C/CAG

CITY/COUNTY ASSOCIATION OF GOVERNMENTS
OF SAN MATEO COUNTY

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Millbrae • Pacifica • Portola Valley • Redwood City • San Bruno • San Carlos • San Mateo • San Mateo County • South San Francisco • Woodside

2:30 PM, Thursday, February 20, 2014
San Mateo County Transit District Office[1]
1250 San Carlos Avenue, 2nd Floor Auditorium
San Carlos, California

STORMWATER (NPDES) COMMITTEE AGENDA

1.	Public comment on items not on the Agenda (presentations are customarily limited to 3 minutes).	Breault	No materials
2.	Issues from C/CAG Board (December 2013): • Approved – Resolution 13-40 authorizing the C/CAG Executive Director to issue a Notice to Proceed to SCI Consulting Group under the existing stormwater funding initiative contract to perform selected portions of tasks in Phases II and III of the contract, in an amount not to exceed $66,500.	Fabry	No materials
3.	ACTION – Approval of November 21, 2013 meeting minutes	Fabry	Pages 1-5
4.	ACTION – Approval of 2014 Calendar of Meetings	Fabry	Page 6
5.	ACTION – Nominate and Elect Vice-Chair	Fabry	Page 7
6.	INFORMATION – Presentation on Integrated Monitoring Report	Fabry/Konnan	Page 8
7.	INFORMATION – Update on Potential Countywide Funding Initiative	Fabry/Konnan	Pages 9-14
8.	INFORMATION – Update on Municipal Regional Permit Reissuance	Fabry	Pages 15-51
9.	Regional Board Report	Mumley	No Materials
10.	Executive Director's Report	Wong	No Materials
11.	Member Reports	All	No Materials

[1] For public transit access use SamTrans Bus lines 390, 391, 292, KX, PX, RX, or take CalTrain to the San Carlos Station and walk two blocks up San Carlos Avenue. Driving directions: From Route 101 take the Holly Street (west) exit. Two blocks past El Camino Real go left on Walnut. The entrance to the parking lot is at the end of the block on the left, immediately before the ramp that goes under the building. Enter the parking lot by driving between the buildings and making a left into the elevated lot. Follow the signs up to the levels for public parking.

Persons with disabilities who require auxiliary aids or services in attending and participating in this meeting should contact Nancy Blair at 650 599-1406, five working days prior to the meeting date.

C/CAG AGENDA REPORT

Date: February 20, 2014

To: Stormwater Committee

From: Matthew Fabry, Program Coordinator

Subject: Approval of November 21, 2013 meeting minutes

(For further information or questions contact Matthew Fabry at 650 599-1419)

Recommendation
Approve November 21, 2013 Stormwater Committee meeting minutes as drafted.

Attachments
Draft November 21, 2013 Minutes

STORMWATER COMMITTEE
Regular Meeting
Thursday, November 21, 2013
2:30 p.m.

DRAFT Meeting Minutes

The Stormwater Committee met in the SamTrans Offices, 1250 San Carlos Avenue, San Carlos, 2nd Floor Auditorium. Attendance at the meeting was shown on the attached roster. In addition to the Committee members, also in attendance were Sandy Wong (C/CAG Executive Director), Matt Fabry (C/CAG Program Coordinator), Jean Higaki (C/CAG), Brian McMinn (South San Francisco), Matt Lee (San Carlos), John Fuller (Daly City), Cynthia Royer (Daly City), Michelle Daher (East Palo Alto), Dong Nguyen (Woodside), Jon Konnan (EOA, Inc.), and Jim Bigelow (Menlo Chamber). Chair Breault called the meeting to order at 2:45 p.m.

1. **Public Comment**: None

2. **Issues from the last C/CAG Board meeting (Fabry):** Staff member Fabry indicated the C/CAG Board approved the interim Committee appointment of Ray Towne to replace Vice Chair Patterson on behalf of the City of San Mateo, as a result of Patterson's appointment as Interim City Manager. Chair Breault requested staff include an item on the next agenda to address the Vice Chair position previously held by Patterson.

3. **Approval of Minutes:** The Committee unanimously approved the draft minutes from the October 17, 2013 meeting. [Motion – Oskoui, second – Murtuza]

4. **Information – Update on Integrated Monitoring Report:** Fabry and Jon Konnan (EOA, Inc.) provided a presentation related to the upcoming draft Integrated Monitoring Report required by the Municipal Regional Permit. The presentation focused on the state of knowledge regarding mercury and PCBs water quality issues in the Bay Area, including pilot projects being implemented under Provisions C.11 and C.12 and current Regional Board staff expectations of what direction the reissued MRP will go with regard to mercury and PCBs. The main drivers for mercury and PCB load reductions are fish consumption advisories and Total Maximum Daily Load (TMDL) allocations for urban stormwater runoff. The adopted TMDLs for mercury and PCBs require achieving mandated load reductions within 20 years (90% reduction for PCBs), and it is currently assumed that implementing PCB control measures will be sufficient to address mercury as well. Recent analyses indicate highest PCB yields from old industrial land use areas, with lesser yields from other old urban land use areas. However, other old urban land uses cover a much larger geographic area and therefore appear to contribute a much higher overall PCB load to the Bay than old industrial areas.

   This understanding is leading toward a potential MRP 2.0 framework that prioritizes focused implementation efforts in existing pilot implementation watersheds where

there is a high level of knowledge and load reduction opportunity, and further characterization efforts in old industrial and old urban areas to identify additional high opportunity areas vs. areas that make more sense to address where there are multiple drivers, benefits, and funding sources, such as trash management areas or areas planned for future green street retrofits. Using a portion of San Carlos as an example, Konnan overlaid trash management areas with old industrial and old urban land uses, the Pulgas Creek Pump Station pilot study watershed, and priority development areas to highlight situations where there may be multiple drivers for implementing control efforts.

Next steps include further work by the regional PCBs work group to clarify information needs to better inform MRP 2.0 discussions and a likely need for municipal staffs to work with C/CAG's consultants to gather and evaluate relevant information within their jurisdictions, similar to what has been done for developing trash load reduction plans. Committee members asked clarifying questions regarding the definition of old urban land uses (needs clarification), how TMDL allocations are expressed (numeric allocation and target and further allocated at the countywide level), role of street sweeping in PCB load reductions (being evaluated in current pilots, but likely has limited utility due to challenges to effective implementation), and questioning if San Mateo County's load reduction is realistic in regard to the overall loading to the Bay.

5. **Action – Recommendation on revised approach and timeline for the potential Countywide Funding Initiative:** Fabry provided a presentation regarding the status of the potential countywide funding initiative for stormwater compliance activities. Staff indicated the existing funding initiative consultant contract is separated into three distinct phases, with written Notices to Proceed required for the consultant team to initiate work on Phases II and III. Since C/CAG's efforts to secure enabling legislation to sponsor a countywide initiative will continue into 2014, staff wants to make the most of the additional time afforded by that process and recommended the consultant team be authorized to initiate portions of Phases II and III under the contract. Specifically, staff recommended the "Action Plan" under Phase II be initiated now and developed as more of a public communication/engagement tool rather than an internal implementation plan and Public Outreach and Education should start now to better engage key stakeholders in advance of a potential initiative.

   Committee Members Oskoui and Murtuza raised concerns regarding how to effectively message stormwater compliance issues in light of competing priorities at the local level, especially with regard to the need for community support for funding significant infrastructure operation and maintenance deficits and the likelihood of future bond measures by school districts. Chair Breault recommended staff work with the consultant team to ensure that this issue is addressed during the planned municipal engagement efforts in the coming year. Committee Member Murtuza suggested member agencies be provided a draft of the proposed Action Plan to better provide feedback on community engagement and messaging efforts. Committee members

unanimously approved staff's recommendation that the C/CAG Board authorize development of the Action Plan and initiation of public outreach activities under Phases II and III of the contract, for a total cost not to exceed $66,500. [Motion (Klara) Fabry, second – Murtuza]

6. **Information – Update on Regional Board Trash Workshop:** Staff member Fabry referred Committee Members to a draft workshop summary and Permittee workshop presentations that were provided via email. Committee Member Mumley indicated the trash workshop will be continued at the December Regional Board meeting, although likely not for more testimony, just for Board member feedback and questions. He stated the ultimate challenge is how to demonstrate success in the absence of a defined trash control "toolbox," and how can it be done in the context of the Municipal Regional Permit goals and municipal budget constraints. He said it is important to establish a weight of evidence approach that will allow us to demonstrate measurable benefits via smart observations using various available means in relation to implemented control measures. Chair Breault asked Mumley to comment on the potential reason for an apparent disconnect between the volumes of information the Permittees provide to the Board, and Board staff's impression that the Permittees are not doing enough. An example of this issue was a comment made by RWQCB staff at the October Stormwater Committee meeting that it was not clear to Regional Board staff based on 2013 annual reports that municipalities have implemented significant new efforts, yet staff also acknowledged the significant number of trash control devices that have been installed Bay Area-wide through the regional grant. Mumley said he believes it is primarily an artifact of using the existing annual reporting format during the transition to the management area-based implementation approach. He said Board staff and Permittees need to collectively improve the 2014 reporting format to clearly document where new measures are being implemented.

7. **Information – Update on Municipal Regional Permit Reissuance**: Due to time constraints, staff member Fabry simply indicated the latest MRP 2.0 Steering Committee meeting included a very similar presentation to what was seen under Agenda Item 4 and that meeting minutes would be provided once finalized.

8. **Regional Board Report:** Committee Member Mumley indicated he believes there is a good platform and dialogue happening with regard to reissuance of the Municipal Regional Permit, based on a mutually agreed-upon strategy for building permit requirements around common knowledge. He emphasized that the more Permittees are able to commit to long-term master planning to address issues such as green street retrofits and implementation of control measures for mercury and PCBs, the more flexibility he has in regard to prescriptiveness of future permit requirements. He believes we are collectively information-challenged and what is currently funded in terms of permit compliance activities will fall short of adequately informing future permit requirements. He said municipalities need to support the various consultants supporting the countywide programs by bringing knowledge of individual communities

into the process to improve upon our current knowledge base. The more work that can be accomplished over the coming year to better inform Regional Board members and the public, the better. Committee Member Willis reiterated concerns regarding a potential reduction in the C.3 regulated project threshold, especially if it starts to impose requirements at the single-family home level.

9. **Executive Director's Report**: Executive Director Wong solicited additional volunteers for the ad-hoc funding initiative steering committee in response to Vice Chair Patterson leaving the Committee and asked interested Committee Members to contact her or staff member Fabry to participate in that group.

10. **Member Reports**: None

Meeting was adjourned at 4:07 PM

C/CAG AGENDA REPORT

Date: February 20, 2014

To: Stormwater Committee

From: Matthew Fabry, Program Coordinator

Subject: Approval of 2014 Calendar of Meetings

(For further information or questions contact Matthew Fabry at 650 599-1419)

RECOMMENDATION

Approve the 2014 calendar of Committee meetings.

BACKGROUND/DISCUSSION

The Stormwater Committee is scheduled to meet monthly at 2:30 PM on the third Thursday of the month, immediately following and at the same location as C/CAG's Congestion Management Technical Advisory Committee (CMP TAC). Similar to meetings in 2013, staff anticipates bimonthly meetings will likely be sufficient to address anticipated action items, but the monthly calendar provides flexibility to address issues on an as-needed basis and to coordinate, as feasible, with other meeting schedules such as the City/County Engineers Association and C/CAG's Congestion Management Technical Advisory Committee. The following is the recommended calendar of meetings for 2014:

DATE
January 16, 2014 (Canceled)
February 20, 2014
March 20, 2014
April 17, 2014
May 15, 2014
June 19, 2014
July 17, 2014
August 21, 2014
September 18, 2014
October 16, 2014
November 20, 2014
December 18, 2014

C/CAG AGENDA REPORT

Date: February 20, 2014

To: Stormwater Committee

From: Matthew Fabry, Program Coordinator

Subject: Nominate and Elect Vice-Chair

(For further information or questions contact Matthew Fabry at 650 599-1419)

RECOMMENDATION

Solicit nominations and elect a representative to serve as Vice-Chair of the Committee

FISCAL IMPACT

None.

SOURCE OF FUNDS

Not applicable.

BACKGROUND/DISCUSSION

In February 2013, Committee members elected Randy Breault to serve as Chair and Larry Patterson as Vice-Chair, for unspecified terms. Patterson has since vacated his committee seat, so staff recommends the Committee elect a new Vice-Chair. Committee Member Breault has expressed willingness to continue serving as Committee Chair.

C/CAG AGENDA REPORT

Date: February 20, 2014

To: Stormwater Committee

From: Matthew Fabry, Program Coordinator

Subject: Presentation on Integrated Monitoring Report

SUMMARY

Staff and consultants will provide a presentation on the upcoming Integrated Monitoring Report (IMR) required under Municipal Regional Permit (MRP) Provision C.8 and due to the Regional Water Quality Control Board by March 15, 2014.

The IMR will summarize all monitoring conducted in compliance with provisions C.8 and portions of tasks conducted under provision C.11 and C.12 (i.e., PCB and mercury control pilot studies). Each countywide stormwater program is developing an IMR on behalf of and in coordination with their Permittees. The general IMR format is:

Part A: Creek Water Quality Monitoring (C.8) will provide a comprehensive analysis of water quality monitoring conducted per Provision C.8 in Water Year 2012 and 2013 that is associated with creek status and trends, stressors/source identification projects, BMP effectiveness studies, geomorphic projects, POC monitoring, long-term trends monitoring, and citizen monitoring. As required by the MRP, a budget summary and recommendations for future monitoring will also be provided for each C.8 provision. A different Part A is being developed by each countywide stormwater program to summarize monitoring data specific to that county.

