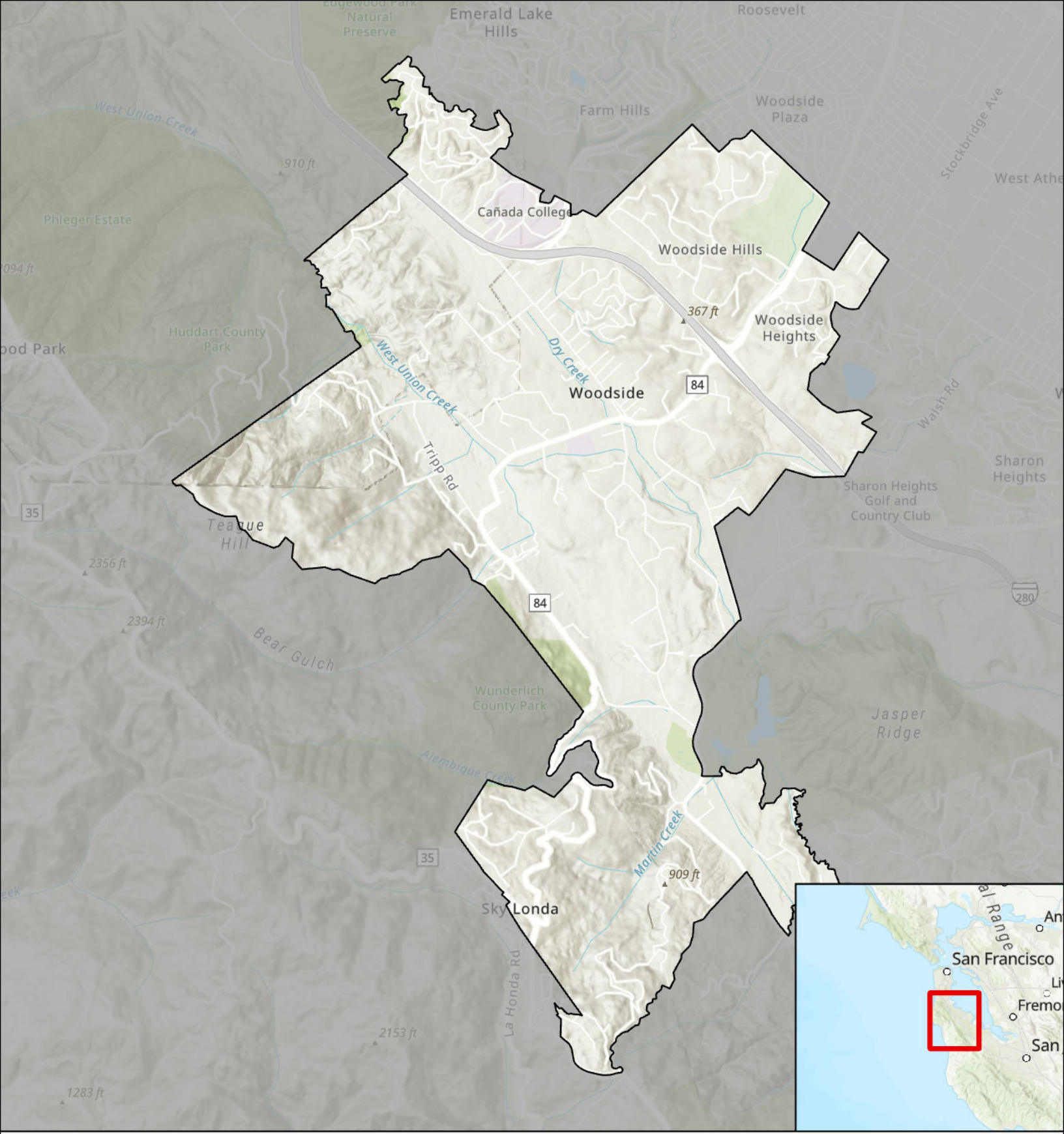


Figure A - 21 GI/LID and Other Stormwater Treatment Systems in Woodside

- GI FY21-22 and Later - Green Streets
- GI Pre FY21-22 - Green Streets
- GI FY21-22 and Later
- GII Pre FY21-22
- City Limits
- High-Flow Capacity System Drainage Area Pre FY21-22
- High-Flow Capacity System Drainage Area FY21-22 and Later
- Catch Basin Inserts Drainage Areas Pre FY21-22
- Catch Basin Inserts Drainage Areas FY21-22 and Later

Data Sources:
City Boundaries: San Mateo County
Background: ESRI World Street Map

Map Created By: EOA, Inc.
Date: August 2024

N

0 0.42 0.85 1.7 Miles

Attachment B

Program for Management of PCBs during Building Demolition – Data Summary through FY 2023/24 for San Mateo County MRP Permittees

SAN MATEO COUNTYWIDE
Water Pollution Prevention Program
Clean Water. Healthy Community.

555 County Center, 5th Fl
Redwood City, CA 94063

P 650.599.1406
flowstobay.org

TO	SMCWPPP NPDES Technical Advisory Committee and Representatives of Municipal Programs to Manage PCBs During Building Demolition
FROM:	Program Staff
DATE:	September 30, 2024
SUBJECT:	Fiscal Year 2023-24 Data Summary for the SMCWPPP Permittees PCBs in Building Demolition Management Program

Background

Provision C.12.g of the Municipal Regional Permit (MRP 3.0)[1] requires Permittees to manage PCBs-containing materials and wastes during building demolition activities. San Mateo Countywide Water Pollution Prevention Program (SMCWPPP) Permittees and other MRP Permittees have developed and implemented a program for managing materials with PCBs concentrations of 50 mg/kg or greater[2] in applicable structures at the time the structures undergo demolition. Applicable structures are defined as buildings constructed or remodeled between the years 1950 and 1980 that are undergoing full-building demolition. Single-family residential and wood frame structures are exempt.

For the purpose of annual reporting, this technical memorandum documents the following items for San Mateo County MRP Permittees:

- The number of demolition permits for applicable structures that project applicants applied for during fiscal year (FY) 23-24, the fifth year of the program, and during previous FYs (data from FY 19-20 through FY 22-23);
- A running list of the applicable structures (with the address and demolition date for each structure) for which a demolition permit was applied for by project applicants since July 1, 2019 (the date the PCBs control program began implementation) that had material(s) with total PCB concentrations ≥ 50 mg/kg;
- For data provided in FY 23-24 by project applicants that had total PCBs concentrations ≥ 50 mg/kg, the PCBs concentration in each sample and a brief description of PCBs-containing materials that were sampled;
- The number of building material samples collected from applicable structures during the past five fiscal years (FY19-20 through FY23-24), categorized by PCBs concentration; and
- The distribution of samples collected among three PCBs concentration categories.

[1] NPDES Permit No. CAS612008, Order No. R2-2022-0018.
[2]While the MRP specifies the units of measurement as ppm, mg/kg is the unit used throughout this report as it is the unit that analytical laboratories report their values for PCBs analysis and is equivalent to ppm.

Number of Applicable Structure Applications

Table 1 summarizes the number of applicable structure demolition permit applications for FY 19-20 through FY 23-24 by each Permittee and the number of associated building material samples with PCBs concentrations equal to or greater than 50 mg/kg.

Table 1 Number of applications received by SMCWPPP Permittees in FYs 19-20 through 23-24 for demolition of applicable structures.

Permittee	Number of Applicable Structures [a]					Number of Samples with PCBs ≥ 50 mg/kg				
	FY 19-20	FY 20-21	FY 21-22	FY 22-23	FY 23-24	FY 19-20	FY 20-21	FY 21-22	FY 22-23	FY 23-24
Atherton	0	0	0	0	0	NA	NA	NA	NA	NA
Belmont	0	0	0	0	0	NA	NA	NA	NA	NA
Brisbane	0	0	0	0	0	NA	NA	NA	NA	NA
Burlingame	1	2	4	2	1	0	0	7	0	0
Colma	0	0	0	0	0	NA	NA	NA	NA	NA
Daly City	0	0	0	1	0	NA	NA	NA	0	NA
East Palo Alto	0	0	0	0	0	NA	NA	NA	NA	NA
Foster City	0	0	0	0	0	NA	NA	NA	NA	NA
Half Moon Bay	0	0	0	0	0	NA	NA	NA	NA	NA
Hillsborough	0	0	0	0	0	NA	NA	NA	NA	NA
Menlo Park	1	2	9	0	0	1	0	2	NA	NA
Millbrae	0	0	0	0	0	NA	NA	NA	NA	NA
Pacifica	0	0	2	0	0	NA	NA	0	NA	NA
Portola Valley	0	0	0	0	0	NA	NA	NA	NA	NA
Redwood City	1	3	2	0	2	0	12	4	NA	0
San Bruno	0	0	0	0	1	NA	NA	NA	NA	0
San Carlos	1	2	0	0	0	0	12	NA	NA	NA
San Mateo	0	2	0	0	0	NA	0	NA	NA	NA
S. San Francisco	6	7	13	2	0	1	0	2	5	NA
Woodside	0	1	0	0	0	NA	0	NA	NA	NA
San Mateo County	1	0	0	0	0	0	NA	NA	NA	NA
Total	**11**	**19**	**30**	**5**	**4**	**2**	**24**	**15**	**5**	**0**

NA – Not Applicable (i.e., No applicable structures, therefore no associated samples were reported).

[a] The number of applicable structures previously reported in FY 22-23 has been updated to reflect application materials received by SMCWPPP after submittal of the FY 22-23 Annual Report.

List of Applicable Structures

Table 2 provides a running list of the applicable structures for which a project applicant applied for a demolition permit since July 1, 2019 and which had materials with PCBs concentrations ≥ 50 mg/kg. For each applicable structure, the address, estimated demolition date, number of samples with PCBs concentrations ≥ 50 mg/kg, and the range of PCBs concentrations in those samples are included. There were no applicable structures in FY 23-24 that had materials with PCBs concentrations ≥ 50 mg/kg.

Table 2. List of applicable structures in SMCWPPP Permittee jurisdictions between FYs 19-20 and 23-24 for which project applicants applied for a demolition permit and samples collected were greater than or equal to 50 mg/kg.

Fiscal Year (FY)	Permittee	SMCWPPP Building ID	Address	Estimated Demolition Date	# of Samples with PCBs ≥ 50 mg/kg	PCBs Concentration Range in Samples with PCBs ≥ 50 mg/kg
2019-20	Menlo Park	SM-2	305 Constitution Dr.	Jan 2020	1	54.5
	S. San Francisco	SM-6	1 Chestnut Ave.	Jan 2020	1	247
2020-21	San Carlos	SM-17	1075 Commercial St. / 915 Old County Rd.	Mar 2021	12	52-250,000
	Redwood City	SM-28	975 Maple St.	Jul 2021	2	97-102
	Redwood City	SM-29	1150 Veterans Blvd.	Oct 2021	10	50-330,000
2021-22	Menlo Park	SM-42	1390 Willow Road (MPK 50)	Apr/May 2022	2	340-790
	Redwood City	SM-55	1306 Main St.	Jun 2022	4	580-5,000
	S. San Francisco	SM-56	225 Spruce St.	Fall 2022	2	1,200 - 25,000
	Burlingame	SM-57	810 Malcolm Rd.	Fall 2022	7	56 - 64,000
2022-23	S. San Francisco	SM-61	466 Forbes Blvd.	Aug 2022	5	57 - 130,000
2023-24	N/A	N/A	N/A	N/A	N/A	N/A

List Building Material Samples Reported During MRP 3.0 with PCBs ≥ 50 mg/kg

Table 3 provides a list of building material samples with PCBs ≥ 50 mg/kg as reported by project applicants during MRP 3.0 FYs 22-23 and FY 23-24. Table 3 also includes the PCBs concentration in each sample, and a brief description of the PCBs-containing materials that were sampled.

Table 3. List of FY 22-23 and FY 23-24 samples with PCBs ≥ 50 mg/kg.

Sample Name	PCBs Concentration (mg/kg)	Material Description
SMCWPPP Building ID SM-58, 466 Forbes Blvd., South San Francisco (FY 22-23)		
PCB-04C	24,000	Caulk
PCB-04D	84,000	Caulk
PCB-04E	130,000	Caulk
PCB-03C	57	Rubber Window Gasket
PCB-03D	68	Rubber Window Gasket
SMCWPPP Building ID N/A (FY 23-24)		
N/A	N/A	N/A

Summary of PCBs Observed in Building Material Samples During FYs 19-20 through 23-24

Figure 1 summarizes the number of building material samples collected from applicable structures in SMCWPPP Permittee jurisdictional areas during the past five fiscal years (FYs 19-20 through 23-24), categorized by PCBs concentration:

1. PCBs Not Detected (ND)
2. PCBs <50 mg/kg
3. PCBs ≥50 mg/kg

Figure 2 summarizes the total number of building material samples, distributed among the above three PCBs concentration categories.

Figure 1. San Mateo County Building Materials PCBs Sampling Results by Fiscal Year (FY) and PCBs Concentration Category

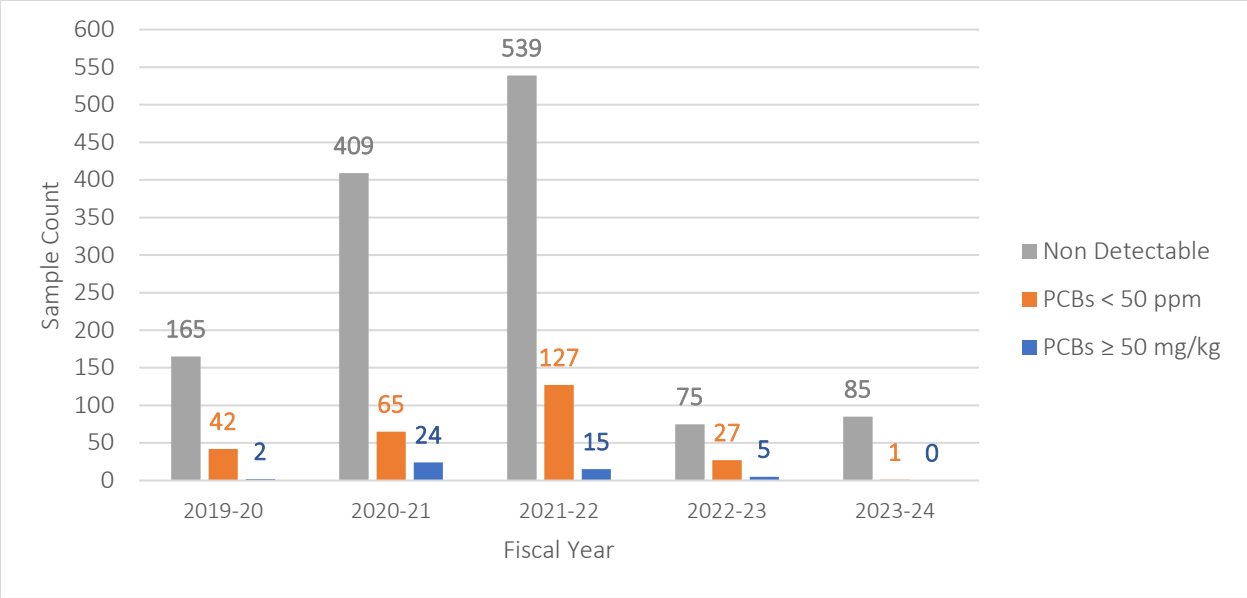
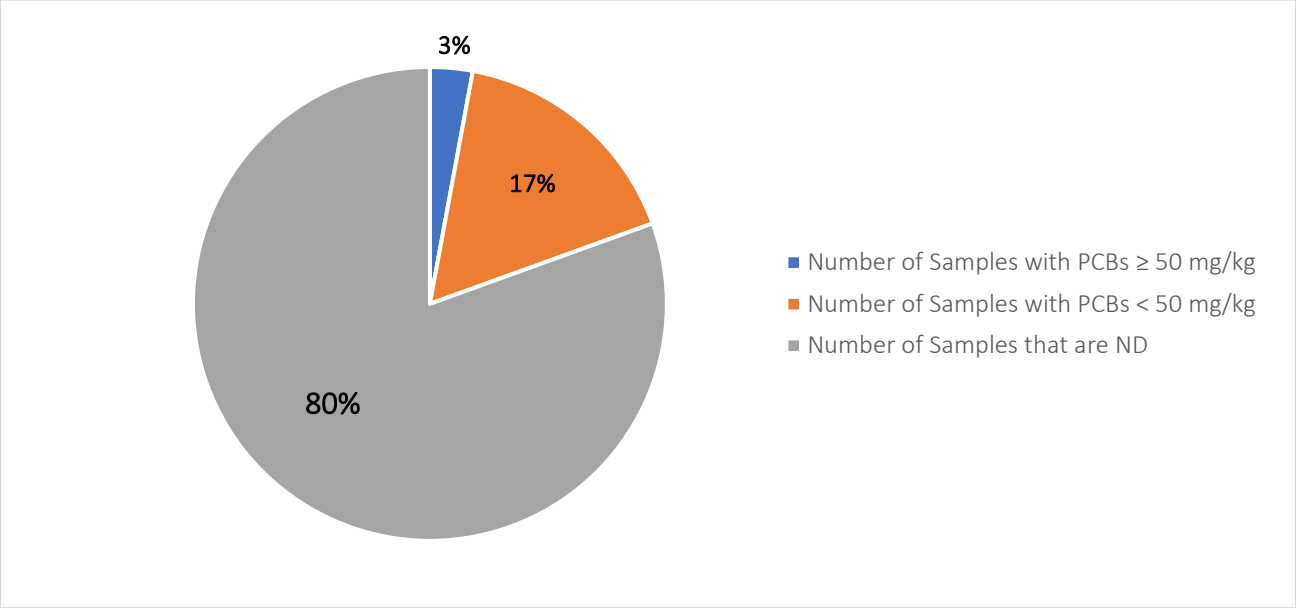


Figure 2. San Mateo County Building Materials PCBs Sampling Results - Percentage Distribution Among PCBs Concentration Categories



Appendix 22

- FY 2023/24 Regional Supplement for New Development and Redevelopment, San Francisco Bay Area, Municipal Regional Stormwater Permit, Bay Area Municipal Stormwater Collaborative, September 2024
- CASQA 2024 Pesticide Annual Report and Effectiveness Assessment Final Report, California Stormwater Quality Association, August 2024
- CASQA FY 2023-24 Our Water Our World (OWOW) Report, California Stormwater Quality Association, August 2024

Annual Reporting for FY 2023-2024

Regional Supplement for New Development and Redevelopment

San Francisco Bay Area Municipal Regional Stormwater Permit

Bay Area Municipal Stormwater Collaborative

September 2024

MRP Regional Supplement for New Development and Redevelopment
Annual Reporting for FY 2023-2024

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INTRODUCTION

This Regional Supplement has been prepared to report on regionally implemented activities complying with portions of the Municipal Regional Stormwater Permit (MRP) issued to 79 municipalities and special districts (Permittees) by the San Francisco Bay Regional Water Quality Control Board (Water Board). The Regional Supplement covers new development and redevelopment activities related to the following MRP 3.0 provision:

- C.3.j.iv Participate in Processes to Promote Green Infrastructure.

These regionally implemented activities were conducted under the auspices of the Bay Area Municipal Stormwater Collaborative (BAMSC), an informal coalition of the municipal stormwater programs in the San Francisco Bay Area [1]. Most of the 2023-24 annual reporting requirements of Provision C.3.j.iv covered in this Supplement were completely met by BAMSC member activities, except where otherwise noted herein or by Permittees in their reports. Through their program representatives on the BAMSC Steering Committee and its Subcommittees, MRP Permittees collaboratively participated in these BAMSC informal regional activities.

GREEN INFRASTRUCTURE PLANNING AND IMPLEMENTATION

C.3.j.iv Participation in Processes to Promote Green Infrastructure

This provision requires:

> *(1) The Permittees shall, individually or collectively, track processes, assemble and submit information, and provide informational materials and presentations as needed to assist relevant regional, State, and federal agencies to plan, design, and fund incorporation of green infrastructure measures into local infrastructure projects, including transportation projects. Issues to be addressed include coordinating the timing of funding from different sources, changes to standard designs and design criteria, ranking and prioritizing projects for funding, and implementation of cooperative in-lieu programs.*

This section describes activities and accomplishments during FY 2023-24 to promote green infrastructure (GI or GSI). The BAMSC activities described in this section provide compliance for MRP Permittees with this provision.

[1] In late FY 2020-21, the predecessor to BAMSC, the Bay Area Stormwater Management Agencies Association (BASMAA), dissolved as a formal non-profit organization and its members continued to meet as an informal organization under the name Bay Area Municipal Stormwater Coalition (BAMSC). BAMSC members jointly prepared this Regional Supplement for FY 2023-24.

Activities and Accomplishments during FY 2023-24

MRP 3.0 C.3/GI Work Groups

The Alternative Treatment Systems, Special Projects Category C/Affordable Housing, and Road Reconstruction in DACs Work Groups concluded their meetings in the Summer of 2023 in advance of the Water Board's public hearing to adopt the amended MRP (R2-2023-0019) on October 11, 2023.

During the adoption hearing for the amended MRP 3.0, members of the Alternative Treatment Systems Work Group and the Road Reconstruction in DACs Work Group expressed concerns about two items:

1. The proposed permit amendment language related to alternative treatment systems; and
2. The lack of language in the amendment providing flexibility for green infrastructure for road reconstruction and active transportation projects in disadvantaged communities.

After hearing the concerns, and as part of the adoption of the amended permit, the Water Board members decided to set up an informal subcommittee of the Board, including Vice Chair Hacker (now Chair) and Board Member Kissinger, to further discuss C.3 issues related to the adopted permit and report back to the full Board in July of 2024.

The following development-related BAMSC regional work groups began to meet or continued to meet in FY 2023-24: the Asset Management Work Group, the Bay Area Hydrology Model (BAHM) Update Work Group, and the Trees and Stormwater Work Group.

BAMSC Trees and Stormwater Work Group

The Trees and Stormwater Work Group met twice in FY 2023-24. Attendees included staff from several municipalities, Regional Water Board, UC Extension, Davey Resource Group, and NGOs. The kickoff meeting on November 13, 2023, included a discussion of terms and definitions and goals for the Work Group. At the second meeting on February 12, 2024, the work group received a presentation from Peter Schultze-Allen (SCVURPPP) on work done by the City and County of Denver related to the benefits of trees and stormwater in the streetscape and its potential application in the Bay Area. Aspects of this Work Group that evaluate the stormwater quality benefit of trees have now been combined with the Long Term GSI Technical Working Group. However, in FY 2024-25, the Tree-BSM-Design Work Group of the Development Subcommittee will continue to meet and focus on design and construction challenges with integrating trees into bioretention systems.

BAMSC Asset Management Work Group

The purpose of the Work Group is to provide a forum to discuss and get regional agreement on approaches to condition assessment and O&M needs of stormwater quality assets. In FY 2023-24, two Work Group meetings were held, both focused on

condition assessment of LID/GSI assets. At the January 29, 2024, meeting, the Work Group received presentations from Mike Adamow (Lotus Water, formerly SFPUC) and Cesar Arellano (City of San Jose) on SFPUC's and San Jose's Maintenance Field Guides and assessment criteria. At the March 25, 2024 meeting, the Work Group discussed draft criteria to evaluate the condition of LID/GSI assets and proposed definitions of asset management terms. The next meeting will be held on July 23, 2024, and will begin the discussion of assessing condition of trash control assets.

BAMSC Bay Area Hydrology Model Update Work Group

The Bay Area Hydrology Model (BAHM) is the primary tool for sizing hydromodification management facilities and demonstrating compliance with the hydromodification management requirements in Provision C.3.g of the MRP. The Work Group's goals were to update the BAHM software and User Manual to include recent rainfall data, enhanced features, and the ability to model areas in Contra Costa County, which is now using BAHM for hydromodification management compliance demonstration. A report on the BAHM updates was provided in the countywide program FY 2022-23 Annual Reports. During October 2023, virtual trainings on the updated BAHM2023 model were conducted for beginning and advanced users as well as municipal reviewers. Additional adjustments were made to the beta version of the BAHM2023 software during FY 2023-24, including correcting some rain gage data to better represent the extended periods of record for discontinued gages. The BAHM2023 software and User Manual have been finalized and posted on the Clear Creek Solutions website, along with the recordings of the trainings and a video library by topic. The work of this Work Group is now complete.

BAMSC Development Subcommittee

The BAMSC Development Subcommittee continued to meet approximately quarterly during FY 2023-24 and promoted the implementation of GSI by providing a forum to discuss the following topics:

- Workforce development and GSI maintenance, including a panel of non-profit and for-profit GSI maintenance-related organizations discussing short-term and long-term goals for the Bay Area and the National Green Infrastructure Certification Program.
- GSI challenges and opportunities in the Bay Area, including a panel with Pam Boyle Rodriquez (Palo Alto), Reid Bogert (C/CAG) and Shannan Young (Dublin) discussing issues such as sea level rise, rising groundwater levels, difficulties finding feasible locations, construction costs, utility conflicts, etc.
- Trees and stormwater issues and how to address the requirements in MRP 3.0.
- Regional and statewide progress towards integrating complete and green streets projects including:
    - The recently released complete streets guidance from Caltrans that includes green street design information.

- Updates from Josh Bradt on action items and steps moving forward for the "Roadmap of Funding Solutions for Sustainable Streets" from 2018, lessons learned from the San Pablo Stormwater Spine project completed in 2021, and improvements in Bay Area and State transportation grant funding criteria related to green street element inclusion.
- Water Board staff updates on the MRP 3.0, Provision C.3 amendment adopted on October 11, 2023.
- Coordination with MTC on a workshop for their Active Transportation Working Group in October 2023 and a planned workshop in Santa Clara County in September 2024.
- Coordination with the statewide cycling organization, CalBike, on a panel discussion of green and complete streets at the CalBike Summit, the annual conference, in San Diego on Thursday, April 18, 2024.
- Sharing information on large green and complete street projects in the Bay Area such as the Rumrill project in the City of San Pablo and the 14th Street project in Oakland.

Other Participation and Comments

- The Contra Costa County Regional Alternative Compliance (RAC) System Operational Document was completed in FY 2023-24. The document details the roles and responsibilities of various participants, explains the processes for generating, certifying, and verifying compliance units and the financial transactions involved in purchasing these units, and describes the phases of RAC System implementation.
- Peter Schultze-Allen (EOA/SCVURPPP) worked with ReScape to train 40 landscape maintenance staff from a large landscape maintenance company, BrightView, on the basics of GSI and the proper procedures for maintaining bioretention systems. The training included classroom and field training in Milpitas on March 16, 2023. (This training was inadvertently omitted from the FY 2022-23 report.)
- John Steere (Contra Costa County) was featured in the "Hidden Heroes of the Greenbelt" documentary series available on the Greenbelt Alliance's YouTube channel in August 2023. Steere's portion of the docu-series highlighted nature-based solutions and watershed resilience in North Richmond and throughout the Bay Area. This film was featured at the Resilient North Richmond FilmFest for Earth Day, April 20, 2024, and highlighted the importance of green infrastructure and urban greening in combating flooding, sequestering carbon, and supporting climate resilience.
- Reid Bogert (SMCWPPP) presented the following technical and panel presentations at the California Stormwater Quality Association 2023 Annual Conference in San Diego on September 12, 2023:

  - "The Climate Resilience Resources Guide (2023) - Tools for Planning and Implementing Climate-Resilient Green Stormwater Infrastructure" (technical presentation)
  - "Equity Approaches in Climate Resilience and Nature-Based Solutions Planning in the Bay Area (panel)
  - "Building Adaptation Capacity through Resilient Schoolyards in San Mateo County" (technical presentation)

- Amanda Booth (City of San Pablo), Pam Boyle Rodriguez (City of Palo Alto), Shannan Young (City of Dublin), and Reid Bogert (SMCWPPP) participated in the following panel presentation at the California Stormwater Quality Association 2023 Annual Conference in San Diego on September 12, 2023: "GSI Implementation in the San Francisco Bay Area – Challenges and Opportunities for a More Collaborative, Integrated, and Innovative Future".
- Peter Schultze-Allen (EOA/SCVURPPP) worked with staff from MTC, BAAQMD, Save the Bay and the Bay Area Regional Collaborative on a complete and green streets presentation on November 16, 2023 at MTC's Active Transportation Working Group, which includes staff from municipalities and advocacy organizations.
- Reid Bogert (SMCWPPP) met with Congressional leaders in Washington D.C. on March 12 through March 14, 2024 to advocate for federal funding for GSI projects in San Mateo County, focusing on a $59 million grant application submitted by C/CAG under the NOAA Climate Resilience Regional Challenge Grant and submitting federal member directed spending requests through the Senator's offices under the Fiscal Year 2024 Budget Appropriations Act for multi-benefit GSI planning and a pilot GSI maintenance workforce development program.
- Reid Bogert (SMCWPPP) presented with a panel focusing on green stormwater infrastructure and resilient schoolyards partnerships at the San Mateo County Office of Education's Climate Ready Schools Symposium on April 30, 2024. The panel, titled "Student-Centered Systems Change" was addressed to school district leadership, school site staff, and the County Superintendent's Office staff on effective ways to integrate GSI with schoolyard greening and climate resilience initiatives.
- Joseph Draper (CASQA) presented the CASQA's report titled "The Socioeconomic Value of Urban Stormwater Capture (2024)" at the CASQA Quarterly Seminar Series on April 25, 2024, which included an evaluation of the socioeconomic value of GSI projects in San Mateo County, including early implementation of sustainable streets projects throughout the County and a regional-scale multi-benefit stormwater capture project at Orange Memorial Park in South San Francisco.

- Reid Bogert (SMCWPPP) contributed GSI related content to the CASQA "Rain Ready California" website intended to raise awareness about the value of stormwater as a resource. The website, https://www.rainreadyca.org/, went live in June 2024.

Future Activities

During FY 2021-22, Countywide Program and Permittee staff worked with Water Board staff as part of a BAMSC C.3/GSI Work Group on requirements for long-term and short-term implementation of GSI. The Work Group proposed an approach for setting short-term requirements in the context of long-term GSI implementation goals that would be established via a Technical Working Group (TWG), including Water Board staff and possibly outside science experts from EPA, SFEP, SFEI, and other organizations. As a result of these discussions, Provision C.3.j.ii.(4) of MRP 3.0 contains a provision for discussion of long-term GSI goals via the TWG. (Short-term GSI numeric targets for this permit term are described in Provision C.3.j.ii.(2) and Attachment H.) The TWG will begin meeting in FY 24-25 to discuss long-term goals for GI and reductions in impervious surfaces at individual, countywide and regional scales. A report summarizing the TWG's efforts and recommendations will be submitted with the FY 2024-25 Annual Report.

BAMSC representatives will also continue to engage in various coordination efforts related to funding and implementation support for GSI. For example, the BAMSC Steering Committee recently appointed a primary and two alternate representatives to attend future San Francisco Estuary Partnership meetings to continue advocating for appropriate funding and policy support for multi-benefit GSI projects. Additionally, BAMSC representatives will continue efforts to promote green and complete streets with MTC, BAAQMD, Save the Bay, CalBike, Caltrans, BARC and other Bay Area and California organizations.

California Stormwater Quality Association®

Dedicated to the Advancement of Stormwater Quality Management, Science and Regulation

2024 Pesticide Annual Report and Effectiveness Assessment

Prepared by the California Stormwater Quality Association

August 2024

Preface

ADVANCING SUSTAINABLE STORMWATER MANAGEMENT

The California Stormwater Quality Association (CASQA) is a nonprofit corporation that advances sustainable stormwater management protective of California water resources. With well over 2,000 members, CASQA's membership is comprised of diverse range of stormwater quality management organizations and individuals, including cities, counties, special districts, federal agencies, state agencies, ports, universities and school districts, wastewater agencies, water suppliers, industries, and consulting firms throughout the state. Collectively, CASQA represents over 34 million people in California.

CASQA's *Vision for Sustainable Stormwater Management*[1] (Vision) defines the actions needed to manage stormwater as an essential component of the state's water resources, support human and ecological needs, protect water quality, and enhance and restore California's waterways. There are four guiding principles to achieve this Vision. Like the legs of a chair, each Principle is essential and all four must be in place to support the whole.

Principle #1: Program Implementation: Projects and programs that use stormwater as a resource, protect water quality and beneficial uses, and efficiently minimize pollution are critical for sustainable stormwater management. Stormwater capture and true source control (identifying and mitigating a pollutant at its source) are the primary drivers of these solutions, with effective BMPs providing an important supportive role.

Principle #2: Permits, Regulations, and Legislation: Permits, regulations, and legislation need to focus on effectiveness and desired outcomes to support sustainable stormwater management. Regulatory and legislative actions must align with and support the other components of the Vision – advancing stormwater capture, true source control, effective BMPs, increasing public education and awareness focused on stormwater as a resource, and securing funding to support these solutions.

Principle #3: Public Education: Public awareness, understanding, and support is essential to sustainable stormwater management. The key shift is viewing stormwater as a resource that must be protected and integrated into overall water resource management.

Principle #4: Funding: Significant financial investment is required to achieve sustainable stormwater management. Stormwater is the most underfunded portion of the water sector and substantial funding is needed to bring these solutions forward.

2024 PESTICIDE ANNUAL REPORT AND EFFECTIVENESS ASSESSMENT

This report, *2024 Pesticide Annual Report and Effectiveness Assessment,* advances Principle #1 by addressing pesticide pollution through source control solutions. CASQA has identified Current Use Pesticides as a Water Quality Priority, requiring solutions at a statewide scale. To advance true source control for pesticides, CASQA is actively engaged with state and federal regulators in an effort to develop an effective pesticide regulatory system, based primarily on existing statutes, that includes timely identification and mitigation of urban water quality impacts, and proactively prevents additional problems through the registration and registration review processes. This report describes CASQA's regulatory engagement activities from July 2023 through June 2024.

[1] https://www.casqa.org/wp-content/uploads/2022/10/final_-_vision_for_sustainable_stormwater_management_-_10-07-2020.pdf

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Abbreviations used in this Report

AB – Assembly Bill

BACWA – Bay Area Clean Water Agencies

CASQA – California Stormwater Quality Association

CWA – Clean Water Act

DPR – California Department of Pesticide Regulation

EAD – Exposure Assessment Document (DPR)

EPA – United States Environmental Protection Agency

ERA – Ecological Risk Assessment

ESA – Endangered Species Act

ID – Interim Decision (EPA)

IPM – Integrated Pest Management

MAA – Management Agency Agreement between DPR and the Water Boards

MS4 – Municipal Separate Storm Sewer System

NACWA – National Association of Clean Water Agencies

NPDES – National Pollutant Discharge Elimination System

OPP – U.S. EPA Office of Pesticide Programs

OW – U.S. EPA Office of Water

OWOW – CASQA's Our Water, Our World Program

PAH – Polycyclic aromatic hydrocarbon

PEAIP – Program Effectiveness Assessment and Improvement Plan

PID – Proposed Interim Decision (EPA)

PMAC – Pest Management Advisory Committee (DPR)

PPDC – EPA's Pesticide Program Dialogue Committee

RA – Risk Assessment

RCD – Risk Characterization Document (DPR)

RMD – Risk Management Directive (DPR)

SFBRWQCB – San Francisco Bay Regional Water Quality Control Board

SFEI – San Francisco Estuary Institute

SPM – Sustainable Pest Management Work Group (DPR)

STORMS – Strategy to Optimize Resource Management of Storm Water (a program of the State Water Board)

SWAMP – California Water Boards Surface Water Ambient Monitoring Program

TMDL – Total Maximum Daily Load (regulatory plan for solving a water pollution problem)

TSC – CASQA True Source Control Subcommittee

UP3 – Urban Pesticides Pollution Prevention Partnership

UPP – Urban Pesticide Provisions

USDA – United States Department of Agriculture

USGS – United States Geological Survey

Water Boards – California State Water Resources Control Board together with the California Regional Water Quality Control Boards

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Executive Summary

To address the problems caused by pesticides in California's urban waterways, CASQA collaborates with the California State Water Resources Control Board and the California Regional Water Quality Control Boards (Water Boards). By working with the Water Boards and other water quality organizations, CASQA addresses the impacts of pesticides efficiently and proactively through the statutory authority of the California Department of Pesticide Regulation (DPR) and EPA's Office of Pesticide Programs (OPP). This collaboration, initiated more than 20 years ago, has resulted in significant changes in pesticide regulation. A summary of CASQA's activities to address key management questions are described below, with more details and outcomes provided in Section 2.

Near term / Current problems – Are actions being taken by State and Federal pesticides regulators and stakeholders that are expected to end pesticide-caused toxicity or exceedances of pesticide water quality objectives in surface waters receiving urban runoff?

- CASQA shared its urban runoff expertise with pesticide regulators by preparing comment letters to EPA regarding chlorothalonil, 3-Iodo-2-propynyl butylcarbamate (IPBC), oxyfluorfen, and pesticide labeling. *(See Table 3)*
- In response to CASQA requests to mitigate the impacts of etofenprox use on urban impervious surfaces, EPA continued to incorporate label language restricting specific uses, including using CASQA's suggested pictogram and proposed labeling. *(See Table 3 and Appendix)*
- In response to CASQA requests to mitigate environmental risks in urban environments, EPA initiated significant mitigation measures for urban uses of ziram, including removing it as a material preservative in paint and reducing the maximum concentration in building materials. *(See Table 3 and Appendix)*
- In response to CASQA requests to mitigate environmental risks, EPA canceled registration of residential uses of oxyfluorfen, including all residential turf and ornamental products. *(See Table 3 and Appendix)*
- CASQA updated the Pesticide Watch List following the review of multiple recent surface water monitoring programs. The Watch List is shared with regulators and scientists to stimulate generation of surface water monitoring and aquatic toxicity data for the highest priority pesticides. *(See Table 2.)*

Long term / Prevent future problems – Do pesticides regulators have an effective system in place to exercise their regulatory authorities to prevent pesticide toxicity in urban water bodies?

- DPR continues to demonstrate its commitment to addressing pesticide impacts on receiving waters through the creation of a Sustainable Pest Management (SPM) Roadmap that seeks to transition the state away from high-risk pesticides[2] to sustainable pest control practices.
- In 2014 the State Water Board established an urban pesticides reduction project (now titled the Statewide Urban Pesticides Provisions or UPP) as a top priority project under the comprehensive stormwater strategy, known as "Strategy to Optimize Resource Management of Storm Water" or STORMS.[3] The desired outcome for these provisions is to institutionalize the State's strategy of utilizing pesticide regulations as the most effective approach for preventing and addressing pesticide water quality problems. CASQA remains dedicated to supporting State Water Board staff.
- Although many improvements have been made by EPA OPP since the early 2000s, improvement in scientific evaluations supporting EPA OPP's regulatory efforts and better understanding of urban runoff

[2] The SPM Roadmap defines high-risk pesticides as "active ingredients that are highly hazardous and/or formulations or uses that pose a likelihood of, or are known to cause, significant or widespread human and/or ecological impacts from their use." https://www.cdpr.ca.gov/docs/sustainable_pest_management_roadmap/spm_roadmap.pdf

[3] http://www.waterboards.ca.gov/water_issues/programs/stormwater/storms/

management systems are still necessary to adequately protect urban surface waters from pesticide impairments.