Part B: PCB and Mercury Pilot Project Results and Conclusions (C.11/12) will provide summaries on the status and results to-date of PCB/mercury control pilot implementation projects and associated monitoring conducted consistent with MRP provisions C.11 and C.12. Descriptions of methods developed to calculate loads avoided/reduced for PCBs/mercury and estimates of initial loads avoided/reduced for each pilot project will also be presented. Part B will be developed as a BASMAA Regional Project and describe all pilot PCB/mercury projects (region-wide) implemented in compliance with the MRP.

Part C: PCB and Mercury Load Reduction Opportunities will provide an initial analysis of watershed source areas that potentially have a relatively high risk of containing PCBs/mercury, a summary and comparison of estimated costs to implement controls to reduce PCBs/mercury in urban stormwater runoff, and guidance associated with future implementation of PCB and mercury controls. A different Part C is being developed and submitted by each countywide stormwater program.

Staff will request approval via email from each member agency's duly authorized representative in order to submit the IMR on behalf of each permittee. Approvals are required prior to the IMR due date of March 15, 2014.

C/CAG AGENDA REPORT

Date: February 20, 2014

To: Stormwater Committee

From: Matthew Fabry, Program Coordinator

Subject: Update on Potential Countywide Funding Initiative

(For further information or questions contact Matthew Fabry at 650 599-1419)

SUMMARY

In addition to this written summary, staff will provide a verbal update on the current status of efforts related to the potential countywide funding initiative for stormwater compliance activities.

BACKGROUND/DISCUSSION

Enabling Legislation

C/CAG's is pursuing enabling legislation to pursue a countywide special tax or property-related fee and has a bill introduced via Assembly Member Mullin in the current legislative session (AB 418, see attached). The bill passed out of the Senate Governance and Finance Committee on January 15 on a 5-1 vote. The bill includes an urgency clause that will allow it to go into effect immediately upon signature by the governor, but requires 2/3 approval in both houses. The bill is scheduled for a vote on the Senate floor in the 3rd or 4th week of February, after which it is anticipated to go back to the Assembly for consideration in the Local Government committee before a final floor vote.

Public Opinion Research

Mailed surveys to 22,000 property owners are still on hold. Results of the phone survey informed content of the draft mail survey, and staff continues to work with the Stormwater Committee's ad-hoc Funding Initiative Steering Committee to review and provide feedback on these efforts.

Funding Needs Analysis

EOA staff completed a preliminary draft Funding Needs Analysis report that was provided to municipal representatives in October for review and comment, and a revised draft was provided to municipalities on February 4. This report documents, by jurisdiction, existing costs for compliance, anticipated future costs, existing dedicated revenue, and estimated shortfall. Staff will provide greater detail on the draft report via a brief oral presentation.

Community Outreach/Engagement and Action Plan Development

At its December meeting, the C/CAG Board authorized the funding initiative consultant team to access some funds slated for later phases of the scope of work in order to begin developing an Action Plan and initiating community engagement efforts. The Action Plan would be created as a "Countywide Water Pollution Prevention Plan" that details how funds would be utilized under an initiative, and translate into plain language activities mandated under the Municipal Regional Permit

as a means of communicating more effectively with the general public. The Action Plan would be adopted by the C/CAG Board in advance of proceeding with either a special tax or property-related fee initiative process.

Other Potential Water-Related Funding Initiatives in 2014

Staff is tracking two potential water-related funding initiatives that may be on the November 2014 ballot. The first is the San Francisco Bay Restoration Authority's potential nine-county regional parcel tax intended to fund restoration of wetland areas around the Bay. The second is the $11 billion 2014 water bond, which C/CAG's lobbyists indicate will either not be on the ballot this year or will be significantly reduced in dollar amount. Currently, two separate bills in the Senate and Assembly are progressing with reduced programs on the order of $6 billion. Staff is working closely with its funding initiative consultant team to gauge potential impacts of these initiatives on support for C/CAG's initiative based on timing and messaging.

Attachments

Assembly Bill 418

AMENDED IN SENATE FEBRUARY 10, 2014

AMENDED IN SENATE JANUARY 27, 2014

AMENDED IN SENATE JANUARY 6, 2014

AMENDED IN SENATE SEPTEMBER 5, 2013

AMENDED IN SENATE AUGUST 12, 2013

AMENDED IN ASSEMBLY APRIL 15, 2013

CALIFORNIA LEGISLATURE—2013–14 REGULAR SESSION

ASSEMBLY BILL No. 418

Introduced by Assembly Member Mullin
(Coauthor: Senator Hill)

February 15, 2013

An act to add the heading of Article 1 (commencing with Section 65089.11) to Chapter 2.65 of, and to add Article 2 (commencing with Section 65089.50) to Chapter 2.65 of, Division 1 of Title 7 of, the Government Code, relating to local government, and declaring the urgency thereof, to take effect immediately.

LEGISLATIVE COUNSEL'S DIGEST

AB 418, as amended, Mullin. Local government: special tax, assessment, or property-related fee.

Existing law, until January 1, 2013, authorized the City/County Association of Governments of San Mateo County to impose a fee of up to $4 on motor vehicles registered within San Mateo County for a program for the management of traffic congestion and stormwater pollution within that county.

This bill would authorize the City/County Association of Governments of San Mateo County, in accordance with specified provisions of the California Constitution, to impose a parcel tax or a property-related fee for the purpose of implementing stormwater management programs, as prescribed.

This bill would make legislative findings and declarations as to the ~~necessary~~ *necessity* of a special statute.

This bill would declare that it is to take effect immediately as an urgency statute.

Vote: ⅔. Appropriation: no. Fiscal committee: no. State-mandated local program: no.

The people of the State of California do enact as follows:

SECTION 1. The Legislature finds and declares all of the following:

(a) The County of San Mateo and each of the 20 incorporated cities within this county have joined together to form the 21-member City/County Association of Governments of San Mateo County, a joint powers agency that addresses issues of countywide significance, including water pollution prevention programs.

(b) Each of the 21-member agencies of the City/County Association of Governments of San Mateo County is mandated to comply with municipal stormwater permit requirements issued by the San Francisco Bay Regional Water Quality Control Board.

(c) The City/County Association of Governments of San Mateo County helps coordinate municipal stormwater permit compliance activities among its member agencies and, in cases where compliance activities are more effectively implemented at a countywide level, does so on their behalf as directed by its member agencies.

(d) The addition of Section 65089.50 to the Government Code will better enable the City/County Association of Governments of San Mateo County to do, among other things, all of the following:

(1) In conjunction with its member agencies, protect the watersheds and natural resources within the County of San Mateo and restore and enhance the environment, including the long-term protection of the waters of local creeks *and waterways*, the San Francisco Bay, and the coastline along the Pacific Ocean.

(2) Develop and adopt a countywide stormwater management program designed to coordinate, fund, and implement water pollution prevention programs within the County of San Mateo, by the City/County Association of Governments of San Mateo County or its member agencies.

(3) Impose, consistent with and pursuant to the California Constitution, a special tax or property-related fee within its boundaries to fund activities outlined in its joint powers agreement and consistent with municipal stormwater permit requirements mandated by the San Francisco Bay Regional Water Quality Control Board.

(e) The provisions of this act respond to the specific and unique circumstances of the City/County Association of Governments of San Mateo County by affirming the association's authority to impose, consistent with and pursuant to the California Constitution, a special tax or property-related fee within its boundaries to fund activities outlined in its joint powers agreement. It is the intent of the Legislature that this act shall not be construed to limit, expand, or otherwise change any local agency's authority to exercise power under the Joint Exercise of Powers Act.

SEC. 2. The heading of Article 1 (commencing with Section 65089.11) is added to Chapter 2.65 of Division 1 of Title 7 of the Government Code, to read:

Article 1. Traffic Congestion and Stormwater Pollution

SEC. 3. Article 2 (commencing with Section 65089.50) is added to Chapter 2.65 of Division 1 of Title 7 of the Government Code, to read:

Article 2. Stormwater Management

65089.50. (a) The City/County Association of Governments of San Mateo County may impose either a special tax subject to the procedures and requirements set forth in subdivision (d) of Section 2 of Article XIII C of the California Constitution, or a property-related fee subject to the procedures and requirements set forth in subdivisions (a), (b), and (c) of Section 6 of Article XIII D of the California Constitution, for the purposes of

implementing stormwater management programs consistent with the agencies' joint powers agreement.

(b) The special tax or property-related fee, at the option of the City/County Association of Governments of San Mateo County, may be collected on the tax rolls of the county in the same manner, by the same persons, subject to the same penalties, and at the same time as, together with and not separate from, county ad valorem property taxes. In that event, from the amount collected pursuant to this paragraph, the county auditor may deduct that amount required to reimburse the county for its actual cost of collection.

SEC. 4. The Legislature finds and declares that, because of the unique circumstances applicable only to the City/County Association of Governments of San Mateo County an existing joint powers agency composed of the county and every city and town within the county that coordinates and provides stormwater permit compliance activities, a statute of general application cannot be enacted within the meaning of subdivision (b) of Section 16 of Article IV of the California Constitution. Therefore, this special statute is necessary.

SEC. 5. This act is an urgency statute necessary for the immediate preservation of the public peace, health, or safety within the meaning of Article IV of the Constitution and shall go into immediate effect. The facts constituting the necessity are:

In order to timely provide for the protection the water of local creeks, the San Francisco Bay, and the coastline for the use and enjoyment of the citizens of San Mateo and aquatic life, it is necessary that this act take effect immediately.

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C/CAG AGENDA REPORT

Date: February 20, 2014

To: Stormwater Committee

From: Matthew Fabry, Program Coordinator

Subject: Municipal Regional Permit Reissuance

(For further information or questions contact Matthew Fabry at 650 599-1419)

BACKGROUND/DISCUSSION

The Municipal Regional Permit (MRP) went into effect on December 1, 2009. As a National Pollutant Discharge Elimination System (NPDES) permit, it has a five-year term and expires on November 30, 2014. Regional Board staff has indicated its intent to pursue timely reissuance of the permit. Permittees are required to submit an application for reissuance, called a Report of Waste Discharge (ROWD), no later than 180 days prior to the permit's expiration date. As such, an ROWD is due to the Regional Board by the beginning of June, 2014. Although the final format of an ROWD is still to be determined, it is likely there will be individual, countywide, and regional components.

The MRP was designed to require a variety of technical reports near the end of the permit term that would inform or become part of the ROWD. This includes the Integrated Monitoring Report, due March 2014, that will detail the results of all of the Provision C.8 Water Quality Monitoring activities as well as the pilot study efforts to address Mercury and PCBs under Provisions C.11 and C.12, the Feasibility and Pilot Green Streets Reports required under Provision C.3 (previously discussed under a separate agenda item), municipal Long-Term Trash Reduction Plans due February 2014, and other permit provisions requiring more detailed reporting in the 2013 annual reports.

The BASMAA-convened Steering Committee of Regional Water Board staff, countywide program managers from the MRP area, and select Permittee representatives from each county regulated by the MRP continues to meet to discuss key issues. At the November 7 meeting, the Steering Committee received a presentation on the current state of knowledge regarding the mercury/PCBs pilot study efforts undertaken pursuant to Provisions C.11 and C.12. This discussion continued at the February 6 meeting, at which attendees also discussed existing Provision C.15 requirements for planned potable water discharges and state/regional efforts to create a new general permit for all water utilities (both public and private), and initiated discussion on Provision C.8 monitoring requirements.

As an outgrowth of the September Steering Committee meeting, a Green Streets workgroup was formed and met for the first time on January 6 to discuss issues associated with the existing MRP requirements related to green streets and roadway reconstruction.

Meeting summaries from the November 7 Steering Committee and January 6 Green Streets Workgroup are attached.

MRP 2.0 Steering Committee Meeting Summary
November 7, 2013
1:00 – 4:00 p.m.
Water Board Offices, Oakland, 2nd Floor Meeting Room

I. Review Agenda, Introductions and Announcements

Matt Fabry (BASMAA Chair, SMCWPPP) opened the meeting. Members introduced themselves and a sign-in sheet was passed around (Attachment 1). Matt noted that there were several handouts including an updated Gantt chart (Attachment 2). There were no changes to the agenda or announcements.

II. Summary of Progress on Action Items from Previous Meetings

Jill Bicknell (SCVURPPP) reviewed the list of action items from previous meetings and the progress on each item (Attachment 3). She mentioned that the Green Streets Work Group had been formed, and that a meeting schedule would be developed soon.

Jill also gave a brief update on the C.3 issues discussed at the November 5 BASMAA Development Committee: 1) regulated project threshold; 2) Special Projects; and 3) bioretention design, maintenance, and inspection during construction (Attachment 4). Regarding the regulated project threshold, she reported that Water Board staff were not yet in agreement with the approach proposed by the Committee at the September 5 Steering Committee meeting, but had asked the Committee to propose some permit language for further discussion.