- Victoria Kalkirtz, co-chair of CASQA's True Source Control (TSC) Subcommittee, continued to be a member of DPR's Pest Management Advisory Committee (PMAC).

In the coming year, CASQA plans to address near-term pesticide concerns and seek long-term regulatory change. Near-term and long-term tasks are identified in Section 3, Tables 5 and 6. Key topics include:

- Continued engagement with EPA regarding incorporating their Endangered Species Act (ESA) obligation in registrations and re-registrations, including recommending the use of pictograms in labels, and seeking opportunities in California for EPA's regional and vulnerable species pilot programs;
- Continued engagement with DPR regarding the SPM Roadmap specific to urban implementation programs and opportunities;
- Continued support of the UPPs by the State Water Board;
- Continued development of a coordinated monitoring program in partnership with the Water Boards, DPR, and EPA Region 9;
- Registration review-related activities at EPA for pyrethroids and fipronil;
- Initiating discussion of urban water quality concerns at the EPA Pesticide Program Dialogue Committee's (PPDC) future meetings;
- Continued review of DPR registration applications and proposed decisions for new products.

Section 1. Introduction

1.1 IMPORTANCE OF CASQA'S EFFORTS TO IMPROVE PESTICIDE REGULATION

For decades, the uses of certain pesticides in urban areas – even when applied in compliance with pesticide regulations – have adversely impacted urban water bodies. Currently used pesticides are the primary cause of toxicity in California surface waters, including urban water bodies.[4] Under the Clean Water Act (CWA), municipalities are held responsible for the quality of urban runoff discharges conveyed to receiving waters through municipal storm drainage systems. When pesticide-related water pollution occurs, local agencies may be held responsible for exceedances of standards in receiving waters, as well as costly monitoring and mitigation efforts. To date, some California municipalities[5] have incurred substantial costs to comply with pesticides-related Total Maximum Daily Loads (TMDLs) and additional permit requirements. In some cases (e.g., diazinon, chlorpyrifos), municipal compliance costs have continued for over a decade after virtually all urban use was terminated. Throughout California, more municipalities will be subject to similar requirements, as additional TMDLs and Basin Plan Amendments are adopted (Table 1). Meanwhile, local agencies have no authority to further control urban pesticide uses[6] in order to proactively prevent pesticide pollution and avoid these costs and liabilities.

Under federal and state statutes, EPA and DPR have the authority and responsibility to regulate pesticides and protect water bodies from adverse effects (including impacts from pesticides in urban runoff). For many years, neither agency recognized the need, nor possessed the institutional capacity, to exercise their authority to protect urban water quality. As a result, past registration actions allowed a number of pesticides (such as pyrethroids and fipronil) to be used legally in ways that resulted in widespread pollution in urban water bodies. This situation is depicted in Figure 1.

To change this situation, CASQA actively engages with state and federal regulators in an effort to develop an effective pesticide regulatory system, based primarily on existing statutes, that includes timely identification and mitigation of urban water quality impacts, and proactively prevents additional problems through the registration and registration review processes (Figure 2).

[4] See reports from the California Surface Water Ambient Monitoring Program Sediment Pollution Trends Program including Anderson, B.S., Hunt, J.W., Markewicz, D., Larsen, K., 2011. Toxicity in California Waters, Surface Water Ambient Monitoring Program. California Water Resources Control Board. Sacramento, CA.

[5] For example, Sacramento-area municipalities spent more than $75,000 in the 2008-2013 permit term on pyrethroid pesticide monitoring alone; Riverside-area municipalities spent $617,000 from 2007 to 2013 on pyrethroid pesticide chemical and toxicity monitoring.

[6] Local agencies in California have authority over their own use of pesticides but are pre-empted by state law from regulating pesticide use by consumers and businesses.

Table 1. California TMDLs, Statewide Water Quality Control Plans, and Basin Plan Amendments Addressing Currently Registered Pesticides and/or Toxicity in Urban Watersheds[7, 8, 9]

Water Board Region	Water Body	Pesticide	Status
Statewide	All MS4s/All Urban Waterways: Statewide Water Quality Control Plan amendments for urban pesticides reduction ["Urban Pesticides Amendments"] (Inland Surface Waters, Enclosed Bays & Estuaries, and Ocean)	All Pesticides/All pesticide-related toxicity	In preparation
	Sediment Quality Objectives (Enclosed Bays & Estuaries)	Sediment Toxicity[10]	Approved
	Toxicity Provisions (Inland Surface Waters and Enclosed Bays & Estuaries)	Toxicity[8]	Approved May 2023[11]
San Francisco Bay (Region 2)	All Bay Area Urban Creeks	All Pesticide-Related Toxicity	Approved
Central Coast (Region 3)	Santa Maria River Watershed	Pyrethroids, Toxicity	Approved
	Lower Salinas River Watershed	Pyrethroids, Toxicity Malathion, Chlorpyrifos, Diazinon[10]	Approved Adopted by Central Coast Water Board, June 2022[13]
	San Lorenzo River Watershed (Santa Cruz)	Chlorpyrifos[12]	Approved
Los Angeles (Region 4)	Marina del Rey Harbor	Copper (Marine antifouling paint)[14]	Approved
	Oxnard Drain 3 (Ventura County)	Bifenthrin, Toxicity	EPA-Adopted Technical TMDL
	Calleguas Creek, its Tributaries and Mugu Lagoon	Water & Sediment Toxicity[8] Diazinon & Chlorpyrifos[10]	Approved
	McGrath Lake (Ventura County)	Sediment Toxicity[8]	Approved

[7] Excludes pesticides that are not currently registered in California, such as organochlorine pesticides.
[8] https://www.waterboards.ca.gov/water_issues/programs/tmdl/
[9] https://www.waterboards.ca.gov/water_issues/programs/tmdl/2020_2022state_ir_reports_final/apx_d_adopted_tmdls_list.pdf
[10] These TMDLs/Plan provisions can trigger toxicity testing stressor source identification studies, and additional follow up, even when toxicity is linked to current pesticides.
[11] https://www.waterboards.ca.gov/water_issues/programs/state_implementation_policy/tx_ass_cntrl.html
[12] Use prohibited in urban areas (diazinon) or no meaningful use due to use limitations (chlorpyrifos).
[13] https://www.waterboards.ca.gov/centralcoast/water_issues/programs/tmdl/docs/salinas/oppesticides/
[14] Primarily addresses pesticides that are directly discharged and should not ordinarily appear in stormwater (marine antifouling paint).

Water Board Region	Water Body	Pesticide	Status
	Colorado Lagoon (Long Beach)	Sediment Toxicity[8]	Approved
	Dominguez Channel; Greater Los Angeles & Long Beach Harbor	Sediment Toxicity[8]	Approved
	Ballona Creek Estuary	Sediment Toxicity[8]	Approved
Central Valley (Region 5)	Sacramento River and San Joaquin River Basins	Pyrethroids	Approved
	Sacramento-San Joaquin River Delta Waterways	Diazinon & Chlorpyrifos[10]	Approved
	Sacramento & Feather Rivers	Diazinon & Chlorpyrifos[10]	Approved
	Sacramento County Urban Creeks	Diazinon & Chlorpyrifos[10]	Approved
	Lower San Joaquin River	Diazinon & Chlorpyrifos[10]	Approved
Lahontan (Region 6)	Pesticide Discharge Prohibition	All Pesticides	Approved
Santa Ana (Region 8)	Newport Bay	Copper (Marine antifouling paint)[12]	Adopted by Santa Ana Water Board[15]
	San Diego Creek, and Upper and Lower Newport Bay	Toxicity (Diazinon & Chlorpyrifos)[10]	EPA-Adopted Technical TMDL
San Diego (Region 9)	Shelter Island Yacht Basin (San Diego Bay)	Copper (Marine antifouling paint)[12]	Approved
	Chollas Creek	Diazinon[10]	Approved

[15] https://www.waterboards.ca.gov/santaana/water_issues/programs/tmdl/tmdl_metals.html

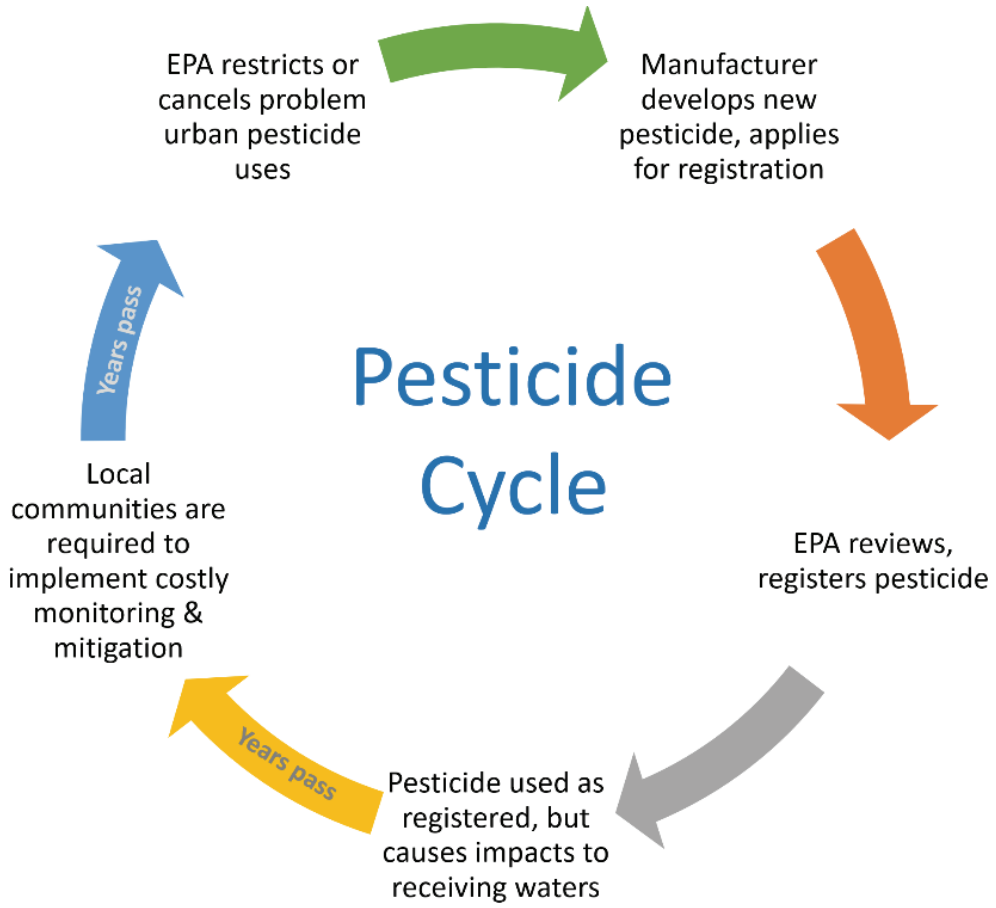


Figure 1. The Pesticide Regulatory System Can Lead to Harmful Outcomes to Surface Waters.

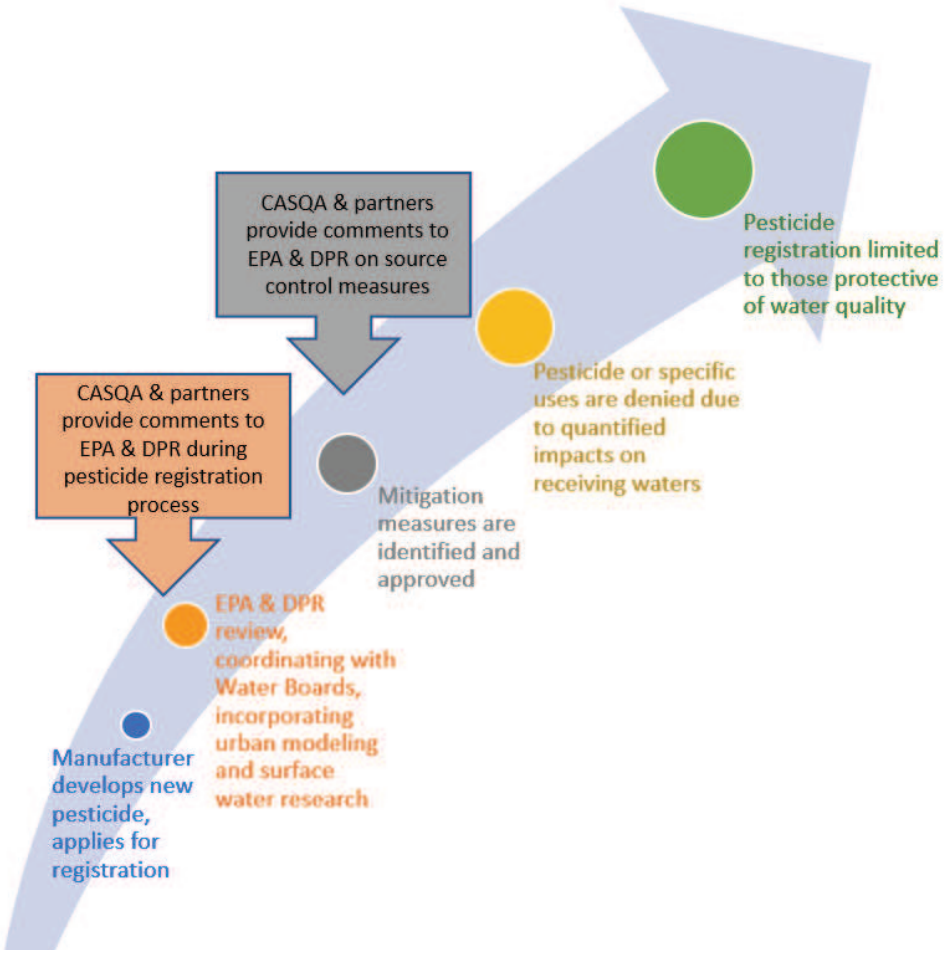


Figure 2. Via Proactive Use of the Pesticide Regulatory Structure, CASQA and Partners Seek to Restrict Pesticide Uses that have the Potential to Cause Urban Water Quality Problems.

1.2 CASQA'S GOALS AND APPLICATION TO PROGRAM EFFECTIVENESS ASSESSMENT

In October 2020, CASQA established the *Vision for Sustainable Stormwater Management*.[16] Within CASQA's Vision, Action 1.2 is to "Minimize Pollution Through True Source Control." Among the objectives described within Action 1.2, Objective 2 has the following scope:

> **Objective 2: Implement an Urban Pesticide Program**
>
> For decades now, the uses of certain pesticides in urban areas – even when applied in compliance with pesticide regulations – have adversely impacted urban water bodies. Currently used pesticides are the primary cause of toxicity in California surface waters, including urban water bodies. CASQA is actively engaged with state and federal regulators in an effort to develop an effective pesticide regulatory system, based primarily on existing statutes, that includes timely identification and mitigation of urban water quality impacts, and proactively prevents additional problems through the registration and registration review processes.
>
> Potential Collaborators: State Water Board, DTSC, EPA, DPR

The effectiveness of CASQA's efforts toward this scope can be expressed in relation to management questions established as part of Municipal Separate Storm Sewer Systems' (MS4s') program effectiveness assessments that are required in some MS4 permits. With respect to addressing urban pesticide impacts on water quality, the following two management questions are suggested for inclusion in MS4s' program effectiveness assessment:

> **Question 1: (Near term / Current problems)** – Are actions being taken by State and Federal pesticide regulators and stakeholders that are expected to end recently observed pesticide-caused toxicity or exceedances of pesticide water quality objectives in surface waters receiving urban runoff?
>
> **Question 2: (Long term / Prevent future problems)** – Do pesticides regulators have an effective system in place to exercise their regulatory authorities to prevent pesticide toxicity in urban water bodies?

This report is organized to answer these management questions and is intended to support annual permit compliance requirements for both Phase I and Phase II MS4s. It describes the year's status and progress, provides detail on stakeholder actions (by CASQA and others); and provides a roadmap / timeline showing the context of prior actions as well as anticipated end goal of these activities. This report may also be used as an element of future effectiveness assessment annual reporting.

[16] https://www.casqa.org/wp-content/uploads/2022/10/final_-_vision_for_sustainable_stormwater_management_-_10-07-2020.pdf

Section 2. Latest Results of CASQA Efforts

At any given time, there are dozens of pesticides with current or pending actions from the EPA or DPR. Addressing near term regulatory concerns is important because some pesticides may pose immediate threat to water quality that can lead to compliance liability for MS4s, and because some of the regulatory decisions made by EPA and DPR will last many years. For example, pesticide registration decisions are intended to be revisited on a fifteen-year cycle. To inform its engagement on near-term regulatory concerns, CASQA uses the Pesticide Watch List in the prioritization of near-term efforts (Section 2.1).

Meanwhile, CASQA and the Bay Area Clean Water Agencies (BACWA) continue to work on parallel efforts to effect long-term systemic changes in the regulatory process itself (see inset). By identifying inadequacies and inefficiencies in the pesticide regulatory process, and persistently working with EPA and DPR to improve the overall system of regulating pesticides, CASQA and BACWA are gradually achieving results (Section 2.2).

CASQA and BACWA Continue to Coordinate the Monitoring of EPA and DPR Pesticide Regulatory Actions

There has been a long history of collaboration between CASQA, BACWA, and the State Water Board, as all entities seek to track and respond to pesticide regulatory actions, with the goal of avoiding pesticide-related toxicity.

CASQA and BACWA regularly track pesticide regulatory activities by EPA, DPR and other agencies. In 2021, CASQA and BACWA combined resources to track stormwater and wastewater priorities into a single Action Plan, updated monthly.

Together, CASQA and BACWA accomplish tasks that are impractical for individual member agencies. Both CASQA and BACWA are committed to continued collaborations to streamline our proactive regulatory approach.

2.1 NEAR-TERM REGULATORY CONCERNS

CASQA seeks to ensure that the Water Boards and EPA's Office of Water (OW) work with DPR and EPA's OPP to manage problem pesticides that are creating near-term water quality impairments. These efforts address CASQA Vision Action 1.2 as well as Phase II MS4 Program Effectiveness Assessment and Improvement Plan (PEAIP) Management Question 1 regarding observed pesticide-caused toxicity or exceedances of pesticide water quality objectives in surface waters receiving urban runoff.

Assessment Question 1: (Near term / Current problems) – Are actions being taken by State and Federal pesticide regulators and stakeholders that are expected to end recently observed pesticide-caused toxicity or exceedances of pesticide water quality objectives in surface waters receiving urban runoff?

Answer: As detailed below, at the State level, significant progress has been made by DPR in addressing near-term and current problems with pesticides in surface waters receiving urban runoff. DPR continues to implement improved registration processes and responses to observed water quality problems. DPR also continues to implement and evaluate mitigation measures for observed problems with pyrethroids and fipronil.

At the Federal level, less progress has been made in addressing near term problems. Some early actions were taken to address pyrethroid and fipronil problems at the urging of CASQA and DPR. However, EPA analyses do not show a clear understanding of key urban uses, and it is still unclear if upcoming risk management decisions for

pyrethroids, fipronil, and imidacloprid and other neonicotinoids will provide any additional protection of urban water bodies.

2.1.1 Updated Pesticide Watch List

A key tool for identifying near-term regulatory concerns is CASQA's Pesticide Watch List. CASQA reviews scientific literature, government reports, and monitoring studies as they are published. This information is used to prioritize pesticides based on the most up-to-date understanding of urban uses, pesticide characteristics, monitoring, and surface water quality toxicity (for pesticides and their degradates). CASQA uses these insights to update the list each year (Table 2), which serves as a management tool to help focus efforts on the most important pesticides from the perspective of MS4 agencies.[17]

This year, the investigation assessed most Watch List chemicals,[18] incorporating information from the following surface water monitoring programs:

- **DPR**: (1) Study 329. *Surface Water Monitoring for Pesticides in Urban Areas of Northern California (FY2020-2021*), Alvarado 2023 and (2) Study 320. *Ambient Surface Water and Mitigation Monitoring in Urban Areas in Southern California (FY2021-2022*), Budd 2023.
- **USGS** California Stream Quality Assessment: Sandstrom, M., Nowell, L., Mahler, B., Van Metre, P., *New-generation Pesticides Are Prevalent in California's Central Coast Streams*, Science of the Total Environment, 806, 2022.
- **SFEI**: Heberger, M., Sutton, R., Buzby, N., Sun, J., Lin, D., Mendez, M., Hladik, M., Orlando, J., Sanders, C., Furlong, E. *Current-Use Pesticides, Fragrance Ingredients, and Other Emerging Contaminants in San Francisco Bay Margin Sediment and Water.* SFEI Contribution No. 934. San Francisco Estuary Institute, Richmond, CA, 2020.
- **Delta Regional Monitoring Program (RMP):** Current Use Pesticides monitoring data (available from CEDEN).
- **MS4/NPDES monitoring**: the Bay Area Municipal Stormwater Collaborative and the Southern California Stormwater Monitoring Coalition.

The available data were compared to aquatic toxicity thresholds, represented by Aquatic Life Benchmarks established by EPA based on Ecological Risk Assessments (ERAs). For the DPR data sets, this comparison was performed by DPR and reported in the associated study reports. DPR's raw data were not reviewed for this investigation. Following the review of monitoring data, additional factors were checked, including section 303(d) impaired waters listings and pesticide product uses. Based on the review, the following Watch List updates were implemented:

Priority 1: The Priority 1 pesticides are well represented in the DPR Northern and Southern California urban monitoring programs, indicating that they are of potential concern for aquatic life impacts in urban receiving waters. While the 2023 CASQA Watch List identified 20 urban-use pyrethroid pesticides, most are not commonly included in water quality monitoring programs. Therefore, the Watch List was adjusted to individually specify the commonly monitored pyrethroids in the Priority 1 list, and moved the remaining pyrethroids to Priority 2, as "other pyrethroids" (with a footnote listing them individually).

[17] The first Watch List was published by the UP3 in 2005.

[18] Pesticides listed in the Watch List as groups were not included in the investigation, including the arsenic, chromium, copper, silver and zinc pesticides, as well as Alkyl Dimethyl Benzyl Ammonium Chloride (ADBAC) pesticides, antimicrobials in paints/coatings, N-Bromosulfamates, Chlorinated isocyanurates, Halohydantoins, Hypochlorites, Mineral oil (aliphatic), and Phenoxy herbicides. These pesticides will be re-evaluated for the Watch List in future years.

Priority 2: The recent monitoring data support continued Priority 2 placement for listed pesticides for which data are available, with one exception. Four pesticides had been listed as Priority 2 due to dioxins impurities: 2,4-D, chlorothalonil, dacthal (DCPA), pentachlorophenol. While 2,4-D remains Priority 2, chlorothalonil and dacthal were moved from Priority 2 to Priority 4, due to the relative lack of detected monitoring data and uncertainties regarding the significance of dioxin toxicity from products for which the active ingredient is not detected. Further, the EPA re-registration documents for these pesticides have yet to acknowledge the dioxins contamination.[19] Pentachlorophenol was removed from the Watch List as it no longer has registered urban uses.

Priority 3: Roughly half of the Watch List Priority 3 pesticides are represented in the DPR, USGS, SFEI and/or Delta RMP monitoring data. DPR monitored for bensulide (Southern California) and trifluralin (Northern and Southern California) but were not detected. Diuron was frequently detected by DPR, USGS, SFEI and Delta RMP monitoring, and in substantial numbers of samples exceeded the Diuron aquatic life benchmarks. Simazine was frequently detected in DPR (Southern California), USGS, SFEI and Delta RMP monitoring.[20] The available recent monitoring data supported moving diuron to Priority 1 and simazine to Priority 2.

Table 2. Current Pesticide Watch List

Priority	Basis for Priority Assignment	Pesticides
1	Monitoring data exceeding benchmarks; linked to toxicity in surface waters; urban 303(d) listings	Diuron Fipronil Imidacloprid Malathion Pyrethroids with significant monitoring data: • Bifenthrin • Cyfluthrin • Cyhalothrin (lambda • Cypermethrin • Deltamethrin/Tralomethrin • Esfenvalerate/Fenvalerate • Permethrin
2	Monitoring data approaching benchmarks; modeling predicts benchmark exceedances; very high toxicity and broadcast application on impervious surfaces; urban 303(d) listing for pesticide, degradate, or contaminant that also has non-pesticide sources	2,4-D [21] Carbendazim (Thiophanate methyl)[22] Chlorantraniliprole Clothianidin (Neonic) Copper pesticides [+] Creosote (PAHs) Indoxacarb Pendimethalin PHMB [+]

[19] 2,4-D: Addendum to the Draft Ecological Risk Assessment for Registration Review, October 2022, EPA; Chlorothalonil Proposed Interim Registration Review Decision, September 2023, EPA; DCPA Occupational and Residential Exposure Assessment, May 2023, EPA.

[20] In addition, EPA has cancelled many simazine uses and banned it in some states (such as Hawai'i) due to Endangered Species Act findings (https://www.epa.gov/pesticides/epa-releases-final-biological-evaluations-glyphosate-atrazine-and-simazine).

[21] May have dioxins as contaminants; there are several bay and estuary 303(d) listings for dioxin compounds.

[22] Carbendazim is a registered pesticide, and also a degradate of thiophanate-methyl

Priority	Basis for Priority Assignment	Pesticides	
		Pyrethroids without monitoring data[23] Simazine Thiamethoxam (Neonic, degrades into Clothianidin) Zinc pesticides (including Ziram) +	
3	Pesticide contains a Clean Water Act Priority Pollutant; 303(d) listing for pesticide, degradate, or contaminant in watershed that is not exclusively urban	Arsenic pesticides Bensulide Chromium pesticides Dichlorvos (DDVP)	Naled Naphthenates Silver pesticides + Trifluralin
4	High or unknown toxicity (parent or degradate) and urban use pattern associated with water pollution; synergist for higher tier pesticide; on DPR priority list	Abamectin ADBAC pesticides[24] + Antimicrobials in paints/coatings Azoxystrobin Bacillus sphaericus + Bacillus thuringiensis + Bromacil N-Bromosulfamates Busan-77 + Carbaryl Chlorinated isocyanurates+ Chlorine + Chlorine dioxide + Chlorfenapyr Chlorothalonil [25] Chlorsulfuron Dacthal (DCPA) [26] DCOIT + DDAC + Dichlobenil Dithiopyr Halohydantoins + Hydramethylnon Hypochlorites + Imazapyr Isoxaben Mancozeb Methomyl Methoprene +	Methoxyfenozide Methyl anthranilate + Mineral bases, weak + Mineral oil (aliphatic) + MGK-264 Novaluron Oryzalin Oxadiazon Oxyfluorfen PCNB Peroxyacetic acid + Phenoxy herbicides[27] Piperonyl butoxide (PBO) Prodiamine Propiconazole Pyrethrins Pyriproxyfen + Sodium bromide + Sodium chlorite + Sodium percarbonate + Sodium tetraborate + Spinosad + / Spinetoram Sulfometuron-methyl Tebuconazole Terbuthylazine + Triclopyr Triclosan Trimethoxysilyl quats
5	Frequent questions from partners[28]	Glyphosate Metaldehyde	

[23] Allethrins, Cyphenothrin, Etofenprox, Flumethrin, Imiprothrin, Metofluthrin, Momfluothrin, Prallethrin, Sumethrin [d-Phenothrin], Tau-Fluvalinate, and Tetramethrin. Etofenprox is included in SoCal analytes but has not been detected; there continue to be no Northern California monitoring data for etofenprox.
[24] Alkyl Dimethyl Benzyl Ammonium Chlorides (ADBAC) includes a family of 21 different quaternary ammonium pesticides.
[25] May have dioxins as contaminants; there are several bay and estuary 303(d) listings for dioxin compounds.
[26] May have dioxins as contaminants; there are several bay and estuary 303(d) listings for dioxin compounds.
[27] MCPA,2,4-DP, MCPP, and dicamba. 2,4-D is listed separately.
[28] Chlorpyrifos and Diazinon, while often asked about, have near zero or no urban uses, respectively.

Priority	Basis for Priority Assignment	Pesticides
Keep Watching	Urban pesticides that may threaten water quality depending on approved urban use patterns.	Acetamiprid (Neonic) Cyantraniliprole Dinotefuran (Neonic) Flupyradifurone (Neonic-like) Sulfoxaflor (Neonic-like)
None	Based on review of available data, no approved urban use or no tracking trigger as yet identified.	Most of the >1,000 existing pesticides
Unknown	Lack of information. No systematic screening has been completed for the complete suite of urban pesticides.	Unknown

2.1.2 Description of Near-Term Regulatory Processes

Immediate pesticide concerns may arise from regulatory processes undertaken at DPR or EPA's OPP. For example, when EPA receives an application to register a new pesticide, there may be two opportunities for public comment that are noticed in the Federal Register, as depicted in green in Figure 3. EPA's process usually takes almost a year while DPR typically evaluates new pesticides or major new uses of active ingredients within 120 days.

Figure 3. EPA's Registration Process for New Pesticides

Another regulatory process, "Registration Review," depicted in Figure 4, is meant to evaluate currently registered pesticides about every 15 years, to account for new data available since initial registration. In general, it takes EPA five to eight years to complete the entire process. In addition to this process, pesticides are evaluated with respect to ESA criteria. EPA regularly updates its schedule for approximately 50 pesticides that will begin the review process in a given year.[29]

Figure 4. EPA's Registration Review – Process to Review Registered Pesticides at a Minimum of Every 15 Years.

[29] See https://www.epa.gov/pesticide-reevaluation/registration-review-schedules for schedule information.

DPR also has an ongoing but informal review process (called continuous evaluation) that can address pesticide water quality impairments. If it needs to obtain data from manufacturers, DPR can initiate a formal action called "Reevaluation." These evaluations, mitigation measure development, and mitigation effectiveness evaluation have involved ongoing communication with CASQA and partners.

While EPA must consider water quality in all of its pesticide registration decisions, at DPR this step is not yet fully established as standard (most outdoor urban pesticide registration applications are routinely routed by DPR for surface water review, but a few – notably antimicrobial products used in storm drains – do not automatically receive this review). CASQA monitors registration applications, to identify those relevant to urban runoff, based on the Pesticide Watch List in Table 2 and use pattern/toxicity analysis for pesticides that have not previously been reviewed.

2.1.3 Key Near-Term Regulatory Activities and Progress

Table 3 presents a summary of recent CASQA and partner activities to address near-term regulatory concerns and the latest results; for additional insight regarding ongoing pesticide registrations, see the Appendix for Regulatory Participation Outcomes and Effectiveness Assessment Summary Tables. CASQA monitors the Federal Register and DPR's website for notices of regulatory actions related to new pesticide registrations and registration reviews. This includes monitoring EPA's dockets via the website regulations.gov. Since the Pesticide Watch List is not based on a comprehensive review of all pesticides, CASQA watches for additional pesticides that appear to have any of the following characteristics: proposed urban, outdoor uses with direct pathways for discharge to storm drains, high aquatic toxicity, or containing a priority pollutant. Participating in these regulatory processes can take many years to complete.

In addition, EPA's OPP strives to update their Aquatic Life Benchmarks table on an annual basis.[30] In August 2023, EPA's Office of Pesticide Programs, Environmental Fate and Effects Division updated its pesticides Aquatic Life Benchmarks table.[18] These updates included benchmarks for 23 newly registered pesticides (and their degradates) and 11 previously registered pesticides (and their degradates) undergoing registration review (including the Priority 2 pyrethroid, etofenprox).

At the state level, DPR was mandated by legislative action to assess non-agricultural outdoor neonicotinoids. On October 8, 2023, Governor Gavin Newsom signed Assembly Bill (AB) 363 (Chapter 520, Statutes of 2023). This act amended section 12838 of the Food and Agricultural Code and required DPR to evaluate potential impacts to pollinating insects, aquatic organisms, and human health from the use of neonicotinoid pesticides, including acetamiprid, clothianidin, dinotefuran, imidacloprid, and thiamethoxam, for non-agricultural use on non-production outdoor ornamental plants, trees, and turf. The law requires that DPR initiate a reevaluation of these neonicotinoid pesticide products by July 1, 2024. These draft assessments evaluate potential risks to pollinating insects, aquatic organisms, and human health that result from non-agricultural and residential uses of imidacloprid including those by professional handlers in landscape, residential, and recreational settings, use of home (consumer) products, potential post-application exposures, as well as risks from dietary and aggregate exposures. This reevaluation involves 42 registrants and 146 pesticide products currently registered in California. The documents were submitted for scientific peer review to DPR's partner agencies: EPA, and the California Office of Environmental Health Hazard Assessment. No comment period was provided. CASQA will review the documents once they are made public.

CASQA also continues to monitor DPR's efforts with respect to mitigating human health risk associated with fipronil. DPR's Human Health Assessment Branch published the Fipronil Risk Characterization Document in March 2023.[31] While this analysis is specific to human health, not ecotoxicity, it identified significant occupational exposures from the outdoor use of liquid fipronil concentrate on structures. When there are findings of that nature, the next step is to

[30] https://www.epa.gov/pesticide-science-and-assessing-pesticide-risks/aquatic-life-benchmarks-and-ecological-risk
[31] https://www.cdpr.ca.gov/docs/whs/active_ingredient/fipronil.htm

develop mitigation for such exposure. CASQA's concern is that the mitigation could include personal protective equipment or other actions that would not reduce ecological exposure. While communication with DPR regarding both mitigation alternatives and opportunities for public engagement are ongoing, the mitigation plan remains unknown.

Table 3. Latest Results of Efforts Communicating Near-Term Regulatory Concerns to EPA[32]

Regulatory Action or Concern	CASQA Letters	Partner Support	Outcomes and notes
Pesticides Label White Paper	✓	BACWA, NACWA, SFBRWQCB	***Pending.*** CASQA is recommending that EPA: • Harmonize pesticide labeling practices with those developed by the World Health Organization and United Nations, including standards for font and pictogram usage and sizing. • Simplify pesticide label language to better accommodate the reading level of adults in the United States. • Provide pesticide labels in multiple languages.
Etofenprox Interim Decision (ID)	✓	BACWA	***Continued Success!*** The ID continued to incorporate all the restrictions presented in the Proposed Interim Decision (December 2022). Under the proposed label language, etofenprox would only be allowed to be sprayed on impervious surfaces in limited circumstances (See Appendix). Further, EPA used CASQA's suggested pictogram, used CASQA's proposed minimum sizing for graphic, and included Spanish translation. EPA also included improved rain restriction language, water protection statements, explicit mention of outdoor/indoor use, and specifically defined the spot treatment size.
Ziram Amended Proposed Interim Decision (PID)	✓		***Success!*** The Amended PID indicated that the antimicrobial mitigation measures were continuing to move forward unchanged. This includes the deletion of ziram as a material preservative in paint as well as a reduction in the maximum concentration in building materials (from 9,825-29,500 ppm to 1680 ppm). (See Appendix)
Chlorothalonil PID	✓		***Pending.*** CASQA is supporting EPA's proposed label improvements for conventional uses of chlorothalonil while asking for additional mitigations for the antimicrobial uses of chlorothalonil, specifically uses that occur outdoors, with potential exposure to rain, such as paints, coatings, and wood treatments: • Revise the proposed label improvements labels to units that are more intelligible for urban users: ○ For application area to be stated in square feet instead of acreage;

[32] Color coding in this table is meant to reflect the Pesticide Watch List prioritization color coding in Table 2.

Regulatory Action or Concern	CASQA Letters	Partner Support	Outcomes and notes
			○ For liquid formulations to be stated fluid ounces instead of pounds for liquid formulations. • An increase in the rain delay warning on the chlorothalonil label to 48 hours instead of 24 hours. Since EPA is already implementing this change to a 48-hour delay on other pesticide labels, implementing this recommendation would also provide label consistency for pesticide users.
IPBC (3-Iodo-2-propynyl butylcarbamate) Draft Risk Assessment (RA)	✓	BACWA	***Pending.*** The Draft RA acknowledged several data gaps in the IPBC ecotoxicity dataset: • Chronic ecotoxicity endpoints for freshwater invertebrates • Ecotoxicity endpoints for aquatic vascular plants • Ecotoxicity endpoints for benthic species CASQA recommended that EPA require registrants to submit the missing ecotoxicity data as noted above for freshwater invertebrates, aquatic vascular plants, and benthic species, and reevaluate risk to aquatic life with this information included.
Oxyfluorfen Amended PID	✓		***Success!*** CASQA supported EPA's proposed mitigation, including the cancelation of residential uses, covering all residential turf and ornamental products. The expectation is that a cancelation will contribute to the reduction of oxyfluorfen present in urban runoff, thereby reducing ecological risks to aquatic invertebrates. EPA received many comments from pesticide registrants as well as the USDA which argued that there should not be a ban on residential uses of oxyfluorfen. EPA decision was consistent with CASQA's recommendation: *"The Agency has considered retaining residential application of oxyfluorfen by commercial applicators. However, it is not possible to preclude residential users from using products intended for professional applicators; therefore, residential uses will be removed from all products."*

2.2 LONG-TERM CHANGE IN THE PESTICIDES REGULATORY STRUCTURE

Since the mid-1990s, CASQA (and its predecessor organization the Stormwater Quality Task Force) has worked toward a future in which the pesticide regulatory structure at the state and federal level proactively restricts pesticide uses that have the potential to cause urban water quality problems. These efforts directly relate to Phase II MS4 PEAIP Management Question 2.

Assessment Question 2. (Long term / Prevent future problems) – Do pesticides regulators have an effective system in place to exercise their regulatory authorities to prevent pesticide toxicity in urban water bodies?

Answer: Improvements in processes at EPA and especially at DPR have moved closer to that future. Many of these improvements are linked to the persistent work of CASQA and partners to educate regulators on how previous process deficiencies did not adequately address urban pesticide problems.

Overall, DPR has a system in place that is reasonably effective at addressing pesticide toxicity in urban water bodies, although improvement is needed to better coordinate this process with the requirements of the Clean Water Act and MS4 permits. DPR and the Water Board, along with CASQA and other stakeholders, are working diligently to strengthen this system and to institutionalize it. The goal is to embody this process in the State's UPPs and the Management Agency Agreement (MAA) between DPR and the State Water Board. In addition, DPR published an SPM Roadmap (*See Section 2.2.1*) which is expected to be implemented in coming years, incorporating urban pesticide uses.