Additional discussion:

- Dale Bowyer (Water Board staff) mentioned that during the next permit term, they will want Permittees to build capacity for alternative compliance. It is not acceptable to state (for Special Projects wanting LID treatment reduction credit) that no alternative compliance opportunities are available. Tom Mumley (Water Board staff) added that this concept also ties into long term green street plans and POC mitigation plans.
- Matt Fabry (SMCWPPP) stated that alternative compliance programs will be an essential component of long term green street plans, but there are challenges to setting them up. More flexibility is needed in the permit language. Tom Mumley said they would welcome suggestions for the language and looks forward to discussing this topic with the Green Streets Work group.
- Matt stated that in preparation of the San Mateo Countywide funding initiative, he is working to set up an informational hearing for legislators regarding stormwater funding issues.. He is working with C/CAG's legislative advocacy team to pursue the hearing, and welcomes talking points and potential speakers, and will follow-up with an email to SC members for ideas. Matt also spoke recently to staff at the Public Policy Institute of California about stormwater funding issues and raised the water/transportation funding linkage; the PPIC will be publishing a report in early 2014 regarding water funding issues that will also inform state legislators. Matt also mentioned that he and Jill would be meeting with Assembly member Richard Gordon in December.
- Joe Calabrigo (Danville) asked if a standard presentation could be prepared for meetings with other legislators in the Bay area. Matt said yes, this should be one focus of the Green Streets Work Group, to develop a clear, concise presentation that illustrates the nexus between water quality, green infrastructure and transportation funding, and possibly the nexus with climate

change. It was suggested that Water Board staff be included in these meetings to show a united front.

- Tom Mumley mentioned that the Los Angeles and San Diego permits have been adopted and petitioned. We should be aware of State Board decisions/actions related to these permits. The Central Valley Region is developing a municipal regional permit. The Ventura County permit will be expiring soon, and Long Beach opted out of the regional permit and will be issued its own permit. Phase II and Caltrans permits still have TMDL implementation issues that need to be resolved.
- Tom also mentioned that Caltrans should be receiving an estimated $100 million per year to implement TMDL projects and that the Bay Area needs to engage in this effort.
- Geoff Brosseau (BASMAA) mentioned that BASMAA had sent a letter to Caltrans requesting their collaboration with mercury allocations.

III. Continued Discussion on Pollutants of Concern – Mercury and PCBs Topics

Khalil Abusaba (AMEC) presented information on the TMDLs for PCBs and Hg, implementation during MRP 1.0, the working approach for MRP 2.0 and potential next steps (Attachment 5).

A. PCB/Hg TMDL Implementation

- General approach is to address PCBs and assume mercury will mainly be addressed by "piggy-backing" on PCB actions, but should not forget specific issues related to mercury.
- Background on PCB and Hg in MRP 1.0:
    - Drivers are fish consumption advisories and TMDL load allocations (need to reduce 50% of mercury load and 90% of PCB load from stormwater in 20 years).
    - Using a phased approach of research, pilot testing, focused implementation, and full implementation. Current efforts are at different stages.
    - PCBs highest in concentration in sediment near where they were manufactured or used (close to Bay margins in old (pre-1970) industrial areas). There is a "halo effect" and patchiness within 1,000 feet of these areas. Dale Bowyer pointed out that not all PCB source areas are known, and that more work needs to be done.
    - Watershed Characterization – prior stormwater program efforts along with recent collaboration with RMP, "recon" studies conducted in 17 watersheds, including stormwater grab samples that were used to estimate PCB concentrations in suspended sediment. Khalil distributed a summary of requirements contained in MRP 1.0 focused on POC TMDLs and previous/ongoing studies (Attachment 6)
    - Pilot studies have included source area investigations, enhanced street sweeping, street washing/pipe flushing, treatment retrofits, POTW diversions, and PCBs in building materials. Tom Mumley pointed out that effective street sweeping has to remove fine dust at slow speed with proper equipment. Due to halo effect, PCB hot spots may be located in public ROWs. Tom noted that BMPs need to be fairly compared and that assumptions need to be clearly stated.
    - Geoff Brosseau added that street washing is not a common practice and guidance/training need to be provided. Geoff also pointed out that the phased approach being implemented via the MRP allows for a careful sorting and identification of promising BMPs for site-specific implementation, and that not all BMPs will make it to the implementation step. He also noted that other areas of the state do not allow for site-specific evaluation and local agencies could get stuck implementing BMPs that do not make any sense.

- PCB Load Estimates
    - Based on monitoring data in 10 watersheds, estimated yield and translated it into yields by land use type, so that PCB loads per city can be estimated.
    - Khalil distributed a draft table listing the annual PCB loading by land use type for all permittees (attachment 7).
    - TMDL states that estimated total loading is about 20,000 grams per year in urban stormwater. BASMAA preliminary load estimate based on land use yields is ~ 9,500 grams/year (assumed to be essentially the same as TMDL given the uncertainty and variability of the estimates).
    - Will not be able to reach reduction targets by solely focusing on old industrial areas – will have to include old urban areas as well.
    - Tom Mumley added we will soon have an RMP spreadsheet modeling report with load estimates to compare to these numbers.
    - Melody Tovar (Sunnyvale) asked how modeling approaches will address "older data" where clean-up has occurred since data were collected. Khalil requested that this question be held for a future discussion.

B. PCB/Hg Source Areas

- GIS tools being used to identify source areas – can overlay specific land uses and previous monitoring data to determine data gaps and working approach.

C. Working Approach to PCB/Hg MRP 2.0 Framework

- Khalil distributed a summary of the MRP 2.0 PCB strategy (Attachment 8). He noted that some combination of addressing loads from "high opportunity" sites (10% of estimated PCB load), old industrial (15%) and other old urban (60%) would be needed. Sources in old urban are mixed and less clear – there are residual PCBs in electrical equipment, paint, etc. These old urban areas will be challenging to address. Solutions in the old urban areas may include green infrastructure, reducing runoff volume, and treatment. Also, PCBs are long lived but do not last forever like mercury.
- Larry Patterson (San Mateo) asked when we use green infrastructure and landscape-based treatment, aren't we just collecting PCBs and Hg in the treatment soil? Khalil responded yes, and we have not yet figured out if this is a concern.
- Tom Mumley said the Water Board will have to reconsider the TMDL reduction targets with better understanding of the data (a 10-year check is built into the TMDL). But permittees will have to show that they are controlling the controllable sources. Adam Olivieri (SCVURPPP) added that we have to look at balance of what information is to be gained and what sources to control at what cost.
- Tom Mumley stated that we have to proceed to focused implementation in MRP 2.0, per the Basin Plan. He is interested in a performance-based approach: "Show X % reduction in Y watersheds adding up to total Z grams of PCBs reduced". His goal is a "single digit" (say 5 kg/year) reduction within the next permit term. He is looking for a balanced approach that focuses on high opportunity areas along the Bay margin and includes some effort in higher watersheds.
- Tom Mumley believes they will not get all of the information needed for MRP 2.0 and will have to make assumptions. The less information they have, the more difficult the permit requirements will be. There are short term data collection gaps that, if filled, would better inform permit requirements, and Tom would like permittees to invest additional resources in

collecting the data. More information equals more permit flexibility. They may consider extending the permit reissuance date in order to get the necessary data.

- Melody asked if the intent is to have MRP 3.0 coincide with the 10-year TMDL reevaluation. Tom responded yes, and there are three "dials" that can be turned: time to achieve reductions, amount of reduction, and allocations. We also need to consider the impacts of sea level rise (e.g., flooding, increase in Bay margin under water, rising groundwater, and infiltration into sewers and storm drains).
- Roger Lee (Cupertino) observed that we may need to consider whether it makes sense to invest resources in more data collection if the future conditions and outcomes are uncertain.
- Melody asked if the approach would be similar to that being used for trash, in which management areas are defined and different actions specified for each management area. Tom responded yes, somewhat.
- Tom Mumley reminded the Steering Committee that EPA is a player in this effort, and they have resources to address contaminated areas. EPA is currently focused on the Oakland Coliseum/San Leandro area. He wants to set up a clear protocol for Water Board and EPA enforcement action in these areas.
- Khalil suggested that an alternative to Tom's performance-based approach is that of robust watershed improvement plans. We would have to show that the long term results are better than what could be achieved with performance standards in a five year permit.
- Melody said she would like to be able to account for removal of sediment in trash capture devices. Tom agreed that that should be possible and noted it is being evaluated through the Clean Watersheds for Clean Bay protect. They want to see activities in each watershed that would be "robust." This is a loaded term, and the subject of controversy in the Los Angeles permit with the enhanced watershed improvement plans. He expressed the need for "reasonable assurance" that the plan will get you to the target.

D. Potential Next Steps

- Need to clarify and agree on information needs, process, timelines (POC Work Group).
- Provide update to Steering Committee at next meeting.

IV. Next Steps

- Action Items
    - The Green Streets Work Group (GS) will develop a meeting schedule and a list of priority topics for discussion and action (for example, the group will consider development of a standard presentation for local agencies to utilize as part of meetings with local legislators, and discuss potential options/language for more flexible alternate compliance.)
    - The Pollutant of Concern Work Group (POC) will review additional PCB/Hg data needs (including timing) and costs and develop a proposal for collecting additional data to inform MRP 2.0. The POC will report on the data needs proposal at the next SC meeting. (It was noted by SC members that co-permittee staff will have little or no time to work on collecting additional data until after the long-term trash plans due in February 2014 are submitted.)
    - The BASMAA Executive Director and Board of Directors will investigate how to collaborate with Caltrans regarding use of Caltrans funds for Bay Area TMDL implementation projects.

- The Phase I stormwater program managers will follow-up with Water Board AEO (Tom Mumley) on Water Board/EPA efforts to investigate/enforce on clean-up sites that overlap with POCs and stormwater loading and report back to SC.

- Next meeting – The January 2, 2014 Steering Committee meeting will be canceled and rescheduled for February 6. The March 6 meeting date was also confirmed.
- Topics for next meeting:
  - Progress report on C3 issues
  - Continued discussion of POCs
  - Initiate dialog on remaining MRP issues
- Additional Discussion Topics for Future SC and/or Work Group Meetings
  - Matt – Under Provision C.3, stormwater treatment will occur on new and redeveloped properties, not necessarily PCB source areas – is that the right approach, or is an alternative compliance approach that funds treatment in the highest priority areas preferable?
  - Tom Mumley –look at opportunities to modify pump stations and other infrastructure improvements to address POC loading. (If permittees can't afford these now, at least include them in long term CIPs and look at funding options.)
  - Melody – It would be valuable to get consideration on IRWMP lists.
  - Geoff – Identify potential for legislative action.
  - Matt – We need to tie water quality improvement to overall greening of the community in order to sell it to the public.
  - Jon Konnan – noted that the POC Workgroup needs to work towards developing costs for PCB actions in addition to where and what will be done. Presenting costs are essential especially if the proposed actions in the draft MRP 2.0 don't get us as far as would be ideal towards addressing TMDL load reduction goals. Tom Mumley agreed.

Attachments:

1- Attendance Sheet and Agenda
2- Updated Gantt Chart (11/1/2013)
3- Summary and Status of SC Action Items
4- Method and Schedule to Address C3 Issues (11-6-2013)
5- Presentation on Control Measures for PCBs and Mercury
6- Summary of TMDL requirements and terminology
7- Draft PCB Loading Summary
8- MRP Reissuance Issues for Provision C.11 (Mercury) and Provision C.12 (PCBs) (July 11, 2013)

Draft AGENDA

MRP 2.0 Steering Committee (SC) Meeting
November 7, 2013
1:00 to 4:00 pm

Water Board Offices, Oakland, 2nd Floor Room 15

1:00 pm **I. Review Agenda, Introductions & Announcements**
Outcome –introduction of key MRP co-permittee, WB, and stormwater program representatives; any modifications to draft agenda; announcements

1:15 pm **II. –Summary of Progress on Action Items from Previous Meeting(s)**
Outcome – receive update from BASMAA Committee or work groups on action items, areas of agreement/disagreement, and next steps

1:30 pm **III. Continue Discussion on Pollutants of Concern – Mercury & PCBs Topics**

A. PCB/Hg TMDL Implementation – *review of TMDL phased-implementation approach, and MRP 1.0 Pilot Implementation*

B. PCB/Hg Source Areas – *summary of knowledge gained to-date on PCB source areas, control measures and costs, and remaining near-term and longer-term information gaps.*

C. Working Approach to PCB/Hg MRP 2.0 Framework – *update on POC Work Group initial concepts for organizing MRP 2.0, remaining issues and information gaps.*

D. Potential Next Steps–*suggestions and potential timeframes for implementation planning and data gathering.*

O*utcome –review status of POC Work Group discussions and initial framework for PCB/Hg provisions in MRP 2.0.*