At the Federal level, OPP has implemented some improvements in how it evaluates and responds to water quality problems associated with pesticides, but it does not yet do this reliably and does not have a system in place to ensure that this will happen consistently and adequately. Meanwhile, scientific studies are being conducted by USGS and EPA's Office of Research and Development to better understand the complexities of pollution in urban stormwater. In addition, another EPA branch, the Office of Chemical Safety and Pollution Prevention, tasked their Pesticide Programs staff with improving the integration of the EPA and the Services[33] implementation of the ESA.

[33] The U.S. Fish and Wildlife Service and the U.S. National Marine Fisheries Service (collectively referred to as the Services) are jointly responsible for administering the ESA. The National Marine Fisheries Service has jurisdiction for marine endangered species, while U.S. Fish and Wildlife Service has jurisdiction for freshwater and all other species.

2.2.1 Focus on DPR's Long Term Approach

In 2021, DPR formed a Sustainable Pest Management Work Group, the goal of which was "to develop a recommended roadmap with ambitious, measurable goals to practically achieve the state's vision to accelerate a system-wide transition to safer, more sustainable pest management."[34] A nine-member urban subgroup was formed to ensure that urban pesticides uses were effectively incorporated. The work group defined SPM as a "holistic, whole-system approach applicable in agricultural and other managed ecosystems and urban and rural communities that builds on the concept of integrated pest management (IPM) to include the wider context of environmental protection, economic vitality, and human health and social equity."

CASQA Asks DPR to Prioritize Urban Pesticides Based on Use

Prioritizing pesticides by groups of related products is especially important in the urban context where consumers consider products based on use ("What will take care of my ant problem?") versus active ingredient. The January 2023, the SPM Roadmap described science-based prioritizations based on use and/or pest versus individual pesticides. However, in September 2023, DPR released a draft 2024-2028 Strategic Plan in which the wording implied a siloed analysis focused on active ingredient, rather than on product uses or pest/location use. CASQA provided feedback to DPR asking that the language be updated to parallel the SPM Roadmap. CASQA is awaiting release of the final 2024-2028 Strategic Plan.

In January 2023, DPR released the final SPM roadmap. To achieve urban SPM, DPR has identified 4 leverage points in the system. CASQA will seek opportunities to support DPR's SPM within each of these points:[35]

1. Enhance data and information collection for urban pesticide use
2. Advance research and outreach on urban pest management issues
3. Make SPM the preferred choice for both licensed and unlicensed users
4. Refocus urban design, building codes, and regulations to enhance pest prevention

To reliably fund DPR's new focus, the State conducted a feasibility analysis to consider incremental increases of the mill assessment from the current $0.021 up to $0.0339 per dollar of pesticide sales. DPR's mill assessment is paid by a pesticide retailer or manufacturer when a pesticide is first sold into California and provides approximately 80 percent of the department's current funding. The mill assessment has not been increased since it was originally codified into state law in 2004. In the 2024-25 state budget, the Governor proposed an increase of the mill assessment over a three-year period, from the $0.021 to (1) $0.026 in 2024-25, (2) $0.027 in 2025-26 and (3) $0.0286 in 2026-27. The budget authorized DPR to further adjust the assessment to align revenues with expenses, not to exceed a new cap of $0.0339.[36]

2.2.2 Focus on California's Urban Pesticides Provisions (UPP)

In 2014 the State Water Board established an urban pesticides reduction project (now titled the Statewide Urban Pesticides Provisions or UPP) as a top priority project under the comprehensive stormwater strategy, known as "Strategy to Optimize Resource Management of Storm Water" or STORMS.[37] CASQA has been actively supporting the development of the Urban Pesticide Provisions since their inception.

[34] https://www.cdpr.ca.gov/docs/sustainable_pest_management_roadmap/
[35] https://www.cdpr.ca.gov/docs/sustainable_pest_management_roadmap/spm_executive_summary.pdf
[36] https://lao.ca.gov/reports/2024/4873/Department-of-Pesticide-030524.pdf
[37] http://www.waterboards.ca.gov/water_issues/programs/stormwater/storms/

Our Water, Our World (OWOW) Supports Current and Anticipated Permit Requirements

OWOW is a collaboration of municipalities and integrated pest management (IPM) experts to develop and distribute IPM information directly to consumers at point-of-purchase at garden centers and hardware stores, thereby reducing the purchases of harmful products. OWOW started as a pilot project in 1998, in just a handful of stores, initiated by the Central Contra Costa County Sanitation District, the City of Palo Alto Regional Water Quality Control Plant, and the Marin Countywide Stormwater Pollution Prevention Program. The program quickly grew and was administered by the former Bay Area Stormwater Management Agencies Association from 1999 – 2021. In January 2022, the program was transferred to CASQA, with the goal of providing statewide access to this important and successful outreach program. While several stormwater programs currently rely upon OWOW to meet existing permit requirements, statewide implementation is expected to grow, if incorporated into the UPPs. OWOW materials could also be crucial in supporting DPR's SPM urban educational outreach campaigns.

2.2.3 CASQA Participation in Federal and State Advisory Groups

As presented in Table 4, CASQA remains actively involved with various agencies and advisory groups that affect urban pesticide use and pest management.

Table 4. Participation in Federal and State Efforts to Support CASQA's Goals

Agency or Conference	Latest Outcomes
EPA's Pesticide Program Dialogue Committee (PPDC)	The 40-person committee, chaired by the Director of OPP, includes representatives from growers, industry, environmental, public health, farmworkers, as well as state/local/tribal government. The PPDC holds biannual public meetings. At the June 2024 meeting, key CASQA topics included: • A discussion of label reform, including digitization and standardization; • An update on the Endangered Species Act Workplan by the Deputy Assistant Administrator for Pesticide Programs for Office of Chemical Safety and Pollution Prevention. • A discussion of bilingual label updates, which will occur 2025-2030, with translations for the most hazardous and toxic pesticide products required first.
DPR's Pest Management Advisory Committee (PMAC)	Victoria Kalkirtz (co-chair of the TSC Subcommittee) participates on the PMAC. Participation on the PMAC has resulted in expanded focus by DPR on urban pest management and water quality issues and generated funding for urban IPM research and implementation programs. In February 2024, the following urban outdoor pesticide research proposals were assessed by PMAC: • Dr. Barbara Baer-Imhoof, UC Riverside "Empowering Disadvantaged and Underserved Communities: Sustainable Beekeeping and Gardening through Integrated Pest Management", $458,612 • Dr. Paul English, Public Health Institute "Redevelopment of the Pesticide Mapping Tool to Increase Pesticide Use Reporting Data Access and Utility for Integrated Pesticide Management Outreach, Public Health Awareness, and Environmental Protection" $365,537 • Mr. Yale Jeffery, City of Vista "Sustainable IPM Program in The City of Vista" $167,203

Section 3. CASQA's Approach Looking Ahead

At any given time, EPA and DPR may be in the process of evaluating and registering various pesticides for urban use. CASQA will continue to track and engage in EPA and DPR activities, with a focus on top priority active ingredients (as identified in the annual Pesticide Watch List) and sharing relevant urban runoff information and CASQA's water-quality specific expertise with pesticides regulators. Key documents to be reviewed will include risk assessments and risk management proposals with an eye toward ensuring that pesticide regulators have and consider accurate information on relevant factors in urban areas such as pesticide use patterns, urban pollutant transport mechanisms, and receiving water conditions. CASQA strives to ensure that pesticide regulators have access to relevant information such as monitoring data, water quality regulatory requirements, and urban runoff agency compliance liabilities and cost information. As necessary, CASQA will continue to recommend changes in an individual pesticide's allowable uses or use instructions, request consideration of impacts on water bodies receiving urban runoff, and/or ask that regulators fill critical data gaps by obtaining more data from manufacturers. As resources allow and circumstances warrant, CASQA will continue to collaborate with wastewater organizations (such as BACWA), other water quality stakeholders, and the Water Boards in commenting on EPA and DPR actions.

In the coming year, CASQA will continue to address near-term pesticide concerns and seek long-term regulatory change. Although changes at the federal level are important for fully achieving CASQA's goal of protecting water quality through the effective use of pesticide regulations, CASQA will also continue to focus efforts on solidifying progress at the state level. In the coming year, CASQA will continue engagement on specific regulatory actions for priority pesticides at the federal level, while continuing to support the State's development of the UPPs. The pesticide program's focus areas are the following:

(1) Continue collaboration with DPR to address near-term regulatory concerns, while seeking OPP and OW actions to reduce inconsistencies:

- Ensure DPR action on fipronil water pollution is completed, including effective professional user education about restrictions on its outdoor urban use.
- Ensure DPR enforces mitigation measures for pyrethroids and fipronil, and adopts additional measures as necessary.
- Ensure the state continues to conduct surveillance monitoring to evaluate pyrethroids and fipronil mitigation effectiveness and to evaluate occurrence of new threats like imidacloprid and other neonicotinoid insecticides.
- Continue to encourage EPA to complete scientific groundwork and to identify and implement pyrethroids, fipronil, malathion, and imidacloprid mitigation measures, recognizing that it is likely that necessary mitigation cannot readily be implemented entirely by DPR.

(2) Seek long-term changes in the pesticide regulatory structure:

- Continued engagement with EPA regarding incorporating their ESA obligation in registrations and re-registrations, including recommending the use of pictograms in labels, and seeking opportunities in California for EPA's future regional and vulnerable species pilot programs.
- Continued engagement with DPR regarding the SPM Roadmap specific to urban implementation programs and opportunities.
- Advocate for the importance and reprioritization of the statewide UPP to implement the restructuring of California's urban surface water pesticides monitoring to increase its effectiveness and improve coordination.
- Encourage and assist the Water Board to continue to implement its MAA with DPR to prevent and mitigate pesticide impairments through more effective pesticide regulation.

- Seek procedure changes such that DPR continues to refine its registration procedures to address remaining gaps in water quality protection.
- Seek increased transparency of DPR regulatory activities, including timely access to scientific evaluation reports that are the basis of registration decisions.

CASQA will continue to seek opportunities to coordinate on high priority regulatory actions, with the Water Boards and other water quality stakeholders, to take advantage of efficiencies, increase effectiveness, and ensure that the water quality community has a consistent message. Table 5 presents CASQA's activities anticipated for the coming year; CASQA will conduct these activities as priorities indicate and resources allow. Table 6 summarizes upcoming regulatory action items that are likely to proceed and may require CASQA attention in the coming year.

Table 5. CASQA Pesticide Activities

Activity		Purpose
Regulatory Tracking	Track Federal Register notices	Identify regulatory actions for high priority active ingredients that may require review.
	Track DPR notices of registration applications and decisions	Identify pesticides meriting surface water review that are not within DPR's automatic routing procedures, identify gaps or potential urban runoff-related problems with current DPR evaluation or registration plans other regulations, procedures, and policies.
	Track activities at the Water Boards	Identify opportunities for improvements in TMDLs, Basin Plan Amendments, and permits.
	Review regulatory actions, guidance documents, and work plans	Identify potential urban runoff-related problems with current EPA evaluation or registration plans, other regulations, procedures, and policies.
Regulatory Communications	Briefing phone calls, informal in-person meetings, teleconference meetings, and emails with EPA and DPR	Information sharing about immediate issues or ongoing efforts; educate EPA and DPR about issues confronting water quality community. Provide early communication on upcoming proceedings that help reduce the need for time-intensive letters.
	Convene formal meetings, write letters, and track responses to letters	Ensure current pesticide evaluation or registration process accurately addresses urban runoff and urban pesticide use and management contexts. Take advantage of opportunities to formally provide information and suggest more robust approaches that could be used in future regulatory processes. Request and maintain communication on mitigation actions addressing highest priority pesticides.
Advisory	Serve on EPA, DPR, and Water Board policy and scientific advisory committees	Provide information and identify data needs and collaboration opportunities toward development of constructive approaches for managing pesticides.
Educational	Presentations to and informal discussions with EPA, DPR, Water Board, CASQA members,	Educate EPA, DPR, Water Board, and CASQA members about the urban runoff-related shortcomings of existing pesticide regulatory process, educational efforts to support process improvements, and report on achievements. Encourage research and monitoring programs to address urban runoff data needs and priorities. Stimulate academic, government, or private development of analytical and toxicity identification methods to address anticipated urban runoff monitoring needs. Inform development of new pesticides by

Activity		Purpose
		manufacturers and selection of pesticides by professional users.
	Develop and deliver public testimony	Educate Water Board members about the problems with existing pesticide regulatory process, encourage change, and report on achievements.
Monitoring and Science	Update Pesticide Watch List based on new scientific and regulatory information	The Pesticide Watch List (Table 2) serves as a management tool to prioritize and track pesticides used outdoors in urban areas.
	Data analysis of DPR/SWAMP/USGS/MS4 monitoring, pesticide use data, and information from scientific literature	Summarize data to educate CASQA members and water quality community, Water Boards, DPR, and EPA.
Reporting	Prepare Monthly Action Plans	Coordinate CASQA's regulatory actions with partners
	Prepare Annual Report to describe the year's status and progress, provide detail on stakeholder actions, and the context of prior actions as well as anticipated end goal of these activities.	Provide CASQA's members with focused information on its efforts to prevent pesticide pollution in urban waterways. The document serves annual compliance submittal for both Phase I and Phase II MS4s. It may also be used as an element of PEAIPs and future effectiveness assessment annual reporting.

Table 6. Anticipated Upcoming Opportunities for Pesticides Regulatory Engagement

EPA Pesticide Registration Review (15-year cycle) (organized chronologically by anticipated next regulatory step) [38]			
Priority	**Topic**	**Item**	**Urban Runoff Concern**
Unknown	New Antimicrobials	various	Varied; many of these pesticides are showing up for the first time at the PID level; review is needed to screen these for water quality issues
1	Allethrins	Preliminary Work Plan	Monitoring data exceeding benchmarks; linked to toxicity in surface waters; urban 303(d) listings.
1	Malathion	PID	303(d), toxicity, monitoring data
2	2,4-D	PID	Pesticide with dioxins impurity
2	Dacthal (DCPA)	RA	303(d) listings (dacthal, dioxins); Contains CWA Priority Pollutants (dioxins)
4	Mancozeb	PID	Central Valley Water Board high relative risk

[38] RA = Risk Assessment; PID = Proposed Interim Decision

Priority	Topic	Item	Urban Runoff Concern
1	Allethrins	Preliminary Work Plan	Monitoring data exceeding benchmarks; linked to toxicity in surface waters; urban 303(d) listings.
1	Fipronil	PID	Monitoring data; Anticipated 303(d) listings
1	Imidacloprid	Re-release of PID (ESA process)	High toxicity, monitoring data, 303(d) listings
2	Clothianidin (neonic)	Re-release of PID (ESA process)	High toxicity, monitoring data, 303(d) listings
2	Thiamethoxam (neonic)	Re-release of PID (ESA process)	High toxicity, monitoring data, 303(d) listings
3	Dichlorvos (DDVP)	PID	Organophosphate insecticide
3	Naled	PID	Degrades to DDVP
4	Dicamba	PID	Toxicity, stormwater monitoring data
4	Isothiazolinones (includes DCOIT, BBIT, BIT, MIT, OIT)	RA	Antimicrobials. Uses include paints.
4	Peroxy Compounds (peroxyacetic acid)	PID (re-release)	Fountain chemical
4	Bacillus thuringiensis (Bt)	Draft RA	Used in pools, spas, and fountains.
4	Piperonyl butoxide (PBO)	PID	Pyrethroid synergist
4	Pyrethrins	PID	Related to pyrethroids, but less stable and less toxic
4	Tebuconazole	PID	Fungicide
4	MGK-264	PID	Re-release of PID after litigation. 303(d) listing
Keep Watching	Acetamiprid	PID	Neonicotinoid, toxicity
Keep Watching	Dinotefuran (neonic)	PID	Toxicity, mobility

Other EPA-related Items

- Quarterly updates to the ESA Workplan website:
  - https://www.epa.gov/endangered-species/epas-workplan-and-progress-toward-better-protections-endangered-species

- U.S. EPA "Increasing Consistency and Transparency in Considering Costs and Benefits in the Rulemaking Process" affects how the U.S. EPA uses cost and benefit analysis in setting pollution standards. Rule proposal was expected in 5/19.
- Proposed rule to eliminate some OPP Federal Register Notices (was anticipated September 2018 according to U.S. EPA semi-annual regulatory agenda)
- U.S. EPA Update to Guidelines for Deriving Aquatic Life Water Quality Criteria. Draft scoping document external peer review is next step. Seeking OPP engagement.

DPR New Pesticide Product Registration Decisions

New Product Applications (Active ingredient – product name)	Why tracking	Current Status
1R-Phenothrin - by MGK	Outdoor uses	Noted on EPA docket. Not yet in DPR Notice.
Tetraniliprole	Outdoor uses	Noted on EPA docket. Not yet in DPR Notice.
Momfluorothrin (and Phenothrin) - S-1563	New urban pyrethroid	2014: DPR confirmed that Surface Water would review.
Momfluorothrin (and Cypermethrin) - MGK Products	New urban pyrethroid	2014: DPR confirmed that Surface Water would review.
Alpha-cypermethrin - Fendona CS	New urban pyrethroid	2018: DPR confirmed that Surface Water would review.
Transfluthrin - Bayer Product	New urban pyrethroid. Indoor and outdoor uses	Noted on EPA docket. Not yet in DPR Notice.
Fipronil and Bifenthrin - Taurus Trio G	Landscaping product	2017: DPR confirmed that Surface Water would review.
Fipronil - Termidor HP II	Termite product	2018: DPR confirmed that Surface Water would review.
Fipronil - MGK Formula 3115	Outdoor yellow jacket product	2019: DPR confirmed that Surface Water would review. 7/9/21: Notice of Final Decision posted. Product limited to bait stations.
Indoxacarb - Doxem Precise	New aerated indoxacarb powder	2019: DPR confirmed that Surface Water would review.
Zinc, Thiabendazole and 2-pyridinethiol-1-oxide – Ultra-Fresh DW-30	Potential use in vehicle tires	DPR is asking the registrant of that product that should not have been approved for use in rubber to change the product label to again say "not for use in California" with regard to the use in rubber.
Fipronil – Imidacloprid: Fuse Foam by Control Solutions, Inc.	Indoor/outdoor fipronil-imidacloprid foam	BACWA/CASQA have been tracking this product since 2017. 7/2/2021: DPR issues notice to deny, noting several problems with the label. 5/27/2022: DPR confirmed that the label that they are reviewing is the same as the label available on the EPA website.

Other DPR-related Items

- Registration Application Surface Water Reviews – continue to follow up on communications requesting review of all storm drain products and outdoor antimicrobials
- ***DPR's Sustainable Pest Management Roadmap***
- ***CA DPR Fipronil Human Health Risk Assessment and Mitigation.*** DPR finalized the fipronil Risk Characterization Documents (RCD) in May 2023. The final exposure assessment document (EAD), response to comments from US EPA, Office of Environmental Health Hazard Assessment, and other documents are posted at the link above. DPR is evaluating exposure scenarios of concern identified in the RCD, as well as comments specific to the risk mitigation process, and will issue a risk management directive (RMD) if DPR determines that mitigation is required.
- ***CA DPR Non-Agricultural Outdoor Neonicotinoids.*** AB 363 requires that CA DPR re-evaluate pesticide products containing the neonicotinoid active ingredients acetamiprid, clothianidin, dinotefuran, imidacloprid, and thiamethoxam, intended for non-agricultural use on non-production, outdoor ornamental plants, trees, or turf. The re-evaluation must evaluate impacts to pollinating insects, aquatic organisms, and human health, taking into account relevant routes of exposure. The text of AB 363 has a detailed timeline for each part of the assessment and requires that DPR adopt all necessary control measures on or before July 1, 2029.