3:45 pm **VII. Next Steps**

A. Confirm/Cancel/Re-schedule January 2, 2014 SC Meeting

4:00 pm **VIII. Adjourn**

MRP 2.0 Steering Committee 11/7/13

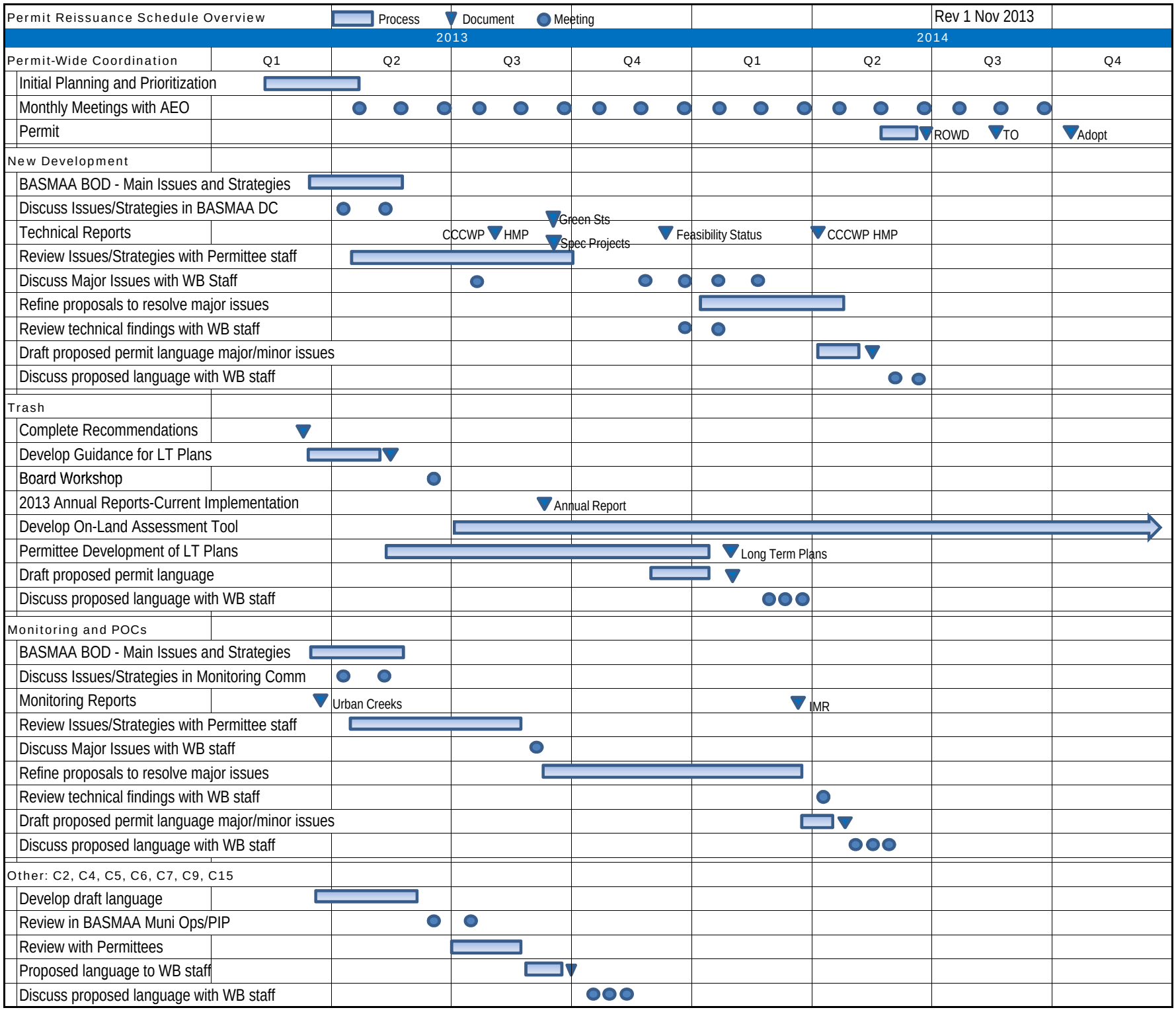
Name	Agency	Email	11-Jul	5-Sep	7-Nov	2-Jan	6-Mar
Adam Olivieri	SCVURPPP	awo@eoainc.com	X	X	X		
Adele Ho	City of San Pablo	adeleh@sanpablo.gov	X	X	X		
Andrew Russell	Dublin	Andrew.russell@dublin.ca.gov	X	X			
Brad Underwood	Foster City	bunderwood@fostercity.org	X		X		
Chris Sommers	SCVURPPP (EOA)	csommers@eoainc.com	X	X			
Dale Bowyer	Water Board	dbowyer@waterborads.ca.gov	X	X	X		
Dan Cloak	CCCWP	dan@dancloak.com	X	X	X		
Feliz Riesenberg	City of Fairfield	friensenberg@fairfield.ca.gov	X				
Geoff Brosseau	BASMAA	geoff@brosseau.us	X	X	X		
Heather Ballenger	City of Walnut Creek	Ballenger@walnut-creek.org	X	X			
Jared Hart	City of San Jose	jared.hart@sanjoseca.gov			X		
Jay Walter	City of San Carlos	Jwalter@cityofsancarlos.org		X			
Jill Bicknell	SCVURPPP (EOA)	jcbicknell@eoainc.com	X	X	X		
Jim Porter	San Mateo Co.	jporter@smcgov.org	X		X		
Jim Scanlin	ACCWP	jims@acpwa.org	X	X	X		
Joe Calabrigo	Town of Danville	calabrigo@danville.ca.gov	X	X	X		
Jon Konnan	SMCWPPP	jkonnan@eoainc.com	X		X		
Kathy Cote	City of Fremont	kcote@fremont.gov	X	X	X		
Kevin Cullen	FSURMP	Kcullen@fssd.com		X			
Khalil Abusaba	AMEC/CCCWP	khalil.abusaba@amec.com		X	X		
Lance Barnett	VSFCD	lbarnett@vsfcd.com	X				
Larry Patterson	City of San Mateo	lpatterson@cityofsanmateo.org	X	X	X		
Matt Fabry	SMCWPPP	mfabry@smcgov.org	X	X	X		
Melody Tovar	City of Sunnyvale	mtovar@sunnyvale.ca.gov	X	X	X		
Miki Tsubota	City of Brentwood	mtsubota@brentwoodca.gov	X	X	X		
Napp Fukuda	City of San Jose	napp.fukuda@sanjose.ca.gov	X	X			
Paul Willis	Town of Hillsborough	pwillis@hillsborough.net		X	X		
Richard Looker	Water Board	rlooker@waterboards.ca.gov		X	X		
Rinta Perkins	City of Walnut Creek	perkins@walnut-creek.org	X	X			
Rob Carson	CCCWP	rcars@pw.cccounty.us		X	X		
Sandy Chang	AMEC	sandy.chang@amec.com			X		
Sandy Mathews	LWA/San Mateo	sandym@lwa.com					
Selina Louie	Water Board	slouie@waterboards.ca.gov	X	X			
Shin-Roei Lee	Water Board	srlee@waterboards.ca.gov	X		X		
Sue Ma	Water Board	SMa@waterboards.ca.gov	X				
Timm Borden	City of Cupertino	timmb@cupertino.org	X	X	X		
Tom Dalziel	CCCWP	Tdalz@pw.cccounty.us	X	X	X		
Tom Mumley	Water Board	tmumley@waterborads.ca.gov	X	X	X		

Method and Schedule to Address MRP 2.0 C.3 Issues (Revised 11-6-13)

C.3 Issue	Relationship to Key Issues	Forum/Schedule to Discuss with Water Board Staff	BASMAA DC Mtg Date(s)	MRP SC Mtg Date(s)
Key Issues				
Regulated Project Threshold – potential reduction to 5,000 SF of IA for all project types	Address as separate key issue (related to road reconstruction threshold and LID feasibility criteria)	Discuss at Steering Committee (SC); follow-up discussions with BASMAA Development Committee (DC) on proposed language	11/5/13	7/11/13; 9/5/13
Green Street/Road Reconstruction Requirements – potential implementation of LID on existing roads; retrofit requirements; relationship to POC/TMDL requirements	Address as separate key issue	Discuss at SC and SC Green Streets Work Group; follow-up discussions with BASMAA DC on proposed language	TBD	7/11/13; 9/5/13
Hydromodification Management (HM) Requirements – consistent requirements, performance criteria, and sizing tools across the region	Address as key issue; consider relationship to LID Feasibility Criteria	Introduce at SC; work out details at BASMAA DC; bring back to SC if needed	1/7/14; 2/6/14	9/5/13; 3/6/14
LID Feasibility Criteria – allowing bioretention as "first choice" LID (BASMAA); larger surface area of treatment facilities to maximize infiltration (WB)	Address as separate key issue; consider relationship to HM Requirements	BASMAA DC and SC, following BASMAA submittal of LID Status Report on 12/1/13	12/5/13; 1/7/14;	7/11/13; 3/6/14
Other Issues				
Special Projects Criteria – implementation to date and whether/how criteria need to be changed	Address as separate issue	Discuss at BASMAA DC following receipt of WB comments on Special Project submittals; then determine whether necessary to go to SC	11/5/13	TBD
Improved Implementation of Existing Requirements: • Bioretention design and maintenance • Pervious paving design and maintenance	Address as part of LID Feasibility Criteria issue	Clarify issues at BASMAA DC; discuss following submittal of LID Status Report on 12/1/13; bring to SC if needed	11/5/13; 12/5/13 1/7/14	TBD
• Inspection of treatment facilities during construction • O&M inspection/enforcement response	Lower priority issue Lower priority issue	Clarify issues at BASMAA DC following receipt of WB comments on C.3 Annual Reports; then determine whether necessary to go to SC	11/5/13; TBD	TBD

MRP 2.0 Steering Committee
Status of Action Items from Past Meetings (as of 11/7/13)

Mtg Date	Issue	Action Item	Status
7/11/13	MRP Reissuance Objectives	Post-annual report submittal, the Program managers will compile a summary of less cost-beneficial items. Be specific, include reporting requirements, tally information, and agendize for further discussion in future meetings.	In progress
7/11/13	MRP Reissuance Process and Timeline	Organize and schedule a meeting of the Monitoring and Pollutants of Concern (MPC) Committee.	Done
7/11/13	MRP Reissuance Process and Timeline	Program managers will identify tracking method.	In progress
7/11/13	MRP Reissuance Process and Timeline	Steering Committee agreed to meet bimonthly on 1st Thursdays in the afternoon (1-4pm) at the same location (Elihu Harris State Office Building, 1515 Clay Street, Oakland) and room (2nd Floor, Room 15, if available).	Done/ongoing
7/11/13	C.3 – New Development	BASMAA Development Committee will keep working on these issues in preparation for the September 5th Steering Committee meeting.	Done/ongoing
7/11/13	C.3 – New Development	Matt Fabry (SMCWPPP Program Manager) will look into developing nexus with MTC, and developing options for this topic.	In progress – to be coordinated with Green Streets Work Group
9/5/13	C.3 – Threshold for Regulated Projects	Water Board staff will review the FY 12-13 Annual Reports for C.3.i reporting and then discuss the above proposed alternative with the BASMAA Development Committee.	In progress – discussed at 11/5/13 Development Committee meeting
9/5/13	C.3 – Green Streets/Road Reconstruction	Larry Patterson (City of San Mateo) and Adam Olivieri (SCVURPPP Program Manager) will send out an email to the Steering Committee requesting volunteers for the Green Streets Work Group.	Done – Work Group has been formed and meetings are being scheduled
9/5/13	C.3 – Hydromodification Management	Discuss the low flow criterion issue with Water Board staff at the January and February BASMAA Development Committee meetings.	To be done


Permit Reissuance Schedule Overview
Process
Document
Meeting
Rev 1 Nov 2013
2013
2014
Permit-Wide Coordination
Q1
Q2
Q3
Q4
Q1
Q2
Q3
Q4
Initial Planning and Prioritization
Monthly Meetings with AEO
Permit
ROWD
TO
Adopt
New Development
BASMAA BOD - Main Issues and Strategies
Discuss Issues/Strategies in BASMAA DC
Technical Reports
CCCWP
HMP
Green Sts
Spec Projects
Feasibility Status
CCCWP HMP
Review Issues/Strategies with Permittee staff
Discuss Major Issues with WB Staff
Refine proposals to resolve major issues
Review technical findings with WB staff
Draft proposed permit language major/minor issues
Discuss proposed language with WB staff
Trash
Complete Recommendations
Develop Guidance for LT Plans
Board Workshop
2013 Annual Reports-Current Implementation
Annual Report
Develop On-Land Assessment Tool
Permittee Development of LT Plans
Long Term Plans
Draft proposed permit language
Discuss proposed language with WB staff
Monitoring and POCs
BASMAA BOD - Main Issues and Strategies
Discuss Issues/Strategies in Monitoring Comm
Monitoring Reports
Urban Creeks
IMR
Review Issues/Strategies with Permittee staff
Discuss Major Issues with WB staff
Refine proposals to resolve major issues
Review technical findings with WB staff
Draft proposed permit language major/minor issues
Discuss proposed language with WB staff
Other: C2, C4, C5, C6, C7, C9, C15
Develop draft language
Review in BASMAA Muni Ops/PIP
Review with Permittees
Proposed language to WB staff
Discuss proposed language with WB staff

MRP 2.0 Steering Committee

November 7, 2013

Control Measures for PCBs and Mercury

Overview

- PCB and Mercury TMDL Implementation in MRP 1.0
- PCB and Mercury Source Areas
- Working Approach to PCBs and Mercury Implementation in MRP 2.0
- Potential Next Steps

PCB and Mercury in the MRP

- Driver:
  - Fish Consumption Advisories
  - TMDL Load Allocations
- Approach:
  - Reduce sediment sources with elevated PCBs
  - Initial focus: find and reduce PCBs, account for mercury concurrently reduced*

*The assumption that PCB actions are sufficient for mercury load reductions should be reviewed during MRP 2.0

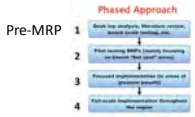
TMDL Implementation

Phased approach with goal of attaining PCB & Hg TMDL allocations within 20 years:

1. Desk top analysis, literature review, bench scale testing, etc.
2. Pilot testing BMPs (mainly focusing on known "hot spot" areas)
3. Focused implementation (in areas of greatest benefit)
4. Full-scale implementation throughout the region

Where do we find high PCB concentrations in sediments?

- Highest closest to where PCBs were manufactured or used
  - Often close to Bay margins



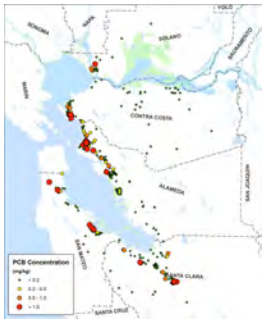


Figure from EOA, Inc. (2013)

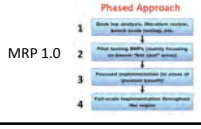
Where do we find high PCB concentrations in sediments?

- Highest closest to where PCBs were manufactured or used
  - Often close to Bay margins
  - Typically highest in "old industrial" land uses

Figure from EOA and Geosyntec (2013)

Where do we find high PCB concentrations in sediments?

- Highest closest to where PCBs were manufactured or used
  - Bay margins, old industrial
- "Halo effect"
  - Vehicle, wind dispersion
- Patchiness
  - Transient sources
  - Cleanup, degradation



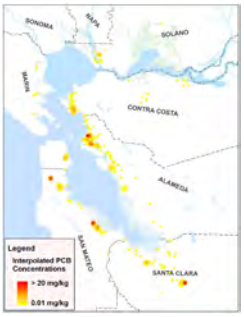


Figure from EOA Inc (2012)

MRP 1.0 Lessons

Watershed Characterization

- C.8.e Loads Monitoring Collaboration with RMP
- "Recon Studies" in 17 Watersheds
- Grab stormwater samples
- Rank watersheds by PCB concentrations in suspended sediment
- Confirms priorities suggested by dry weather sediment sampling

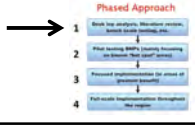


Figure from SFEI (2012)

MRP 1.0 Lessons

Pilot Projects

- Source area investigations
- Enhanced street sweeping
- Street washing and pipe flushing
- Treatment retrofits
  - Bioretention / bioswales
  - Hydrodynamic separators
  - Tree wells
- Diversions to POTWs
- PCBs in building materials

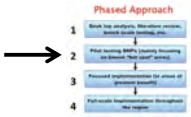


Figure from EOA and Geosyntec (2013)

MRP 1.0 Lessons

PCB Load Estimates

- PCB "yields" concept
  - Known areas with the highest production per acre
  - But what about the rest?
- Compile what we know about highly sampled areas
- Model all other watersheds land use areas
- Tabulate for land use types
  - (handout – estimated PCB loads by and permittee and land use)

How do we move to Phases 3, 4?

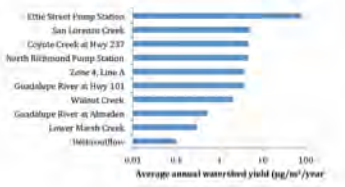


Figure from SFEI (2013)

Land Use Yield (mg/ac/yr)				
Old Industrial	Old Urban	New Urban	Open Space	Other
50	17.5	2	2.5	2

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Where do we find high PCB concentrations in sediments?

- Highest closest to where PCBs were manufactured or used
- Typically highest in "old industrial" land uses
- Often close to Bay margins

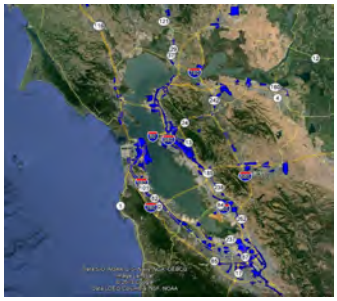

Figure from KML layer produced by EOA Inc (2013)

Where do we find high PCB concentrations in sediments?

- There are different types of "Old Industrial" areas
- Wide range of yield within "Old Industrial"
- Information needs include
  - Overlay other uses, e.g. electrical
  - Overlay previous monitoring data

Figure from KML layer produced by EOA Inc (2013)

Overview

- PCB and Mercury TMDL Implementation in MRP 1.0
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MRP 2.0 PCB Strategy

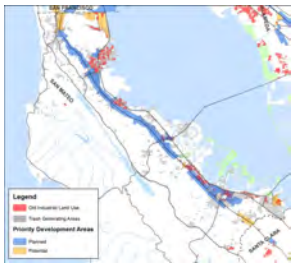
	Land Use or Drainage Category		
	High opportunity	**Old Industrial and nearby / similar**	**Other Old Urban**
Estimated Acres **Estimated PCB Load**	~ 3,100 ~ 10%	~20,000 ~15%	~300,000 ~60%
Current knowledge	high	moderate	varies
Working assumptions re PCB yield (per unit area)	High within known catchment boundaries or management areas	Moderate as overall average. Local areas vary from low to high	Low as overall average, but total load significant due to large area. Some local areas may be moderate.
Certainty: are available data enough to support / justify focused implementation?	Adequate certainty to begin evaluating implementation options	Limited; need to sort this subset into either "High Opportunity" or "Other Urban" via monitoring and / or municipal intel	No, but include in long term planning to take advantage of opportunities for multiple benefits

MRP 2.0 PCB Strategy

	Land Use or Drainage Category		
	High opportunity	**Old Industrial and nearby / similar**	**Other Old Urban**
Estimated Acres **Estimated PCB Load**	~ 3,100 ~ 10%	~20,000 ~15%	~300,000 ~60%
Current knowledge	high	moderate	varies
Long term info needs	What is the best practicable solution at each location? What will solutions cost?	Screening information on existing infrastructure and PCB concentrations, criteria for sorting.	Coordinate with muni plans, identify potential opportunities and funding sources
Short term info gathering priorities for permittees	Cost estimates and planning timelines for actions in high opportunity areas	First round info gathering and screening of selected areas (review history and records, windshield surveys, preliminary monitoring etc.)	Begin analysis of opportunities and constraints in coordination with other drivers (e.g., trash, complete streets, infrastructure improvements)

MRP 2.0 Multiple Benefits Approach

- Coordination with other drivers
- Overlap among
  - Old industrial
  - Priority development
  - Trash generation



Overview

- PCB and Mercury TMDL Implementation in MRP 1.0
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Remaining Issues

- Accountability in the Permit
  - "Show X BMPs in Y Watersheds Adding up to Z grams of PCBs reduced"
- Options
  - Control Actions Specified (types and numbers of projects)
    - MRP 1.0 Approach
  - Performance Standards Specified (kg or percent reduced)
    - MRP 2.0 Approach, unless we come up with a better alternative
- Alternative
  - Robust watershed improvement plans
  - Show long-terms results better than what could be achieved with performance standards in a five year permit
  - Supported by detailed analysis of cost, planning, schedule needs to implement a robust watershed plan

Next Steps

- Programs clarify information needs
  - What will we gather and what is the process?
- Programs work with permittees
  - Implement information gathering process
- Clarify timelines for information gathering in relation to permit reissuance
  - What needs to be done to inform MRP 2.0 goals?
  - When can that get done?
- Next update to the Steering Committee

MRP 2.0 PCB Strategy

Discussion with Stakeholder Steering Committee on November 7, 2013

	Land Use or Drainage Category		
	High opportunity	**Old Industrial and nearby / similar**	**Other Old Urban**
Estimated Acres **Estimated PCB Load**	~ 3,100 ~ 10%	~20,000 ~15%	~300,000 ~60%
Current knowledge	high	moderate	varies
Working assumptions re PCB yield (per unit area)	High within known catchment boundaries or management areas	Moderate as overall average. Local areas vary from low to high	Low as overall average, but total load significant due to large area. Some local areas may be moderate.
Certainty: are available data enough to support / justify focused implementation?	Adequate certainty to begin evaluating implementation options	Limited; need to sort this subset into either "High Opportunity" or "Other Urban" via monitoring and / or municipal intel	No, but include in long term planning to take advantage of opportunities for multiple benefits
Long term info needs	What is the best practicable solution at each location? What will solutions cost?	Screening information on existing infrastructure and PCB concentrations, criteria for sorting.	Coordinate with muni plans, identify potential opportunities and funding sources
Short term info gathering priorities for permittees	Cost estimates and planning timelines for actions in high opportunity areas	First round info gathering and screening of selected areas (review history and records, windshield surveys, preliminary monitoring etc.)	Begin analysis of opportunities and constraints in coordination with other drivers (e.g., trash, complete streets, infrastructure improvements)

Annual PCB Loading by Land use Type for All Permitees (g/yr)						
Agency	Old Industrial	Old Urban	Open Space	New Urban and Other	Pilot Watershed Load	Total Loading
Alameda	9.9	56.4	1.5	5.2	0.0	73
Alameda County	28.8	177.7	316.7	2.0	0.0	525
Albany	2.1	17.8	0.2	0.0	0.0	20
Berkeley	19.0	107.1	0.2	0.3	0.0	127
Dublin	0.5	36.0	9.5	7.0	0.0	53
Emeryville	20.9	5.1	0.1	0.1	0.0	26
Fremont	50.2	210.9	44.9	15.7	0.0	322
Hayward	62.4	152.1	15.1	6.8	0.0	236
Livermore	46.5	92.8	12.2	11.7	0.0	163
Newark	24.0	48.9	2.7	2.5	0.0	78
Oakland	183.7	354.5	12.7	6.1	391.1	948
Piedmont	0.0	18.9	0.0	0.0	0.0	19
Pleasanton	3.6	69.0	7.3	16.5	0.0	96
San Leandro	69.1	95.1	1.5	1.3	0.0	167
Union City	24.6	57.9	17.5	3.0	0.0	103
					Subtotal	2957
Antioch	0.0	1.2	0.1	0.1	0.0	1
Clayton	0.0	12.9	2.5	1.4	0.0	17
Concord	11.6	180.5	6.4	12.9	0.0	211
Contra Costa County	174.0	250.8	250.2	14.9	0.0	690
Danville	0.3	78.8	11.4	5.0	0.0	96
El Cerrito	0.4	35.1	0.8	0.0	0.0	36
Hercules	8.4	7.0	4.6	3.3	0.0	23
Lafayette	0.0	102.6	6.6	0.8	0.0	110
Martinez	23.9	49.1	5.8	3.6	0.0	82
Moraga	0.0	3.1	2.7	0.1	0.0	6
Orinda	0.0	2.2	0.0	0.0	0.0	2
Pinole	2.9	34.5	2.6	0.4	0.0	40
Pittsburg	67.0	52.5	6.3	4.6	0.0	130
Pleasant Hill	1.0	63.3	1.5	0.6	0.0	66
Richmond	186.2	100.8	16.0	2.2	347.4	653
San Pablo	2.0	25.2	0.4	0.0	0.1	28
San Ramon	0.7	32.6	11.5	10.8	0.0	56
Walnut Creek	3.2	132.2	11.1	1.2	0.0	148
					Subtotal	2396
Campbell	7.6	59.9	0.3	0.4	0.0	68
Cupertino	3.6	83.4	3.2	1.9	0.0	92
Los Altos	0.0	71.1	0.2	0.1	0.0	71
Los Altos Hills	0.0	73.6	2.6	0.9	0.0	77
Los Gatos	0.0	44.3	4.5	1.2	0.0	50
Milpitas	14.2	53.1	5.5	6.3	0.0	79
Monte Sereno	0.0	8.1	0.1	0.0	0.0	8
Mountain View	25.3	91.8	1.7	2.0	0.0	121
Palo Alto	20.3	113.2	12.3	0.7	0.0	146
San Jose	148.5	932.3	56.7	35.4	0.0	1173
Santa Clara	46.6	130.8	1.8	5.0	0.0	184
Santa Clara County	4.4	125.6	211.0	8.9	0.0	350
Saratoga	2.6	105.5	2.8	1.4	0.0	112
Sunnyvale	59.1	157.4	1.3	3.4	0.0	221
					Subtotal	2754
Atherton	0.4	54.3	0.3	0.0	0.0	55
Belmont	2.2	38.1	1.5	0.2	0.0	42
Brisbane	11.7	8.5	2.4	0.2	0.0	23
Burlingame	13.6	39.1	0.3	0.3	0.0	53
Colma	0.4	4.1	2.4	0.0	0.0	7
Daly City	1.4	35.2	0.8	0.0	0.0	37
East Palo Alto	4.4	20.5	0.3	0.0	0.0	25
Foster City	0.5	22.1	0.5	1.7	0.0	25
Hillsborough	0.2	58.5	1.5	0.0	0.0	60
Menlo Park	10.6	58.5	1.2	0.5	0.0	71
Millbrae	2.4	30.4	0.7	0.1	0.0	34
Pacifica	0.0	0.2	0.1	0.0	0.0	0
Portola Valley	0.1	13.1	1.3	0.4	0.0	15
Redwood City	15.0	80.1	2.0	2.6	0.1	100
San Bruno	2.4	46.3	1.6	0.0	0.0	50
San Carlos	8.6	42.8	1.0	0.3	84.5	137
San Mateo	9.1	114.8	1.4	0.7	0.0	126
San Mateo County	13.3	74.5	25.9	4.5	0.0	118
South San Francisco	43.9	66.2	1.0	1.4	0.0	113
Woodside	0.3	52.7	5.4	0.5	0.0	59
					Subtotal	1150
Fairfield	6.3	76.6	19.2	24.1	0.0	126
Suisun City	2.7	7.4	1.1	3.3	0.0	14
					Subtotal	141
Vallejo	15.0	99.3	13.5	16.5	0.0	144
Total Permitee Loading	1523.5	5758.3	1171.8	265.2	823.2	9542

Total Maximum Daily Loads (TMDL) for PCBs and Mercury

TMDL cleanup plans for mercury and PCBs were a response to the 1998 impairment listing of SF Bay due to high levels of both these Pollutants of Concern in fish. See overview fact sheet "Cleaning up PCBs in San Francisco Bay", along with other regulatory reports at http://www.swrcb.ca.gov/rwqcb2/water_issues/programs/TMDLs/sfbaypcbstmdl.shtml

Even if loads from all sources are reduced according to the wasteload allocations set by the TMDLs, recovery of the Bay is expected to take decades due to the large existing reservoirs of PCBs and mercury within Bay sediments. The urban runoff wasteload allocation for PCBs represents a 90% reduction from the estimated existing load. The TMDL implementation plan sets a 20 year timeline for achieving the reductions but also incorporates an adaptive implementation planning approach:

> *The adaptive implementation process consists of the development of a plan that includes early implementation actions based on existing knowledge that have a reasonable probability of success and an overview of options for future actions. For PCBs in the Bay, the immediate or early implementation actions are not expected to completely eliminate the Bay impairment. Therefore, future actions must be evaluated based on continued monitoring and response to the early implementation actions, as well as based on well-designed studies used for model refinement.*

MRP requirements for stormwater implementation of TMDL load reductions

The Fact Sheet appended to the MRP notes that the initial focus of provisions C.11/12 is on measures designed to reduce PCBs, while also evaluating opportunities for mercury reduction[1]. Implementation actions may fall into 4 categories depending on the available knowledge and confidence in a control measure's effectiveness (listed in decreasing order of confidence):

1. Full-scale implementation throughout the region.
2. Focused implementation in areas where benefits are most likely to accrue.
3. Pilot-testing in a few specific locations.
4. Other: This may refer to experimental control measures, Research and Development, desktop analysis, laboratory studies, and/or literature review.