Water Boards

- ***State Water Board Urban Pesticides Provisions.***
- ***Consolidation and Reissuance of Statewide (NPDES) General Permits for Residual Aquatic Pesticide Discharges.*** The State Water Board intends to consolidate four existing pesticide general permits into a single statewide pesticide general permit to promote consistency in permit implementation. The existing 4 permits regulate the discharge of pesticides used for (1) aquatic weed and algae control, (2) vector control, (3) invasive animal species control, and (4) spray applications conducted by the California Department of Food and Agriculture. The **tentative timeline for reissuance is June 2025**. Public comment periods, release of draft permits, and adoption dates will be announced through the State Water Board's public noticing process.
- Pesticides 303(d) listings
- Pesticide TMDL implementation requirements for permittees

Other Statewide Items

- ***Draft Urban Stormwater Management Strategy* by the CA Dept. of Water Resources**. "The Update 2023 RMS updates reflect that climate change has driven water managers to develop and extend resource management for sustainability and resilience, and that social change has brought new focus to equity issues and community resilience." Pesticides are discussed in the draft Urban Stormwater Runoff Capture and Management RMS.
- ***California Department of Food & Agriculture Program EIR on invasive species*** control covering potential broadcast pesticide applications urban areas of multiple priority pesticides. **October 2021 update**: California's Court of Appeal has ruled that a statewide pesticide-spraying program violates the law by failing to study and minimize the threats from pesticides and to properly inform the public about the risks of spraying. The ruling noted that the department did not analyze or disclose the health and environmental harms of the more than 75 pesticides. The court decision also noted a lack of public notice. Furthermore, they did not evaluate local impacts or allow opportunity for affected communities to opt out. **June 2022 Update:** New ruling by Sacramento County Superior Court orders the state to halt spraying.

Appendix: Regulatory Participation Outcomes and Effectiveness Assessment Summary Tables

Ziram Regulatory Participation Outcome and Effectiveness Assessment Summary Table

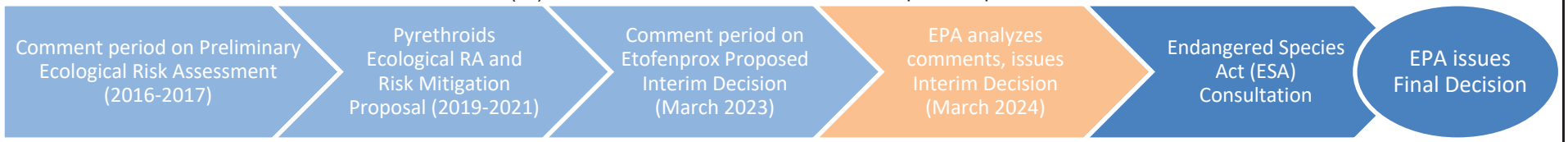
Pesticide: **Ziram** – EPA-HQ-OPP-2015-0568
Why we care: Fungicide/antimicrobial used in building products, including paint, caulks, and sealants. Highly toxic to aquatic life.
Actions taken: CASQA sent a comment letter to EPA on the Draft Ecological Risk Assessment (Draft RA) in 2021 and the Proposed Interim Registration Review Decision (PID) in 2022.
Status: EPA released the Amended PID on April 30, 2024 with a due date for comments set for July 1, 2024. The Amended PID does not include antimicrobial uses.

Next steps: EPA will issue an Interim Decision.
Recommendation: No action needed. The portion of the assessment that is of interest to CASQA (antimicrobials) is in the process of being finalized and there is no opportunity for comment at this point.

CASQA 5/19/2022 Comments to EPA	EPA Response (Ziram Amended Proposed Interim Registration Review Decision, Case Number 8001, March 2024)	Did EPA incorporate CASQA's comment?
CASQA Supports the Proposed Mitigation, Including Cancelation of All Ziram Paint Products To mitigate risks, EPA has proposed several significant mitigation measures, including the deletion of ziram as a material preservative in paint as well as a reduction in the maximum concentration in building materials (from 9,825-29,500 ppm to 1680 ppm). CASQA supports these proposed mitigations as they will reduce the potential threat to aquatic life in the surface waters that receive runoff from those watersheds.	"In the 2021 PID, mitigation measures for antimicrobial uses were proposed for public comment. Because no changes are being made to what was proposed in 2021 PID for antimicrobial uses, this amended PID focuses solely on conventional uses of ziram. EPA intends to issue a separate registration review decision for antimicrobial uses, which will post to the same public docket opened for this registration review case." (Amended PID, p. 4)	Yes. The amended PID was only amended with respect to the conventional uses (rather than antimicrobial), indicating that EPA is moving forward with cancelation of ziram uses in outdoor paints and reduction of ziram uses in other outdoor building materials.

Etofenprox Regulatory Participation Outcome and Effectiveness Assessment Summary Table

Pesticide: **Etofenprox** (EPA–HQ–OPP–2007–0804)
Use: Insecticide
Why we care: Priority pesticide due to toxicity, use, and monitoring data. 303(d) listings as well as adopted and pending TMDLs.
Actions taken: CASQA submitted a comment letter on the Preliminary Ecological Risk Assessment (July 2017), the Ecological Risk Mitigation (February 2020), and the Proposed Risk Mitigation (January 2021).
Status: EPA released the Interim Decision (ID) in March 2024. There is no comment period open at this time.



Next steps: ESA Consultation with public comment period.

CASQA 3/23/2023 Comments to EPA	EPA Response	Did EPA incorporate CASQA's comment?
CASQA SUPPORTS EPA'S PROPOSED MITIGATION MEASURES FOR ETOFENPROX Given the high degree of threat posed by the use of pyrethroids such as etofenprox in the urban environment, as thoroughly documented in the Draft ERA and PID, CASQA supports the inclusion of the following proposed mitigation measures as enumerated in the PID: 1. Reduction of area of application of etofenprox on and around structures. Under current permitted use, etofenprox can be used up to three feet up the side of an outdoor structure and up to three feet horizontally out from an outdoor structure, on impervious surfaces. Under the proposed mitigations in the PID, horizontal applications are limited to up to 1-inch from the structure, and vertical applications are limited to up to 2-feet above ground level: "Applications around potential exterior pest entry points into man-made structures such as doorways and windows, when limited to a band not to exceed one inch" and "Applications to vertical surfaces (such as the side of a man-made structure) directly above impervious surfaces (e.g., driveways, sidewalks, etc.), up to 2 feet above ground level" (PID, p.60) 2. Addition of clarification for which pesticides are used outdoors versus indoors. CASQA appreciates the proposed addition of language to the	EPA acknowledged CASQAs comments. "Writing on behalf of the CSQA (sic), Karen Cowan, Executive Director, noted that as documented in the PID, non-agricultural uses of etofenprox may result in surface water concentrations which are toxic to non-target organisms and represents a regulatory burden for CSQA municipal agency members. According to Ms. Cowan, the CSQA supports the mitigation measures proposed in the PID, which include: • reduction of area of application of etofenprox on and around structures; • additional clarification on which pesticides are used outdoors versus indoors; • addition of disposal statement; • addition of stewardship statement that includes a Spanish translation; and, • addition of buffer from water statement, water protection statements, and crack and crevice runoff statements." (Etofenprox: Response to Public	Yes. EPA continued to incorporate the proposed label mitigations that CASQA supported in its 2021 comment letter.

CASQA 3/23/2023 Comments to EPA	EPA Response	Did EPA incorporate CASQA's comment?
labels to clarify which products are "For outdoor use only" versus "For indoor use only" versus "For both indoor and outdoor use." (PID, p.58, 60) 3. Addition of disposal statement. CASQA agrees with the proposed disposal statement for etofenprox products: "Do not pour or dispose down the drain or sewer. Call your local solid waste agency for local disposal options." (PID, p.58) 4. Addition of stewardship statement that includes a Spanish translation. CASQA supports the addition of the following stewardship statement, including the pictogram and Spanish translation. (PID, p.59) Note to registrants: If adding stewardship statements on end-use consumer products, the followings language is required and placed in a prominent location: For products without drain treatment uses: "Do not allow to enter indoor or outdoor drains" "No permita la entrada a desagües internos o externos." For products with drain treatment uses: "Do not allow to enter indoor or outdoor drains unless labeled for drain treatments." "No permita la entrada a desagües internos o externos a menos que el etiquetado indique que está permitido el uso del producto para tratamiento de desagües." For products with and without drain treatment uses: "Follow proper disposal procedures on this label" "Siga las indicaciones del etiquetado para el desecho apropiado del producto." Graphic on the product package showing an image of a diagonal strikethrough over a drain. The pictogram must be legible (i.e. no smaller than 1.5 square centimeters or 0.25 square inches unless this size is greater than 10% of the size of the label). Use the following pictogram on product labels: 5. Addition of buffer from water statement, water protection statements, and crack and crevice runoff statements. CASQA supports the following proposed label mitigations. (PID, p.61) "Buffer from Water Statement: For soil or foliar applications, do not apply by ground within 25 feet of lakes, reservoirs, rivers, permanent	Comments on the Preliminary Interim Decision (May 10, 2023), p. 3)	

CASQA 3/23/2023 Comments to EPA	EPA Response	Did EPA incorporate CASQA's comment?
streams, marshes or natural ponds, estuaries and commercial fish farm ponds." and "Water Protection Statements: Do not apply the product into fish pools, ponds, streams, or lakes. Do not apply directly to sewers or storm drains, or to any area like a drain or gutter where drainage to sewers, storm drains, water bodies, or aquatic habitat can occur." "Do not allow the product to enter any drain during or after application." "Do not apply directly to impervious horizontal surfaces such as sidewalks, driveways, and patios except as a spot or crack-and-crevice treatment." "Do not apply or irrigate to the point of runoff." and "Crack and Crevice treatments • "Treat surfaces to ensure thorough coverage but avoid runoff." • "To treat insects harbored in voids and cracks-and-crevices, applications must be made in such a manner to limit dripping and avoid runoff onto untreated structural surfaces and plants." CASQA Recommendation: CASQA supports EPA's proposed label language mitigations for etofenprox		
CASQA SUGGESTS LABEL MITIGATION MEASURES (STORM EVENT RESTRICTION) FOR CONSISTENCY The PID includes the following rain-related statement mitigation: "Rain-Related Statements: Do not make applications during rain. Avoid making applications when rainfall is expected before the product has sufficient time to dry (minimum 4 hours)." "Rainfall within 24 hours after application may cause unintended runoff of pesticide application." (PID, p.61) Since the release of the etofenprox PID, EPA released the "Preliminary Analysis of the Effectiveness of a 48 Hour Rain Restriction to Reduce Pesticide Runoff ." EPA's analysis showed that a 48-hour prohibition of pesticide application when rain is forecasted can result in "a 10-40% decrease in 1-in-10 year daily average runoff-only estimated environmental concentrations (EECs) in the EPA standard farm pond. The rain restriction exhibits the largest impact for pesticides with a low organic carbon-normalized sorption coefficient (Koc) or a soil or foliar	"With respect to the recommendation from the CSQA (sic) to include label language to avoid applications when rainfall is expected and to extend the 24-hr restriction to 48 hrs, the agency has currently proposed language indicating that applications should not be made during rain and to avoid making applications when rainfall is expected before the product has sufficient time to dry (minimum 4 hours). The proposed label also indicates that "rainfall within 24 hours after application may cause unintended runoff of pesticide application." (Etofenprox: Response to Public Comments on the Preliminary Interim Decision, May 10, 2023, p.7) "The Agency has currently proposed language indicating that applications should not be made during rain and to avoid making applications when rainfall is expected before the product has sufficient time to dry	Partially. EPA is including label language in its proposed mitigation to indicate that applications should not be made during rain, and to avoid applications where product would have less than 4 hours to dry prior to rain. EPA also noted that they are in the process of evaluating whether a 48-hour rain delay would be appropriate in this case. (The time period on this evaluation is unknown.)

CASQA 3/23/2023 Comments to EPA	EPA Response	Did EPA incorporate CASQA's comment?
degradation half-life of 1 day, with a 30-40% decrease for the most mobile or least persistent pesticides modeled." (Rain-restriction Memo, p. 1-2) Changing the rain restriction timing can make a significant difference in runoff. CASQA requests that EPA change this restriction in the etofenprox label mitigations to make them consistent with other pesticide label requirements. CASQA Recommendation: CASQA suggests modifying the above label mitigations to require a 48-hour rain restriction instead of a 24-hour rain restriction.	(minimum 4 hours). The proposed label language also indicates that "rainfall within 24 hours after application may cause unintended runoff of pesticide application." The Agency considers a 48-hour rain restriction to be directionally correct as such a restriction can reduce pesticide runoff by providing more time for degradation of a pesticide before runoff events occur. However, the degree of reduction will vary based on the specific environmental conditions and how the application, rainfall, runoff potential, drift potential, and waterbody characteristics combine. The Agency is in the process of evaluating these factors to determine those chemicals/scenarios where such a restriction would be most effective." (ID, p.13)	

Oxyfluorfen Regulatory Participation Outcome and Effectiveness Assessment Summary Table

Pesticide: **Oxyfluorfen** (EPA–HQ–OPP–2014–0778)
Use: Herbicide
Why we care: Priority pesticide due to toxicity, use, and monitoring data. 303(d) listings (agricultural). Listed on DPR's monitoring priority list.
Actions taken: CASQA submitted a comment letter on Proposed Interim Decision (PID) in 2021 as well as a comment letter on Amended PID in 2024.
Status: EPA analyzing comments prior to issuing Interim Decision

Next steps: EPA to issue Interim Decision.

CASQA 10/6/2021 Comments to EPA	EPA Response	Did EPA incorporate CASQA's comment?
CASQA Supports the Proposed Mitigation, Including Cancelation of All Oxyfluorfen Residential Products: To mitigate risks to both aquatic organisms and human health, EPA has proposed a number of substantial mitigation measures, including addition of runoff advisory language to all labels to mitigate chronic risks to aquatic wildlife, and a proposed cancelation of all residential oxyfluorfen products, principally to protect human health in residential settings. CASQA supports the proposed mitigation, including the cancelation of residential uses, covering all residential turf and ornamental products, as we expect such a cancelation will contribute to the reduction of oxyfluorfen present in urban runoff, thereby reducing ecological risks to aquatic invertebrates.	"CASQA supports the cancellation of application at residential use sites as it will contribute to the reduction of pesticides in runoff in urban watersheds thereby reducing risks to aquatic invertebrates." (Amended PID, p.12) "The Agency has considered retaining residential application of oxyfluorfen by commercial applicators. However, it is not possible to preclude residential users from using products intended for professional applicators; therefore, residential uses will be removed from all products." (Amended PID, p. 13)	Yes. CASQA submitted a comment letter in May 2024 —very similar to its 2021 letter—to further reinforce its support of the residential ban.

California Stormwater Quality Association®

Dedicated to the Advancement of Stormwater Quality Management, Science and Regulation

Our Water Our World 2024 Annual Report

Prepared by the California Stormwater Quality Association

August 2024

Preface

ADVANCING SUSTAINABLE STORMWATER MANAGEMENT

The California Stormwater Quality Association (CASQA) is a nonprofit corporation that advances sustainable stormwater management protective of California water resources. With well over 2,000 members, CASQA's membership is comprised of a diverse range of stormwater quality management organizations and individuals, including cities, counties, special districts, federal agencies, state agencies, ports, universities and school districts, wastewater agencies, water suppliers, industries, and consulting firms throughout the state. Collectively, CASQA represents over 34 million people in California.

CASQA's *Vision for Sustainable Stormwater Management*[1] (Vision) defines the actions needed to manage stormwater as an essential component of the state's water resources, support human and ecological needs, protect water quality, and enhance and restore California's waterways. There are four guiding principles to achieve this Vision. Like the legs of a chair, each Principle is essential and all four must be in place to support the whole.

Principle #1: Program Implementation: Projects and programs that use stormwater as a resource, protect water quality and beneficial uses, and efficiently minimize pollution are critical for sustainable stormwater management. Stormwater capture and true source control (identifying and mitigating a pollutant at its source) are the primary drivers of these solutions, with effective BMPs providing an important supportive role.

Principle #2: Permits, Regulations, and Legislation: Permits, regulations, and legislation need to focus on effectiveness and desired outcomes to support sustainable stormwater management. Regulatory and legislative actions must align with and support the other components of the Vision – advancing stormwater capture, true source control, and effective BMPs, increasing public education and awareness focused on stormwater as a resource, and securing funding to support these solutions.

Principle #3: Public Education: Public awareness, understanding, and support is essential to sustainable stormwater management. The key shift is viewing stormwater as a resource that must be protected and integrated into overall water resource management.

Principle #4: Funding: Significant financial investment is required to achieve sustainable stormwater management. Stormwater is the most underfunded portion of the water sector and substantial funding is needed to bring these solutions forward.

OUR WATER, OUR WORLD ANNUAL REPORT

The Our Water, Our World (OWOW) program advances Principle #1 by focusing on true source control to address the use of Current Use Pesticides. CASQA has identified Current Use Pesticides as a Water Quality Priority, requiring solutions at a statewide scale. OWOW also advances Principle #3 through its public education components. The goal of OWOW is to support a statewide integrated pest management (IPM) outreach program that provides direct to consumer information and education on less-toxic IPM practices. This report describes the OWOW program activities from July 2023 through June 2024.

Acknowledgements

This report was prepared by CASQA with support from Suzanne Bontempo.

OWOW is funded by CASQA, the organizations implementing the OWOW program (see Table 1 in Section 2 of this report) and is sponsored by the Bay Area Clean Water Association (BACWA).

[1] https://www.casqa.org/wp-content/uploads/2022/10/final_-_vision_for_sustainable_stormwater_management_-_10-07-2020.pdf

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Table of Contents

Section 1. Introduction

Our Water, Our World (OWOW) is an award-winning partnership between municipal agencies and garden centers and hardware stores that sell pest control products. Initiated in 1998, the program focuses on less-toxic, eco-friendly products and techniques as many common pesticides are harmful to sensitive species and ecosystems when they reach local creeks, bays, and the ocean.

OWOW started as a pilot project in 1998, in just a handful of stores, initiated by the Central Contra Costa County Sanitation District, the City of Palo Alto Regional Water Quality Control Plant, and the Marin Countywide Stormwater Pollution Prevention Program. The program quickly grew and was administered by the former Bay Area Stormwater Management Agencies Association from 1999 – 2021. During that time, over 130 agencies in 16 counties implemented the program, working in approximately 239 stores. Starting in January 2022, the program was transferred to the California Stormwater Quality Association (CASQA), with the goal of providing statewide access to this important and successful outreach program.

From a stormwater management perspective, OWOW is an excellent opportunity and cost-efficient way to educate the public and reduce toxicity in waterways from current use pesticides. Several municipalities utilize OWOW to meet permit requirements, including the San Francisco Bay Area Municipal Regional Permit[2], the Central Valley Region-wide MS4 Permit[3], and the Phase II – Small MS4 General Permit[4].

Section 2. Program Elements

The OWOW program consists of several elements, which are integral to its effectiveness.

2.1 INTEGRATED PEST MANAGEMENT (IPM) ADVOCATES

IPM Advocates are individuals who have been trained on how to engage with retailers and the public. They provide local implementation of the program on behalf of participating agencies. Local implementation generally consists of coordinating with participating retailers to provide in-store displays, shelf tags, in-store presentations and training, and advice to customers about pest management methods that are healthier for people and the environment. Additionally, IPM Advocates receive annual continuing education and training.