The following definitions apply when evaluating the implementation of various measures in reference to the mercury and PCB TMDLs:

- **Baseline implementation** refers to actions occurring prior to and including Fiscal Year 2001-2002. "Existing" loads are assumed to occur despite this level of effort.
- **Current implementation** refers to actions occurring post Fiscal Year 2001-2002.
- **Enhanced implementation** refers to actions occurring post Fiscal Year 2001-2002 that are above and beyond baseline implementation. Reductions in PCB discharge due to these actions will be "credited" as contributing to the load reductions required by the PCB TMDL.

[1] PCBs and mercury have different sources and biogeochemical behavior, but since both are strongly associated with sediment particles similar methods are used to estimate loads reduced or avoided via most control measures. Future adaptive implementation may require more focus on mercury-specific measures to address the 50% TMDL reduction.

PCB and Mercury Studies and Pilot Projects completed and in-progress

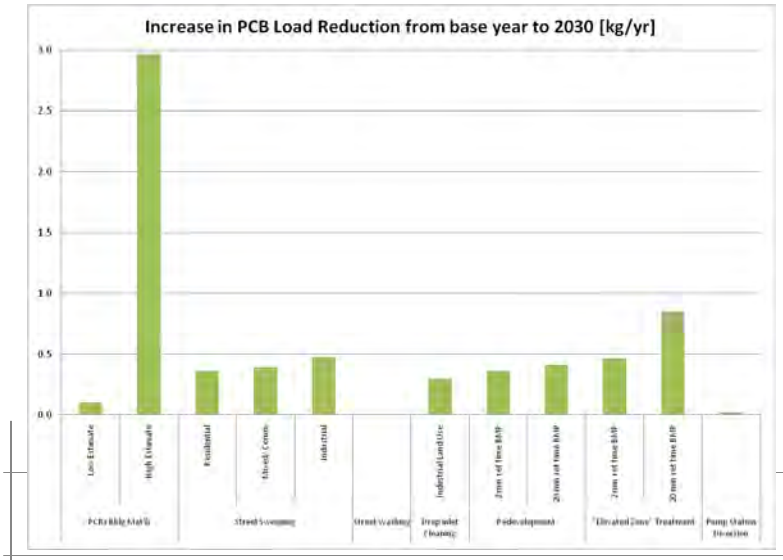
Main sources of local data or groundwork for evaluation of potential source areas, stormwater load reduction measures, and for development of implementation plans:

2000-01: BASMAA sediment surveys of PCBs and mercury in channels and conveyances.

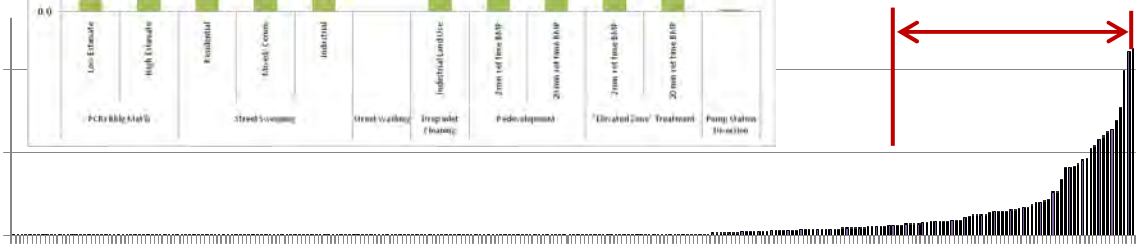
2002-07: Stormwater programs conducted case studies in selected urban watersheds with elevated[2] PCBs or mercury.

2004-07 City of Oakland received Proposition 13 grant for pilot project to identify and abate PCB sources in the Ettie Street Pump Station watershed.

2004-10: SFEI-led Prop 13 project collected many sediment samples in street right-of-ways and storm drain inlets, and conducted preliminary desktop assessment of potential effectiveness of various control measures in reducing loads. However this involved many uncertainties depending on the assumptions used about where and how enhanced control measures could be implemented.



Ranked sediment data from industrial areas showed only 25% of sites having PCBs elevated above 0.09 mg/kg.



2007-11: BASMAA collaborated with SF Estuary Partnership on PCBs in Caulk Project (Proposition 50 and ARRA funding) to address pilots per MRP provision C.12.b.

2010-14+ BASMAA receives USEPA funding for Clean Watersheds for a Clean Bay (CW4CB) pilot projects to increase knowledge, address uncertainties and data gaps regarding:

- On-land sources – identification and referral for abatement, conducted in 5 priority watersheds in Richmond, Oakland, San Jose and San Carlos (C.11/12.c)
- Municipal sediment removal and management practices – 1 project in each of the same 5 watersheds (C.11/12.d).
- On-site treatment via retrofit – 10 projects to be evaluated throughout MRP jurisdictions (C.11/12.e).
- Risk reduction program implemented throughout region, targeting people and communities at risk through consumption of Bay fish (C.11/12.i).

[2] Due to the amplifying effect of bioaccumulation in Bay food webs, the TMDLs set target concentrations for PCBs and mercury in sediment that are much lower than the levels that trigger concerns for direct exposure to humans or wildlife.

MRP 2.0 Steering Committee
Green Streets Work Group Meeting
January 6, 2014, 1:30-4:00 pm

Water Board Offices, 1515 Clay Street, Oakland, 2nd Floor, Room 15

Meeting Summary

I. Review Agenda & Introductions

Participants introduced themselves. The attendance sheet is attached. There were no changes to the agenda.

II. Background on Green Streets Requirements and Issues

Matt Fabry (SMCWPPP) presented background information on green/sustainable street concepts, current MRP green street requirements and accomplishments, and a proposed "grand vision" and integrated approach for green street implementation and funding (see attached presentation).

Discussion:

- Current barriers to alternative compliance in the MRP: 1) offsite mitigation projects need to be in the same watershed; 2) timeframe for construction of the offsite mitigation project; and 3) emphasis on regional projects instead of local projects.
- Dan Cloak (consultant to Contra Costa Clean Water Program) – Success of current green street pilot projects was due to availability of grant funds and having a motivated project proponent. We need to elevate the interest in green streets to a higher level.
- Randy Iwasaki (Executive Director for the Contra Costa Transportation Authority) – Was involved with implementation of a "Director's Directive" (DD-64 R1) for Complete Streets while at Caltrans. Suggested adding "Data" as a component of the proposed integrated approach – need data on costs, benefits, level of implementation, etc. in order to prioritize the approach. Need to push for incentivizing investments and eliminate/reduce match.
- Issue: do green street projects need to treat all runoff (i.e., street runoff plus runoff from private property) or just street runoff? Given the space available for green street features, it may not be possible to treat runoff from private property. Steve Spedowfski (City of San Ramon) – some private property runoff goes to private inlets, thus bypassing the street. For many projects, it is cheaper to meet C.3 requirements onsite than do mitigation banking.
- Melody Tovar (City of Sunnyvale) – Green street funding also needs to include funding for operation and maintenance. It is hard to get ongoing O&M costs funded through grants. Steve Kowalewski (Contra Costa County) agreed that it is difficult to get O&M funding, particularly for landscape maintenance. The County currently funds maintenance via a gas tax, which has not increased since 1993. Dan suggested treating green street features like parks, and Steve replied that

the Parks Department also has limited funding and some areas may not have park districts. Peter Schultze-Allen (EOA, formerly City of Emeryville) – Need to determine the responsibility of adjacent landowners. In Emeryville, commercial businesses were required to maintain landscaping on street frontage. Sue Ma (Water Board) thought some grants allowed O&M efforts to be counted as in-kind matching funds.

- Obaid Khan (City of Dublin) – Plans should be developed at the local level to get buy-in. Funding should include incentives to build green streets. In Dublin, new streets are constructed as sustainable streets, but retrofits are more difficult. Need to educate and train transportation engineers and planners. Others agreed that "education and training" should be another component of the proposed integrated approach.
- Issue: How are transportation funds allocated and by what criteria, and is there any way to tweak the criteria to secure more funding for green streets? Randy – State and Federal programs do not include "bonus points" for incorporating green street features in transportation projects. STP Federal dollars which can be used to match federal dollars are used by local agencies for road repair. A future sales tax measure could include an allocation for water quality. Tom Mumley (Water Board) – just rearranging transportation funding is not going to be enough. Randy – The California Alliance for Jobs and Transportation California is trying to increase the State vehicle license fee by 1%; he will see if there is an opportunity to support that effort. (He noted that an increase of the license fee by 1% generates about $3 billion/year.) They just announced that they will postpone placing it on the 2014 ballot.

III. Purpose and Plan for Green Streets Work Group

Jill Bicknell (SCVURPPP) presented information on the background and purpose of the Green Streets Work Group. The MRP 2.0 Steering Committee formed the Work Group to discuss approaches to long term green infrastructure planning and funding, integration with transportation planning and funding, and identify reasonable short term actions to incorporate into MRP 2.0.

Discussion of approach and potential short term actions:

- Dan – suggested using the current language in MRP Provision C.9 as a model for tasks to track and participate in activities of key agencies to coordinate their efforts with water quality, in addition to local tasks. Randy – added the need to better track and influence Federal funding.
- An important short term item is getting political support (another component of the integrated approach). Randy – in order to sell the green streets concept to the community, need to quantify the benefits. Tom – suggested a short term action item should be to compile data on successes and costs (either before permit adoption or within MRP 2.0). It was also suggested that the costs of integrating green streets into complete streets vs. retrofitting later should be estimated.

- Tom – suggested a potential two-track approach to green street requirements in MRP 2.0: either participate in the process (i.e., participate in regional collaborative activities and develop a local long-term green streets plan) or implement C.3 requirements on all projects (including road reconstruction).

IV. Involvement of Other Agencies and Organizations

Jill led a discussion of how to involve outside agencies and organizations:

- Randy – MTC is a key partner because it controls transportation funding in the Bay region. Amy Worth (Mayor of Orinda) is the current MTC Chair. SB 375 funding from the State is distributed through MTC to the municipalities. The recently adopted "Plan Bay Area" has a 3-year cycle for OBAG (One Bay Area Grant Program) funding, and discussions on the next plan will start in 2015. We need to educate the commissioners and develop a pitch for a line item for water quality funding. Obaid – added that the OBAG funding administered by MTC has the requirement that funding in Alameda County be allocated 70 % for Priority Development Areas (PDAs) and the remaining 30% for areas outside PDAs. Randy – In urban counties, the goal was 70% investment for projects that serve PDAs. In Contra Costa County, we achieved about 80%.
- Other agencies that may be important: BCDC (which is involved in planning for sea level rise) and Caltrans (which has its own permit requirements and incentives to help implement green streets).

V. Next Steps/Next Meeting

- Next meeting date – mid- to late-February (determine best date by poll)
- Topics for next meeting:
  - Retrofit banking
  - Approach to educating/engaging MTC
  - Presentation on Prop 84 grant-funded effort "GreenPlan Bay Area"

MRP 2.0 Steering Committee
Green Streets Work Group Meeting
January 6, 2014
1:30 to 4:00 pm

Water Board Offices, Oakland, 2nd Floor, Room 15

AGENDA

1:30 pm	**I.**	**Review Agenda & Introductions** *Outcome – identify MRP Co-permittee, Water Board, and stormwater program representatives and agree on agenda.*
1:45 pm	**II.**	**Background on Green Streets Requirements and Issues** *Outcome – review green street concepts, current MRP requirements and accomplishments, and funding issues, and understand the role of green infrastructure in future requirements.*
2:15 pm	**III.**	**Purpose and Plan for Green Streets Work Group** *Outcome – Discuss and agree on the goals, strategies, tasks, and timeline for the Work Group, to address green infrastructure requirements in MRP 2.0.*
3:15 pm	**IV.**	**Involvement of Other Agencies and Organizations** *Outcome – Determine what outside agencies/organizations need to be involved in addressing green infrastructure issues and how/when to engage them in the process.*
3:45 pm	**V.**	**Next Steps/Next Meeting**
4:00 pm	**VI.**	**Adjourn**

Green Streets Work Group
January 6, 2014

Green Streets and MRP 2.0 Where Do We Go From Here?