2.2 EDUCATIONAL MATERIALS

In the store, consumers are directed to less-toxic products and techniques through:

- Fact sheet displays near pest products to educate the public on a wide range of pest management topics.
- Shelf tags to guide customers to less-toxic products.
- Display posters with QR codes linking directly to the OWOW website and fact sheets.

[2] Municipal Regional Stormwater NPDES Permit, California Regional Water Quality Control Board – San Francisco Bay Region, 2022. Order R2-2022-0018, NPDES NO. CAS612008, as amended, CA.
[3] NPDES Permit and Waste Discharge Requirements General Permit for Discharges from MS4s, California Regional Water Quality Control Board – Central Valley, 2016. Order R5-2016-0040, NPDES NO. CAS0085324, CA
[4] NPDES Permit and Waste Discharge Requirements for Storm Water Discharges from Small MS4s, California State Water Resources Control Board, 2013. Water Quality Order 2013-0001-DWQ, NPDES General Permit No. CAS000004, as amended, CA.

On the OWOW website, consumers can view the following:

- All 18 fact sheets.
- Stores participating in the OWOW program.
- Lists of less-toxic products and active ingredients.

2.3 TRADE SHOWS

OWOW representatives provide exhibits annually at trade shows to educate store buyers on less-toxic products. Participation in these events helps ensure stores carry less-toxic products.

Section 3: Partnerships

The program is administered by CASQA, implemented by local cities and counties, with IPM Advocates and University of California Statewide IPM Program (UC IPM) serving as collaborative partners.

CASQA manages and provides the central services necessary to operate and maintain the OWOW program, including the development of education materials (e.g., less-toxic product lists, label files, and active ingredient lists), creation and updates of outreach materials, operation and updates to the OWOW website, vendor (i.e., retail partners and pesticide distributors) outreach, preparation of an annual report, fulfillment of outreach materials orders, and program management and development.

Municipal agencies subscribe to OWOW through CASQA and implement the OWOW program in their local retail stores by contracting with IPM Advocates, using municipal staff or other contractors. Implementation may occur by a single agency at stores within their jurisdiction or organized at a regional scale, where agencies combine resources to implement the OWOW program at select stores used by multiple jurisdictions. In addition, municipal agencies conduct outreach to inform residents about the OWOW program. Table 1 provides the list of agencies implementing OWOW as of June 30, 2024. Bay Area Clean Water Agencies (BACWA) continues to support the OWOW program as a sponsor.

IPM Advocates are trained individuals that support local implementation of the OWOW program. They provide retail stores, nurseries, hardware stores, and garden centers direct to consumer information IPM tools, products, and practices. IPM Advocates are the link between the municipalities and the retailers where they reach consumers. Suzanne Bontempo was contracted by CASQA to coordinate the IPM Advocates to keep continuity within the program, hold regular meetings to communicate updates on new pests and new pest management techniques, update less-toxic product lists, and maintain the outreach material. The active IPM Advocates include Suzanne Bontempo, Julie Barbour, and Maris Sidenstacker.

The UC IPM Program provides research and expertise on IPM practices promoted throughout the state and maintains a website of less-toxic IPM for nearly 1,000 home, garden, landscape, and turf pests. Karey Windbiel-Rojas, Associate Director for Urban and Community IPM, UC IPM Program has been involved with the IPM Advocate program since its inception and continues to assist with advocate training, technical resources on pest management practices, and as a liaison with UC resources.

Table 1. Agencies Implementing OWOW

Bay Area and Northern California

Alameda County
Alameda County Flood Control & Water Conservation District
Alameda Countywide Clean Water Program
City of Alameda
City of Albany
City of American Canyon
City of Antioch
City of Belmont
City of Belvedere
City of Benicia
City of Berkeley
City of Brentwood
City of Brisbane
City of Burlingame
City of Calistoga
City of Campbell
City of Clayton
City of Cloverdale
City of Concord
City of Cotati
City of Cupertino
City of Daly City
City of Dublin
City of East Palo Alto
City of El Cerrito
City of Emeryville
City of Fairfield
City of Foster City
City of Fremont
City of Half Moon Bay
City of Hayward
City of Healdsburg
City of Hercules
City of Lafayette
City of Larkspur
City of Livermore
City of Los Altos
City of Martinez
City of Menlo Park
City of Mill Valley
City of Millbrae
City of Milpitas
City of Monte Sereno
City of Mountain View
City of Napa
City of Newark
City of Novato
City of Oakland
City of Oakley
City of Orinda
City of Pacifica
City of Palo Alto
City of Petaluma
City of Piedmont
City of Pinole
City of Pittsburg
City of Pleasant Hill
City of Pleasanton
City of Redwood City
City of Richmond
City of Rohnert Park
City of San Bruno
City of San Carlos
City of San Jose
City of San Leandro
City of San Mateo
City of San Pablo
City of San Rafael
City of San Ramon
City of Santa Clara
City of Santa Rosa
City of Saratoga
City of Sausalito
City of Sebastopol
City of South San Francisco

Bay Area and Northern California (Continued)

City of St. Helena
City of Suisun City
City of Sunnyvale
City of Ukiah
City of Vallejo
City of Walnut Creek
Contra Costa Clean Water Program
Contra Costa County
Contra Costa County Flood Control and Water Conservation District
Fairfield-Suisun Sewer District
Marin County
Marin County Flood Control and Water Conservation District
Marin Countywide Stormwater Pollution Prevention Program
Mendocino County
Napa County
Napa County Flood Control and Water Conservation District
Napa Countywide Stormwater Pollution Prevention Program
Russian River Watershed Association
San Mateo County
San Mateo Countywide Water Pollution Prevention Program
Santa Clara County
Santa Clara Valley Urban Runoff Pollution Prevention Program
Santa Clara Valley Water District (Valley Water)
Solano Stormwater Alliance
Sonoma County
Sonoma County Water Agency
The San Mateo County Flood and Sea Level Rise Resiliency District
Town of Atherton
Town of Colma
Town of Corte Madera
Town of Danville
Town of Fairfax
Town of Hillsborough
Town of Los Altos Hills
Town of Los Gatos
Town of Moraga
Town of Portola Valley
Town of Ross
Town of San Anselmo
Town of Tiburon
Town of Windsor
Town of Woodside
Town of Yountville
Union City
Vallejo Flood and Wastewater District
Zone 7 Water Agency

Central Valley, Tahoe, and Inland Areas

Butte County
City of Ceres
City of Citrus Heights
City of Davis
City of Dixon
City of Elk Grove
City of Escalon
City of Folsom
City of Galt
City of Lathrop
City of Lincoln
City of Lodi
City of Manteca
City of Merced
City of Modesto
City of Newman
City of Patterson
City of Rancho Cordova
City of Ripon
City of Riverbank
City of Rocklin
City of Roseville
City of Sacramento
City of Stockton
City of Tracy
City of Turlock
City of Woodland

Central Valley, Tahoe, and Inland Areas (Continued)

City of Yuba City
El Dorado County
Fresno Metropolitan Flood Control District
Mountain House Community Service District
Sacramento County
Sacramento Stormwater Quality Partnership
San Joaquin County
Stanislaus County

Central Coast

City Buellton
City of Buellton
City of Carmel-by-the-Sea
City of Carpinteria
City of Del Rey Oaks
City of Goleta
City of Guadalupe
City of Lompoc
City of Marina
City of Monterey
City of Pacific Grove
City of Sand City
City of Santa Barbara
City of Santa Maria
City of Seaside
City of Solvang
Monterey Regional Storm Water Management Program
Monterey County
Santa Barbara County

Southern California

City of Santa Clarita

Sponsor

Bay Area Clean Water Agencies (BACWA)

Section 4. Annual Program Implementation

This section describes the OWOW outreach services conducted between July 2023 and June 2024.

4.1 IPM ADVOCATES

After training by the University of California IPM Program, IPM Advocates are contracted by local municipalities and then assigned to stores, where they share their knowledge with staff and hold educational events for customers. Excellent relationships between the IPM Advocates and store management and staff are key to the successful promotion of less-toxic, eco-friendly products.

IPM Advocate Coordination

IPM Advocate coordination meetings were held throughout the year to communicate updates on new pests and new pest management techniques. Additionally, municipal agency staff and contractors that implement the in-store component of the OWOW program were invited to these coordination meetings to learn best practices for developing and maintaining store partnerships.

4.2 EDUCATIONAL OUTREACH MATERIALS

Educational materials include fact sheets for specific pests, gardening and pesticide applications, shelf tags to identify eco-friendly products in stores, and the OWOW website that makes the materials accessible to the public. Examples of OWOW outreach materials are provided in Appendix A and all are accessible on the OWOW website.

Fact Sheets

The OWOW program has 18 fact sheets. Between July 2023 and June 2024, the *Ants, Yellowjackets, Pesticides and Water Quality,* and *Fleas* fact sheets were revised and translated into Spanish. The *Yellowjackets, Pesticides and Water Quality,* and *Fleas* fact sheets were new Spanish translations. Currently, 7 of the 18 fact sheets are available in Spanish, and efforts are underway to translate the entire fact sheet series. Additionally, QR codes were added to the revised and translated factsheets to help consumers easily navigate to the OWOW website.

In January 2022, posters with trackable QR codes were developed to encourage consumers to digitally access the OWOW fact sheets in pesticide aisles. These trackable QR codes record which fact sheets are viewed by consumers in retail stores. According to the data from the QR code posters, between July 2023 and June 2024, the three most viewed fact sheets were *Moles, Voles, and Gophers*, *Ants*, and *Rats and Mice*. Table 2 presents a summary of QR code scans for each fact sheet. Additionally, Figure 1 shows the frequency of QR code scans per month for the reporting period. Year over year, the QR code scans have increased 36%, from 2,145 scans between July 2022 and June 2023 to 2,929 scans between July 2023 and June 2024. This year over year increase indicates heightened consumer engagement with the OWOW program.

Website

The OWOW website provides public access to the fact sheets, the less-toxic product list, and the Store Finder, which is an interactive map to search for participating stores. Updates to the Store Finder are made on a quarterly basis. During the 2023 – 2024 reporting year, 7 stores were added to the OWOW program and made available on the Store Finder. Year over year, website visitors have increased 11%, from 15,702 unique visitors between July 2022 and June 2023 to 17,467 unique visitors between July 2023 and June 2024.

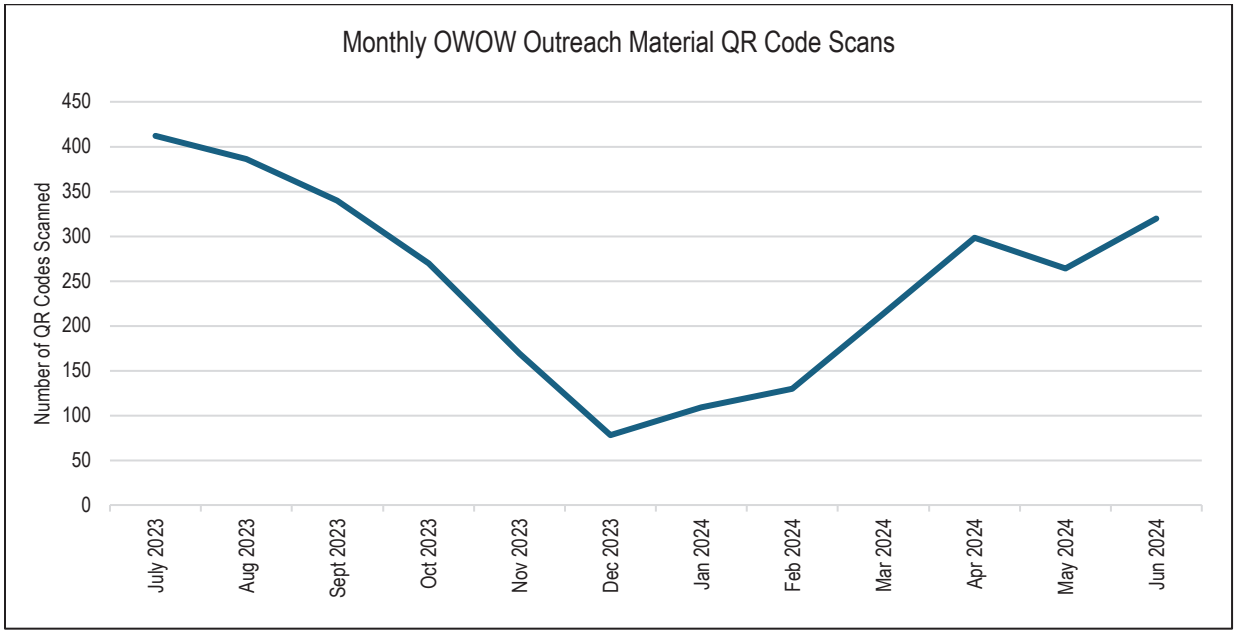
Store-based Product Lists

The store-based product lists provide the current lists of the eco-friendly products that The Home Depot and Ace Hardware stores sell each year. IPM Advocates use the store-based product lists to identify the eco-friendly products on store shelves using "shelf talkers." Each year, the product lists are reviewed, and updates are made as needed in consultation with subject matter experts. Appendix B provides the product lists for 2024.

Table 2. QR Code Scans by OWOW Product from July 2023 to June 2024

OWOW Product	QR Code Scans	OWOW Product	QR Code Scans
Moles Voles Gophers	393	Healthy Gardens	121
Ants	243	10 Most Wanted	116
Aphids	225	Weeds	106
Rats & Mice	219	Yellowjackets	84
Cockroaches	217	Bed Bugs	73
Snails & Slugs	187	Spanish Fact Sheets	33
Mosquitoes	181	Lawns	27
Spiders	173	Hiring a Pest Company	21
Fleas	165	Pesticide Use & Disposal	21
OWOW Website	157	Pesticides & Water Quality	11
Roses	156		
Total QR Code Scans		**2,929**	

Figure 1. Monthly OWOW Outreach Material QR Code Scans between July 2023 and June 2024



4.3 VENDOR OUTREACH

Education of vendors and retailers on less-toxic products is a critical step to ensure stores carry less-toxic products.

Retail Partners

The OWOW program grew retail partnerships by six (6) stores during the 2023 – 2024 reporting year, resulting in a total of 288 retail stores participating in the OWOW program. The Home Depot Corporate continues to be a model retail partner and OWOW strives to replicate this partnership with other retailers and vendors. In February 2024, CASQA sent a letter to The Home Depot Corporate Sustainability Officer thanking them for their long-standing partnership with the OWOW program (see Appendix D). In March 2024, The Home Depot delivered an internal memorandum to California store managers to facilitate annual collaboration in The Home Depot stores (see Appendix E). Besides The Home Depot, OWOW retail partners include Outdoor Supply Hardware, Ace Hardware, and independent hardware and garden centers throughout California.

Trade Show Booths

Attending trade shows provides an opportunity to meet vendors, learn about the new products coming to the California marketplace, answer questions, and provide mentorship to the retail buyers. In 2023 – 2024, OWOW representatives attended the following trade show events:

- BFG Marketplace Expo, Reno, NV, October 2023 – Retailer Show
- Northern California Home & Garden Show, Sacramento CA, February 2024 – Consumer Show
- NorCal Landscape Trade Show, San Mateo, CA, February 2024 – Landscape & Garden Professional Show

4.4 TRAINING AND OUTREACH FOR RETAILERS AND CONSUMERS

IPM Advocates and local municipal agency staff/consultants conduct OWOW outreach activities to educate retailers and consumers at the local level. Local OWOW implementation activities vary between agencies. Many agencies receive tailored OWOW reports from their contracted IPM Advocate with a summary of their local OWOW data (for example, the number of trainings, the number of staff trained, and/or the number of fact sheets distributed).

IPM Advocates and local municipal agency staff/consultants provided OWOW services to approximately 288 participating retailers throughout California. Table 3 provides a summary of outreach activities between July 2023 and June 2024. These activities were funded by the stormwater programs of local municipalities.

Table 3. Summary of Outreach Activities

Audience	OWOW Outreach Activity
Retailers	288 retailers participated in the OWOW program
	122 trainings conducted
	780 retail staff trained
Direct to Consumer	211 public outreach events
	84,743 people attended these public outreach events (In person and virtually)

IPM Advocates and local municipal agency staff/consultants conducted 122 trainings and trained 780 retail store staff. The training topics include IPM and strategies for managing pest problems with less-toxic and eco-friendly products. In addition, IPM Advocates provided tips for new gardeners and how to protect gardens in the time of

drought. Education has expanded to include protecting gardens during times of drought since plants are more prone to pest problems when they are (drought) stressed.

In September 2023, The Home Depot Eco Actions Blog featured a Q&A with a retail associate discussing their experience with the OWOW program. The retail associate highlighted how the OWOW retail training program has equipped them to effectively communicate less-toxic pest control alternatives to consumers.

Retailer e-Newsletter

After receiving training, retail store associates can opt into the OWOW Retailer e-Newsletter. This biannual newsletter is emailed at the beginning of spring and fall and contains information on seasonal pest problems and eco-management solutions. These newsletters help store staff, including managers, stay current on pest problems that might be affecting their customers. Many of the managers print the OWOW newsletter and post it for all staff to review. The newsletter is delivered to 301 retail associates.

Section 5. Program Development

To support a growing demand for OWOW outreach material and IPM Advocates, efforts are underway, as well as future considerations, to advance the OWOW program.

5.1 UPDATES IN PROGRESS

Fact Sheets

In 2024, the *Aphids*, *Mosquitoes*, *Cockroaches*, and *Spiders* fact sheets are undergoing review by subject matter experts and a public communications specialist. Additionally, these fact sheets will be translated into Spanish and made available on the OWOW website. Once these fact sheet updates are complete, 11 of the 18 OWOW fact sheets will have Spanish translations.

Implementation and Guidance Handbook

To bring consistency to the OWOW program's implementation, the *Implementing an IPM Partnership: A How-To Manual* dated March 2000, will be revised to describe current practices and responsibilities for OWOW subscribing agencies, IPM Advocates, and participating retailers. The primary goal of the Implementation and Guidance Handbook is to describe the core elements of local implementation, establish an annual reporting schedule, and provide consistency in retailer trainings, materials, displays, and communication.

5.2 FUTURE CONSIDERATIONS

IPM Advocate Training Program

To operate at a statewide scale, and in a sustainable manner, certain aspects of the existing OWOW program must be formalized and expanded. In 2022, CASQA began developing an outline for an IPM Advocate Training Program. In September 2023, CASQA met with Department of Pesticide Regulation (DPR) representatives to discuss collaboration and funding opportunities for the OWOW program. Development of an IPM Advocate Training Program will require outside funding support and collaboration with partners such as UC-IPM. Once outside funding is identified, CASQA will coordinate workgroups comprised of OWOW Subscribers, current IPM Advocates, and training experts to develop the IPM Advocate Training Program.

Appendix A: Example Outreach Materials

Figure A1. Trackable QR Code Poster in Store Aisle

EFFECTIVE ECO-FRIENDLY PEST CONTROL • LESS-TOXIC PRODUCTS

CONTROLLING ANTS IN YOUR HOME

ANT CONTROL IS EASY AS 1–2–3!

1. Seal the source

- Store food in sealed containers
- Caulk and weatherstrip cracks and gaps

2. Bait them

- Use bait stations and sticky traps, which are more effective than sprays
- Choose a bait station with borax (tetraborate decahydrate) or hydramethylnon

3. Monitor

- After ants are gone, watch for new ant activity
- To avoid a new ant invasion, spread desiccating dust in areas where you see ants
- Avoid sprays, which only temporarily get rid of ants

Argentine ants are frequent invaders in California homes. Their small size (1/8 inch) allows them to enter the home through cracks and crevices. They typically arrive a few at a time at first (the scouts), and then in long lines, following scent trails to a food source.