Matt Fabry, P.E.
Program Manager
San Mateo Countywide Water Pollution Prevention Program

Jill Bicknell, P.E.
Assistant Program Manager
Santa Clara Valley Urban Runoff Pollution Prevention Program

Why Do We Care About Streets?

- Transportation Infrastructure
  - Significant amount of total impervious surface
  - Major source of "public" runoff
  - Unlikely to redevelop
  - Primary surface conveyance system for stormwater
  - Carries the bulk of pollutant loads
  - Publicly-owned and maintained

How Do We Make Streets More Sustainable?

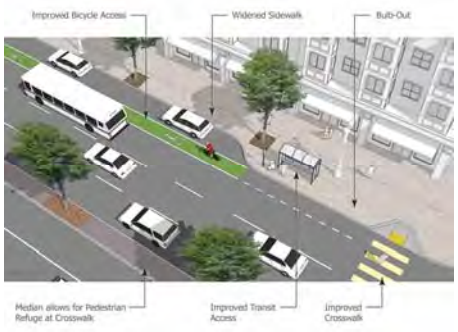
- Primarily through a combination of:
  - Green Streets – Capture & manage stormwater
  - Complete Streets – Enable/encourage all modes of travel
- But could also incorporate other features:
  - Recycled material
  - Reflective pavements
  - Water-efficient, pest-resistant landscapes
  - LED lighting, etc.

Why Sustainable Streets?

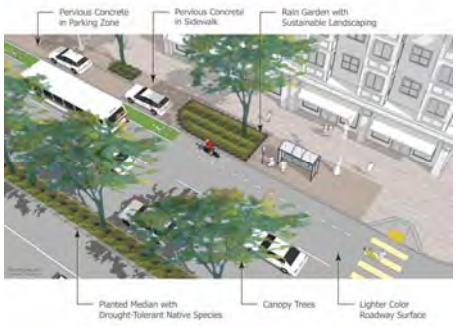
- Multi-benefit
  - Water quality and quantity benefits
  - Air quality/greenhouse gas reduction
  - Heat island mitigation
  - Traffic calming
  - Increase property values
  - Improve bike/pedestrian environment
  - Additional green space
  - Public education

Example – Existing Streets

Example – Complete Streets



Example – Sustainable Streets



Rain Garden and Curb Extension

City of Burlingame

MRP Green Street Requirements

- Per MRP C.3.b, Permittees required to:
  - Construct 10 pilot green street/parking lot projects within SF Bay region by 12/1/14
  - Conduct monitoring or modeling to show water quality benefits achieved
  - Report on any projects in their jurisdictions in annual reports
  - Collectively submit a summary of all projects completed by January 1, 2013 as part of FY 12-13 Annual Report

Green Street Report Findings

- Ten projects substantially completed by 12/1/14 and ten other projects being funded/designed
- Most projects initiated prior to MRP
- Most projects partially funded by grants
- Need following elements:
  - Favorable topography
  - Space in right of way
  - No utility conflicts
  - Close connection to storm drain system

Other MRP Linkages

- Provision C.3.e – Alternative or In-Lieu Compliance
  - Project proponents can provide LID treatment offsite, or
  - Pay in-lieu fees to regional project
    - —Sustainable streets a potential solution, but permit language needs work to make it viable

Other MRP Linkages

- Provisions C.10, C.11, & C.12 – Pollutants of Concern
  - Potential for trash capture
  - Treatment retrofits for mercury and PCBs
    - —Example: Bransten Road green street in San Carlos

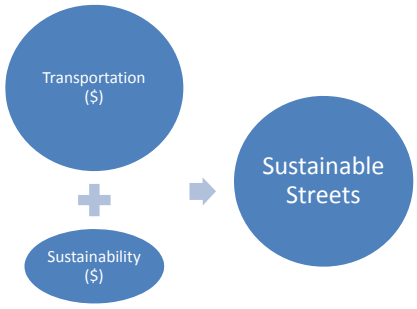
MRP 2.0 – What Do We Know?

- Board staff needs to address existing green street and road reconstruction requirements in MRP 2.0
- Mercury/PCB efforts will likely require some level of distributed treatment retrofits
- Alternative compliance is a potentially valuable tool but currently underutilized
- Grant funding prioritizes green streets but not integrated with transportation funding process
- Green streets are a multi-benefit solution that integrates well into other municipal priorities
- Big need for funding, planning, and coordinated approach

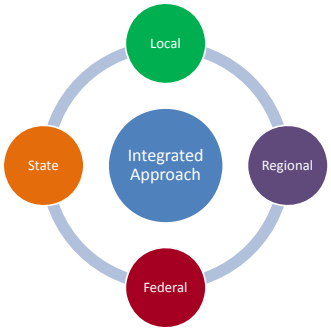
Proposed "Grand Vision"

- Need to integrate sustainability issues with transportation programs
- Can't expect transportation funding to pay for water quality solutions
- Need to bring sustainability funding sources into transportation process
- Need local, regional, state, and federal efforts to make it work
- Large-scale planning efforts are needed
- Can't all be driven by MRP

Big Picture - Funding



Big Picture - Funding



Local Issues

- Lack of planning and integration into other municipal activities
- Limited local funding streams
- Need cost-effective design and O&M
- No established banking programs
- Limited capacity to chase grants

Regional Issues

- WQ isn't integrated with regional efforts
  - Regional Board not part of PlanBayArea
  - Water quality not in Sustainable Community Strategy
- Need to bring WQ funding into regional funding process
- PDA/SCS vs. water quality priorities?
- Support meaningful banking/alternative compliance approaches

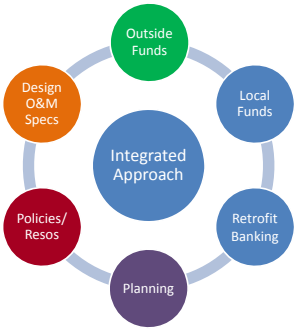
State Issues

- State transportation funding driven by air quality and greenhouse gas reductions
  - AB32 and SB375
- No dedicated sustainability/WQ funding stream
- WQ grant funds not integrated with transportation, but all seem to want LID solutions (e.g., Prop 84 SW, Urban Greening)
- Need to standardize retrofit approach via funding streams/programs/planning, then link through MRP requirements

Federal Issues

- No sustainability funding umbrella similar to transportation with formula distribution
- Need to establish sustainable streets as standard practice for multi-benefit solutions
- Need to standardize retrofit approach through funding streams

Proposed Integrated Approach



Green Streets Work Group

- MRP 2.0 Steering Committee 9/5/13
  - Discussed Provision C.3.b: Green Streets and Road Reconstruction Requirements
    - —Permittees' desire to maintain exemption of road reconstruction projects from stormwater treatment requirements
    - —Water Board staff's desire for additional green street and retrofit requirements
    - —Consensus that short term actions need to be considered in context of long term plan
  - Direction to form work group to discuss options for permit requirements

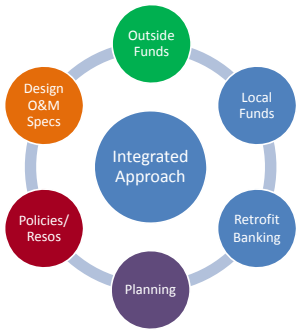
Green Streets Work Group

- Purpose:
  - Discuss approaches to long term planning for green infrastructure (GI)
  - Discuss integration of GI planning/ funding with existing transportation planning/funding
  - Identify short term actions associated with long term planning that are reasonable for inclusion in MRP 2.0

Green Streets Work Group

- Proposed Strategy:
  - Organize meetings around the 6 key components of the integrated approach
  - Invite other agencies as needed
  - Identify short term actions within each component
  - Develop proposed approach and/or permit language for review by Steering Committee

Proposed Integrated Approach



Potential Short Term Actions

- What makes sense for next five years?
  - Retrofit Planning Efforts – link to Prop 84 "GreenPlan Bay Area"
  - Green Street Policies or Resolutions
  - Local Funding Options
  - Alternative Compliance/Banking Programs
  - Improve Design/Construction/O&M of Retrofit Projects
  - Work with outside funding sources

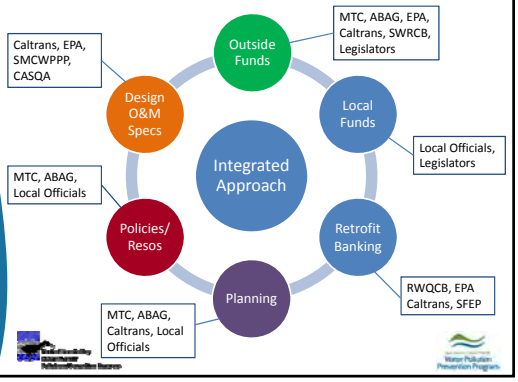
Questions for Work Group

- Any other components of an integrated approach that we missed?
- Questions/concerns about proposed approach?
- Examples of implementation actions already in progress?
- Potential barriers to success?

Involvement of Other Agencies and Organizations

- Metropolitan Transportation Commission
- Association of Bay Area Governments
- Caltrans
- State Water Resources Control Board?
- Other State or regional agencies?
- Environmental Protection Agency?
- State and/or Federal Legislators?
- Non-profit organizations?

Proposed Integrated Approach



Questions for Work Group

- Any other agencies/organizations that should be involved?
- Particular individuals from these agencies? (based on Work Group member contacts)
- Approach/timeframe for engagement
- Recent experience dealing with these agencies on related topics

Next Steps

- Set meeting dates and topics
- Contact outside organizations
- Set milestones for completion of short term approach and/or draft language and presentation to Steering Committee
- Other action items?

GREEN RESERVE

The **American Recovery and Reinvestment Act (ARRA), Green Reserve** of 2009, through the State Revolving Fund, provides funding for a wide variety of qualifying projects in the categories of: ***green infrastructure***, ***energy efficiency, water efficiency, and other innovative projects***. For more information on ARRA, to find out if your current or future planned project meets the necessary criteria, and how to apply, visit **www.Recovery.gov**.

A CONCEPTUAL GUIDE TO EFFECTIVE GREEN STREETS DESIGN SOLUTIONS

Green Streets

Residential Streets
Commercial Streets
Arterial Streets
Alleys

Green Street designs provide better environmental performance while creating attractive, safer environments.

A Green Street is a street that uses natural processes to manage stormwater runoff at its source.

Streets comprise a significant percentage of publicly owned land in most communities, and thus offer a unique opportunity to manage for environmental outcomes. A Green Street uses a natural systems approach to reduce stormwater flow, improve water quality, reduce urban heating, enhance pedestrian safety, reduce carbon footprints, and beautify neighborhoods.

Through various combinations of plants and soils, these objectives—and several others—can be met on different types of streets in many settings. Green Street features include vegetated curb extensions, sidewalk planters, landscaped medians, vegetated swales, permeable paving, and street trees. This guide provides an overview of different strategies that can be employed in transportation rights-of-way at the local or neighborhood scale.

Residential Streets

STORMWATER CURB EXTENSIONS
PERMEABLE PAVING
VEGETATED SWALES

Residential streets offer the greatest potential for building Green Streets in new neighborhoods or retrofitting existing streets because the streets are typically slower, less trafficked, and likely to already have some landscape elements.

These days, it is fairly common for homes to have rain gardens incorporated into their landscaping to collect and store stormwater runoff from rooftops, driveways, and patios. "Rain garden" is the general term used to describe stormwater strategies that use plants and soils to filter, absorb, and slow rainwater on the landscape surface.

Similar types of rain gardens can take various forms within the street right-of-way itself—the edges of the street can be built to allow stormwater to flow into a landscape area, or space within the paved area of the street can be converted to landscape, increasing permeability. Additionally, permeable paving that is durable, load-bearing, and built with an underlying reservoir can temporarily store water prior to infiltration.

In new construction situations, Green Streets can be designed to handle significant volumes of water. In retrofit situations, they can typically handle all of the rain from small storms, while excess water from large storms can overflow into existing storm sewer systems.

Rain gardens are beautiful landscape features that naturally filter runoff and require less maintenance than turf grass.