A QUICK FIX FOR AN ANT EMERGENCY

1. Find what ants are after (usually food or water) and where they are entering the room (usually through a crack in the wall).
2. Spray lines of ants with soapy water and wipe up. Clean up any food or spills.
3. Block entry points temporarily with a smear of petroleum jelly or a piece of tape.
4. If you can't find an entry point, place a bait station in an out-of-the-way spot on the line the ants have been following. Remember to remove the bait station when the line of ants has disappeared so you don't attract more ants into the house. (See *Tips for Using Ant Baits*.)

TIPS FOR USING ANT BAITS

Bait stations are much safer for humans, pets, and the environment than sprays. Ants carry small quantities of bait back to the nest to share, reducing the local ant population.

- Use baits with active ingredients borax/tetraborate decahydrate. Bait stations with hydramethylnon should be enclosed.
- Argentine ants change their food preferences frequently. If one bait is not working, try another type. Wait at least a day to see if ants take the bait.
- Place bait stations out of reach from children and pets. Do not spray insecticide around the bait; it will repel the ants.
- Baits may take several weeks to kill the ants. At first you may see more ants coming to the bait, but after a few days to a week you should see fewer ants.
- When ants are gone, remove the bait so you don't attract more ants. Return enclosed bait stations to the original box to save and use again. Put the box inside a sealed plastic bag, and store away from children and pets.

OUR WATER OUR WORLD

Choose eco-friendly products for your home and garden. Look for this symbol before you buy.

Figure A2: Ants Fact Sheet (Front)

Appendix B: 2024 Home Depot Product List

Pesticide Bays

Amdro Gopher Traps
BioAdvanced Houseplant Insect & Mite Control
BioAdvanced Organic Tomato Vegetable & Fruit Insect Contol
Bird-B-Gone Stainless Steel Bird Spikes
Black Flag Roach Motel
Bonide Cpt Jack's Copper Fungicide
Bonide Cpt Jack's Dead Weed Brew
Bonide Cpt Jack's Lawn Weed Brew
Bonide Cpt Jack's Neem MAX
Bonide Cpt Jack's Neem Oil
Bonide Cpt Jack's Orchard Spray
Bonide Cpt Jack's Tomato & Vegetable
Bonide Cpt Jacks Insecticidal Super Soap
Bonide Mole Max
Bonide Repels-All
Bonide Rose Rx
Buggy Beds Mosquito Repellent Bands
Critter Ridder
Critter Ridder Granule
Digger Root Guard Gopher Basket
EcoLogic Bed Bug Killer
First Saturday Lime
Fly Swatter
Garden Safe Fungicide 3 (Neem Oil)
Garden Safe Garden Insect Killer
Garden Safe Houseplant & Garden Insect Killer
Garden Safe Insecticidal Soap
Garden Safe Neem Oil Extract
Garden Safe Rose & Flower Insect Killer
Garden Safe Slug & Snail Bait
Green Gobbler 20% Vinegar Weed Killer
Harris Boric Acid Roach Powder
Harris Diatomaceous Earth
Harris Famous Roach Tablets
Havahart Live Animal Cage Trap
Hot Shot Bed Bug Killer Dust (DE)
Liquid Fence Deer & Rabbit Repellent
Mighty Mint Rodent Repellent
Monterey Nematode Control
Mosquito Dunks
Natural Enemy Scarecrow Owl
Ortho Bed Bug Trap
Ortho Ground Clear Weed & Grass Killer (Green Label)
Preen Natural Weed Preventer
Raid Ant Bait lll
Raid Disposable Fly Trap
Raid Fly Ribbon
Raid Fly Stick
Raid Window Fly Trap
Rescue Fly Pad
Rescue Fly Trap Refill
Rescue Outdoor Fly Trap
Rescue Reusable Fly Trap
Rescue W-H-Y Trap
Rescue Yellow Jacket Trap
Rescue Yellow Jacket Trap Cartridge
Safer Brand Ant & Crawling Insect Killer (DE)
Safer Brand Ant, Roach & Spider Killer
Safer Brand Diatomaceous Earth
Safer Brand Houseplant Sticky Stakes
Safer Brand Indoor Fly Trap
Safer Brand Indoor Fly Trap Refill Pack
Safer Brand Indoor Pest Control Multi-Insect Killer
Safer Brand Snake Shield
Safer Brand The Pantry Pest Trap
Sevin 2-in-1 Disease and Insect Control
Skunk Scram
Southern Ag Thuricide BT
Spectracide Pruning Seal
Star brite Spider Away
STEM Flying Insect Killer Kills Flies Mosquitoes Gnats
STEM Crawling Insect Killer Kills Ants Roaches Spiders
STEM Multi Insect Killer Kills Ants Roaches Flies

Terro Ant Killer II
Terro Fruit Fly Trap
Terro Liquid Ant Bait
Terro Multi-Surface Liquid Ant Baits
Terro Outdoor Liquid Ant Bait Stakes
Terro Spider & Household Insect Trap
Tom Cat Attractant Gel
Tom Cat Kill & Contain Mouse Trap
Tom Cat Press 'N Set Mouse Trap
Tom Cat Rat Trap
Tom Cat Rodent Block Expanding Foam
Tom Cat Rodent Repellent
Tom Cat Secure Kill Rat Trap
Victor Catch & Hold Mouse Trap
Victor Easy Set Mouse Traps
Victor Electronic Mouse Trap
Victor Electronic Rat Trap
Victor Gopher Traps
Victor Power Kill Rat Trap
Victor Rat Trap
Victor Rat-A-Way Rat & Mouse Repellent
Victor Safe Set Rat Trap
Victor Scent Away Natural Rodent Repeller Packs
Zevo Ant, Roach & Fly insect killer
Zevo Ant, Roach & Spider insect killer
Zevo Fly, Gnat, & Fruit Fly
Zevo Flying Insect Trap
Zevo Flying Insect Trap Refill Pack

Fertilizer Bays

Alaska Fish Plant Food 5-1-1
Burpee Enhanced Organic All Purpose Plant Food
Burpee Enhanced Organic Rose & Bloom Plant Food
Burpee Enhanced Organic Tomato & Edibles Plant Food
Burpee Organic Bone Meal
Burpee Organic Blood Meal
Burpee Organic All Purpose
Burpee Organic Tomato & Vegetable
Dr Earth Lawn Food
Dr. Earth Organic Fertilizer
Earthworm Castings
Espoma Organic Blood Meal
Espoma Organic Bone Meal
Espoma Organic Fertilizer
Espoma Organic Lime
Espoma Organic Soil Acidifier
Kellogg Organic Plus Fertilizer
Mater Magic
Miracle-Gro Fertilizer Spikes Tree & Shrub
Monterey Fish & Guano Fertilizer
Osmocote
Pennington Epsom Salts
Superthrive
Vigoro Fruit, Nut & Citrus Fertilizer Spikes
Vigoro Organic Plant Food All Purpose
Vigoro Organic Plant Food Blood Meal
Vigoro Organic Plant Food Bone Meal
Vigoro Organic Plant Food Rose & Flower
Vigoro Organic Plant Food Tomato & Vegetable
Vigoro Tree & Shrub Fertilizer Spikes

Appendix C: 2024 Ace Hardware Product List

Alaska Fish Fertilizer
Amdro Kills Ants Ant Killer
Answer Kills Roaches Powder
Bed Bug Traps
BioCare Codling Moth Traps
Bird Repellent Gel
Bird Scare Tape
Bird-B-Gone Flash Tape
Bird-B-Gone Steel Bird Spikes
Black Flag Roach Motel
Black Flag Window Fly Traps
Bonide All Seasons's Spray Oil
Bonide Burnout
Bonide Captain Jack's Dead Bug Brew
Bonide Chipmunk, Squirrel, & Rodent Repellent
Bonide Copper Fungicide
Bonide Go Away! Rabbit, Dog, & Cat Repellent
Bonide Hot Pepper Wax Animal Repellent
Bonide Insecticidal Soap
Bonide Mole Max
Bonide Mosquito Beater
Bonide Mouse Magic
Bonide Neem Oil
Bonide Rat Magic
Bonide Repels All
Bonide Snake Stopper
Bonide Sulfur Fungicide
Bonide Tomato & Vegetable
Bonide Wilt Stop
Buggy Beds
Cloud Cover
Combat Ant Killing Bait
Combat Roach Killing Bait
Critter Ridder Sprinkler
De Fence Deer & Rabbit Repellent
Deer Off Deer Repellent
Diatomaceous Earth
Dr. Earth Final Stop Disease Control Fungicide
Dr. Earth Final Stop Fruit Tree Insect Killer
Dr. Earth Final Stop Rose & Flower Insect Killer
Dr. Earth Final Stop Vegetable Insect Killer
Dr. Earth Final Stop Yard & Garden Insect Killer
Dr. Earth Organic Fertilizer
Drop in the Bucket Mouse Trap
E.B. Stone Organic Fertilizer
Earth's Ally Disease Control
Earth's Ally Insect Control
Earth's Ally Weed & Grass Killer
Earth's Ally Weed Killer
EcoSmart 3 in 1 Rose & Flower
EcoSmart Ant & Roach Killer
EcoSmart Flying Insect Killer
EcoSmart Garden Insect Killer
EcoSmart Home Pest Control
EcoSmart Insect Killer
EcoSmart Insect Killing Granules
EcoSmart Mosquito Fogger
EcoSmart Wasp & Hornet Killer
EcoSmart Weed & Grass Killer
Epsom Salts
Espoma Garden Lime
Espoma Organic Fertilizer
Espoma Organic Insect Soap
Espoma Soil Acidifier
Fly Paper
Fly Ribbon
Fly Stick
Fly Swatter
Fly Trap
Fresh Cab Rodent Repellent
Fruit Fly Trap
Giant Destroyer Garlic Repellent Clips Deer & Rabbit
Good Nature CO2 Rodent Trap
Gopher Baskets
Gopher Hawk
Gopher Scram
Gopher Traps
Harris 20% Vinegar Weed Killer
Harris Bed Bug Killer Diatomaceous Earth
Harris Boric Acid Roach Powder
Harris Diatomaceous Earth
Harris Famous Roach Tablets

Harris Neem Oil
Harris Roach Traps
Havahart Live Animal Cage Trap
Insect Sticky Traps
Jobe's Fertilizer Spikes
Jobe's Organic Fertilizer
Jobe's Organic Fertilizer Spikes
JT Eaton Kills Bed Bugs Powder
Liquid Fence Animal Repellent
Liquid Fence Deer & Rabbit
Liquid Fence Snake Repellent
Live Catch Mouse Trap
Messina's Animal Stopper
Messina's Deer Stopper
Messina's Rodent Stopper
Messina's Squirrel Stopper
Miracle Gro Performance Organics
Mole Trap
Mole X
Monterey 70% Neem Oil
Monterey Bt
Monterey Fish & Guano
Monterey Fruit Tree Spray Plus
Monterey Garden Insect Spray
Monterey Horticultural Oil
Monterey Liqui-Cop
Monterey Neem Oil
Monterey Take Down Garden Spray
Mosquito Bits
Mosquito Dunks
Moss Out! Roofs & Walks
Mouse Traps
Mouse X
Mouse Zero
Natria Grass & Weed Control
Natria Insect, Disease, & Mite Control
Natria Insecticidal Soap
Natria Neem Oil
Natria Rose & Flower
Natria Snail & Slug Killer Bait
Nature's Care Organic Fertilizer
Neem Oil
Orange Guard
Organocide Bee Safe 3 in 1 Garden Spray
Ortho 3 in 1 Insect, Mite, & Disease
Ortho Bed Bug Traps
Ortho Deer B Gon
Ortho GroundClear Weed & Grass
Ortho Home Defense Ant & Roach Killer w/ Essential Oils
Ortho Home Defense Crawling Bug Killer w/ Essential Oils
Ortho Home Defense Flying Bug Killer w/ Essential Oils
Ortho Insect Killer Tree & Shrub
Osmocote
Owl Garden Defense
Pulverize Weed & Grass Killer
Pulverize Weed Killer for Lawns
Pulverize Weed, Brush & Vine Killer
Raid Ant Baits III
Raid Essentials Ant & Roach
Raid Essentials Ant, Spider, & Roach
Raid Small Roach Baits
Rat Traps
Rat X
Rat Zero
Rescue Ant Baits
Rescue Fly Trap
Rescue Fly Trap Refill
Rescue Fly TrapStik
Rescue Pantry & Birdseed Moth Traps
Rescue WHY Trap
Rescue WHY Trap Refills
Rescue Yellowjacket Trap
Rescue Yellowjacket Trap Cartridge
Rescue Yellowjacket Trap Refill
Safer 3 in 1
Safer Ant & Crawling Insect Killer
Safer Caterpillar Killer
Safer Critter Ridder Animal Repellent
Safer Critter Ridder Deer & Rabbit
Safer Diatomaceous Earth
Safer End ALL
Safer Garden Dust
Safer Garden Fungicide
Safer Houseplant Sticky Stakes
Safer Insect Killing Soap
Safer Moss & Algae Killer
Safer Neem Oil
Safer Pantry Pest Trap
Safer Rose & Flower
Safer Snake Shield
Safer Tomato & Vegetable
Safer Yellowjacket & Wasp Attractant
Safer Yellowjacket & Wasp Trap
Scarecrow
Scott's Continuous Release Fertilizer
Scotts Moss EX
Scram for Cats
Sevin Sulfur Dust

Shake Away Rodent Repellent
Slug Trap
Sluggo
Sluggo Plus
Soil Moist
St. Gabriel Moss Killer
Stay Away Ants
Stay Away Mice
Stay Away Moths
Stay Away Spider
Tanglefoot
Terro Ant Killer Liquid
Terro Clothes Moth Alert
Terro Flea Trap
Terro Fly Magnet
Terro Fruit Fly Trap
Terro Indoor Fly Trap
Terro Liquid Ant Bait
Terro Moth Traps
Terro Multi-Purpose Insect Bait
Terro Multi-Surface Liquid Ant Bait
Terro Outdoor Liquid Ant Bait
Terro Roach Magnet
Terro Wasp & Fly Trap
Tom Cat Animal Repellent
Tom Cat Attractant Gel
Tom Cat Deer Repellent
Tom Cat Mouse Traps
Tom Cat Rat Traps
Tom Cat Rodent Repellent
Victor Black Box Gopher Trap
Victor Electronic Mouse Trap
Victor Electronic Rat Trap
Victor Fly Magnet
Victor Mole & Gopher Repellent
Victor Mole Trap
Victor Mouse Traps
Victor Mouse-A-Way Mouse Repellent
Victor Natural Rodent Repeller Packs
Victor Rat Traps
Victor Rat Zapper
Victor Rat-A-Way Rat & Mouse Repellent
Victor Tin Cat Mouse Trap
Whitney Farms Lawn Weed Killer
Whitney Farms Organic Fertilizer
Whitney Farms Weed & Grass Control
Window Fly Trap
Yard Enforcer Sprinkler

Appendix D: CASQA Partnership Letter to The Home Depot

California Stormwater Quality Association®

Dedicated to the Advancement of Stormwater Quality Management, Science and Regulation

February 16, 2024

Ron Jarvis, Chief Sustainability Officer
The Home Depot
2455 Paces Ferry Road
Atlanta, GA 30339

Our Water, Our World Partnership

Dear Mr. Ron Jarvis:

On behalf of the California Stormwater Quality Association,[1] thank you for The Home Depot's continued partnership with the Our Water, Our World (OWOW) program. Since 2003, The Home Depot has been an important partner in our goal to promote less-toxic, eco-friendly pest management solutions. This collaboration has been essential in advancing a statewide Integrated Pest Management (IPM) outreach program that provides consumers with point-of-purchase information on eco-friendly products and IPM practices.

2023 HIGHLIGHTS

Last year, The Home Depot's participation expanded to 75 stores across California, up from 67 in 2022. A highlight of our partnership includes:

- **Retail Associate Training:** IPM Advocates conducted training sessions in 42 stores, educating a total of 281 The Home Depot associates. These sessions are important for empowering your staff with the knowledge to recommend less-toxic pest control solutions.
- **Public Outreach Events:** IPM Advocates successfully hosted 33 storefront outreach events, engaging with 854 customers. These events serve as a platform for raising awareness and educating the public on eco-friendly products available at your stores.

ACKNOWLEDGMENT OF SUPPORT

Since 2009, The Home Depot has provided an introduction letter for local stores and it has been an important tool for maintaining ongoing partnerships with existing stores and establishing new partnerships with additional stores. This support has not only facilitated our program's growth but also underscored The Home Depot's commitment to sustainable practices and community education. The Home Depot's willingness to stock less-toxic pest products, accommodate educational shelf tags and materials in stores, and make staff available for training demonstrates a strong partnership with the OWOW program.

[1] CASQA is a nonprofit corporation that advances sustainable stormwater management protective of California water resources. With well over 2,000 members, our membership is comprised of a diverse range of stormwater quality management organizations and individuals, including cities, counties, special districts, federal agencies, state agencies, ports, universities and school districts, wastewater agencies, water suppliers, industries, and consulting firms throughout the state. Collectively, CASQA represents over 36 million people in California.

1201 N. Catalina Avenue #4227 Redondo Beach, CA 90277 424.241.2249 www.casqa.org casqa@casqa.org

The Home Depot - Our Water, Our World Partnership

LOOKING FORWARD

Encouraged by our progress in 2023, we anticipate further expanding our reach throughout California. Ongoing efforts to enhance the OWOW program include:

- Updating our educational materials with current IPM best practices.
- Translating our educational materials to Spanish in our commitment to inclusive outreach.
- Maintaining our public-facing educational website.
- Developing a training program to ensure trained professionals are available to support our retail partners.

You can find more information on the OWOW program's activities in our 2023 Annual Report.

Thank you once again for your support and partnership.

If you have any questions, please contact CASQA Program Manager Joseph Draper at joseph.draper@casqa.org.

Sincerely,

Karen Cowan, Executive Director
California Stormwater Quality Association

Appendix E: The Home Depot Support Letter

Interoffice
MEMORANDUM

DATE: March 25, 2024

TO: California Store Managers, D28 ASMs and Department Heads

FROM: Candace Rodriguez

CC: Steve Knott, Scott Jacobson

SUBJECT: Our Water Our World Training

OUR WATER, OUR WORLD is a coalition of organizations whose purpose is to encourage consumers to use less toxic pest controls in and around their homes. They specialize in retail friendly education. Their goal is not to alienate consumers by telling them what they can't use, but instead their information focuses on environmentally-preferred pest management and ties into products currently on our shelves.

An Our Water, Our World (OWOW) representative will be in your store to help train employees and label less-toxic products with shelf-talkers. The representative may also schedule a tabling event to educate consumers. This ties in well with "How-to" weekend events. The representative will display a sampling of excellent environmentally-preferred and Eco Actions products off our shelves.They will provide free informational literature and a wealth of knowledge and experience. Please enjoy this additional help in your store.

An OWOW representative will contact you before the training or demonstration date to arrange details. Please contact Joseph Draper of the California Stormwater Quality Association at (559) 492-07507 if you have questions.

Thank you,

Candace N. Rodriguez

from the desk of.....
Candace Rodriguez
Senior Director – Sustainability
THE HOME DEPOT USA, INC.
2455 Paces Ferry Road
Atlanta, GA 30339
(770) 384-3544