STORMWATER CURB EXTENSIONS

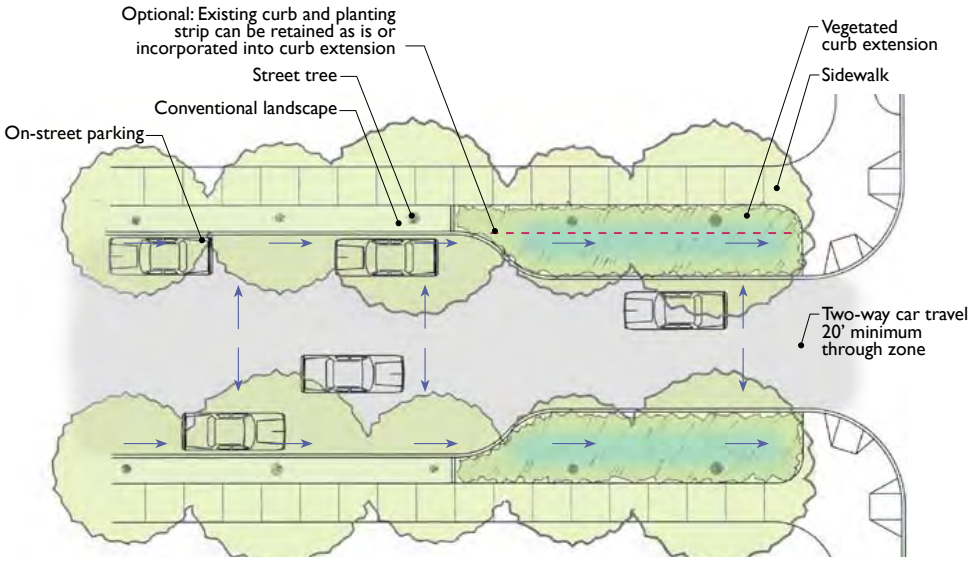
Conventional curb extensions (also known as curb bulb outs, chokers, or chicanes) have been used for decades to enhance pedestrian safety and help in traffic calming.

A stormwater curb extension simply incorporates a rain garden into which runoff flows.


TYPICAL STREET


OPPORTUNITY


IMPLEMENTATION



PERMEABLE PAVING

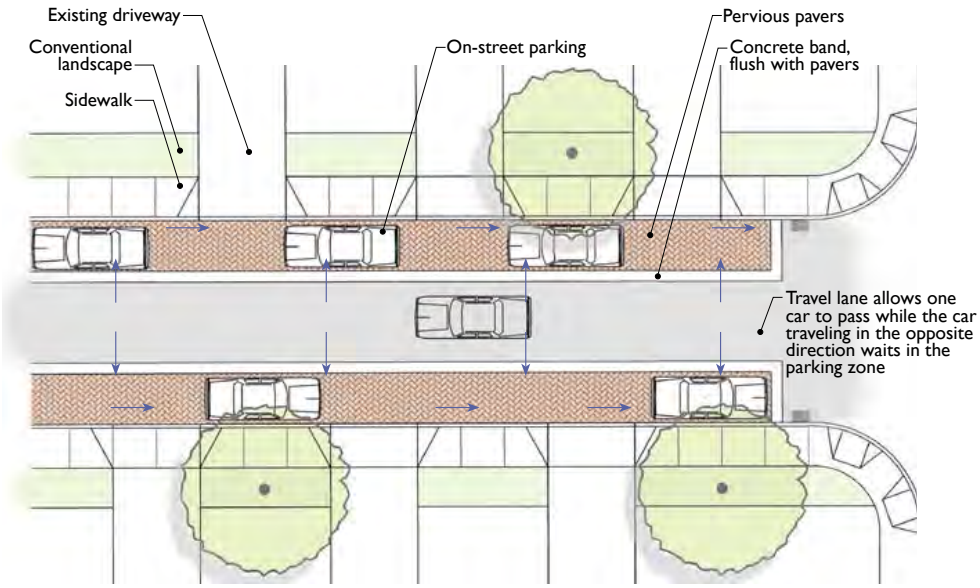
Permeable paving (pavers, or porous asphalt and pervious concrete) in the parking lane converts impervious surfaces to allow stormwater to absorb into the ground, which reduces the amount of runoff without any loss of parking on the street.

The aesthetics of permeable paving can also give the illusion of a narrower street and therefore help calm traffic.


EXISTING


OPPORTUNITY


IMPLEMENTATION



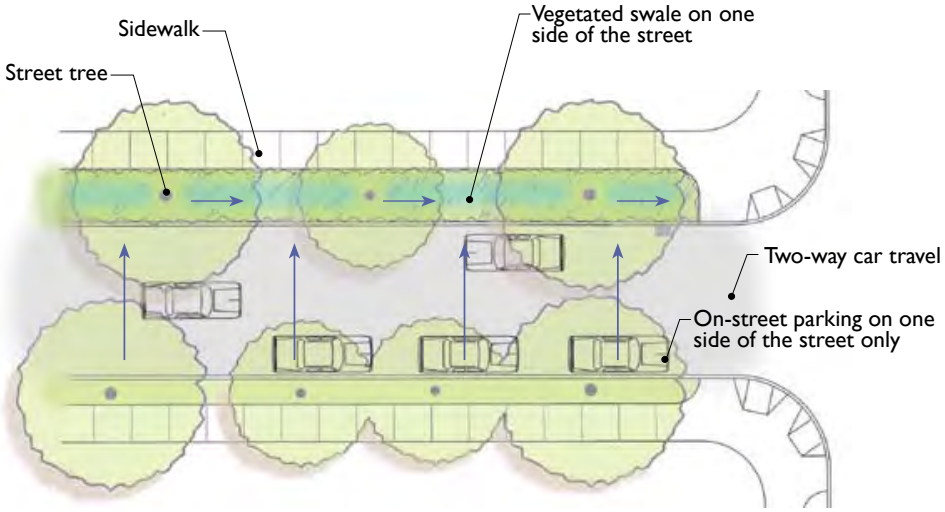
VEGETATED SWALES

Swales are long, shallow vegetated depressions, with a slight longitudinal slope. As water flows through the swale, it is slowed by the interaction with plants and soil, allowing sediments and pollutants to settle out. Water soaks into the soil and is taken up by plants, and may infiltrate further into the ground if the soil is well-drained.


EXISTING


OPPORTUNITY


IMPLEMENTATION



Commercial Streets

STORMWATER PLANTERS
STORMWATER CURB EXTENSIONS
PERMEABLE PAVING

Commercial streets in most urban areas need to accommodate a wide range of users and uses including pedestrians, drivers, bikers, transit riders, on-street parking, outdoor seating, lighting, trees, etc. Because of all these demands, finding space to collect and manage stormwater can at first appear challenging. There are, however, several design options that towns and cities can consider when integrating stormwater mangement into even their most active streets.

The key is thinking creatively in finding space that can accommodate multiple purposes in one space, such as a street tree pit designed to collect runoff, or the curb extensions (also known as "pedestrian bulb outs") at the corners designed to reducing crossing distances for pedestrians that can also contain a rain garden. These design options are more easily accommodated in new streets where the location of underground utilities is considered from the start. More strategic design is necessary for streets with existing utilities. The pay-off of these efforts, though, is a more attractive, walkable street that considerably reduces polluted runoff.

A community's identity is often most evident on its commercial streets. Green Street techniques not only achieve environmental goals but can greatly improve the look and feel of a community.

STORMWATER PLANTERS

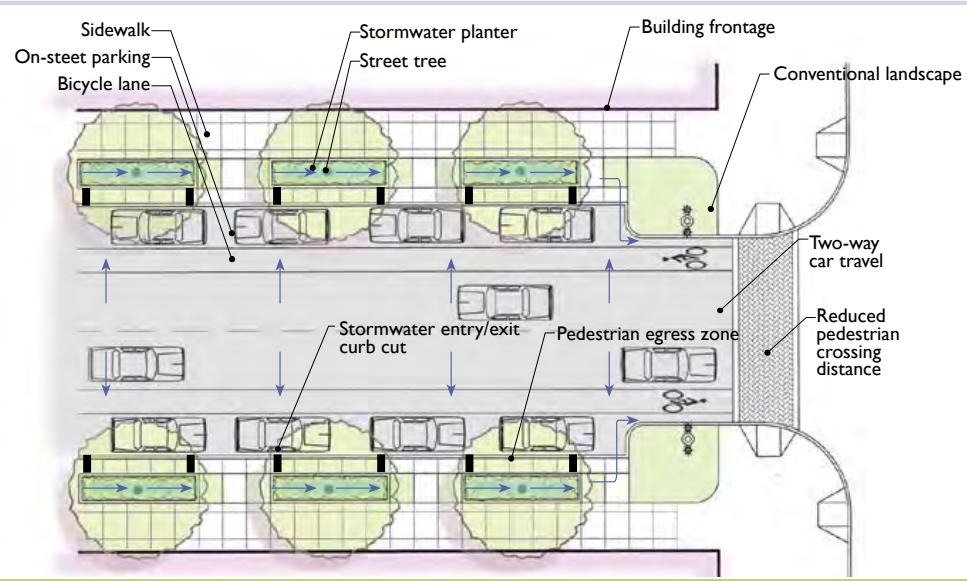
Planters are long, narrow landscaped areas with vertical walls and flat bottoms, typically open to the underlying soil. They allow for more storage volume than a swale in less space.

Water flows into the planter, absorbs into the plants and topsoil, fills to a predetermined level, and then, if necessary, overflows into a storm sewer system. If desired, planters can accommodate street trees.


TYPICAL STREET


OPPORTUNITY


IMPLEMENTATION



STORMWATER CURB EXTENSIONS

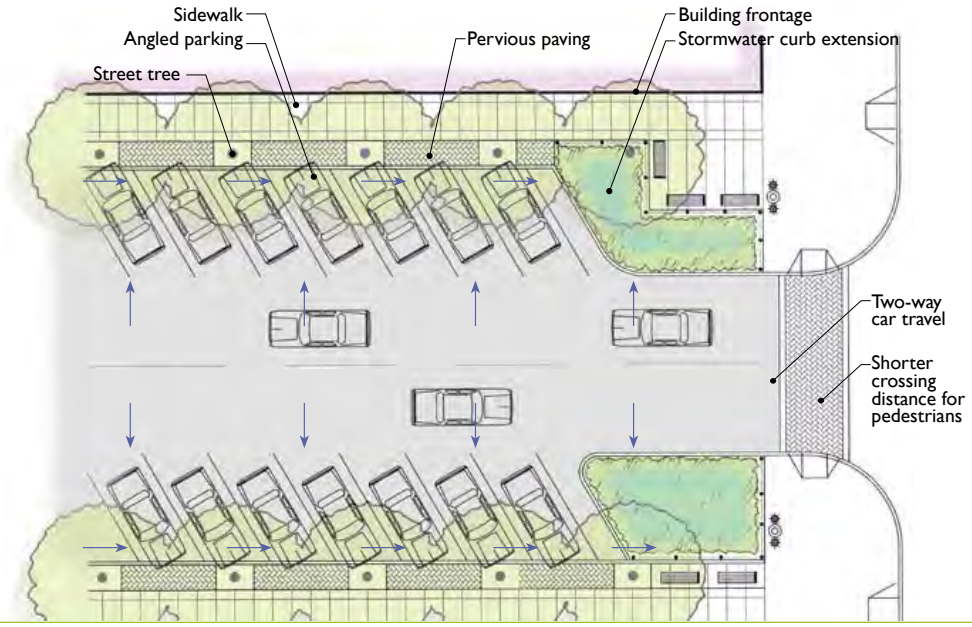
Stormwater curb extensions on commercial streets are similar to those on residential streets. They are rain gardens typically located near the corners that can also provide the pedestrian with a more comfortable crossing.

Curb extensions can also be located mid-block by converting one or more parking spaces.


EXISTING


OPPORTUNITY


IMPLEMENTATION



PERMEABLE PAVING

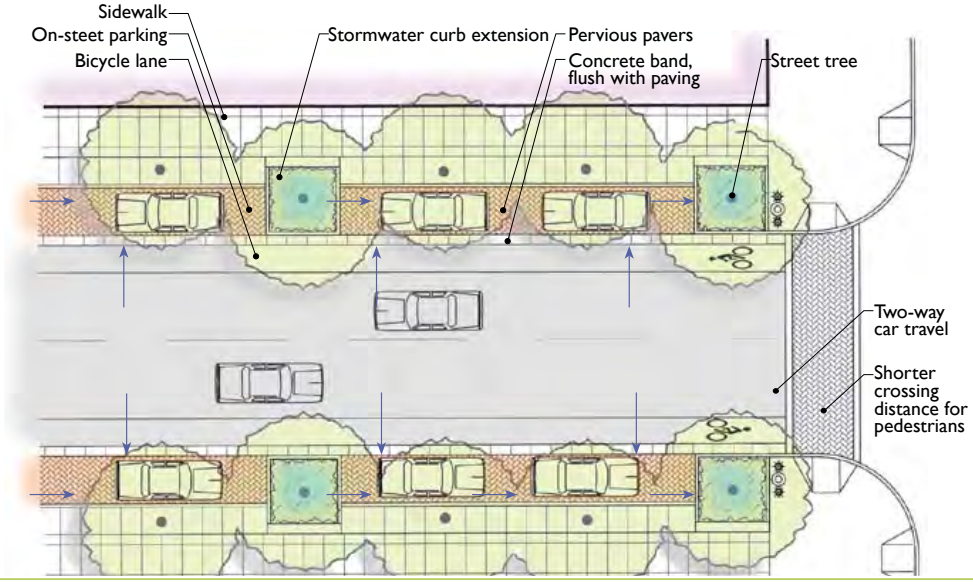
Permeable paving on commercial streets can be incorporated into sidewalks and parking lanes.

Recent advances in permeable paving technologies now make many appropriate for higher speeds or where large, heavy vehicles are expected to be parked—areas such as loading zones and bus stops.


EXISTING


OPPORTUNITY


IMPLEMENTATION



Arterial Streets

VEGETATED SWALES

Arterial streets in towns and cites are often characterized by wide expanses of pavement, little greenery, and little to address pedestrian needs. Should an arterial street already have landscape areas adjacent to the roadway or within grassy medians, then retrofitting these areas to accommodate rainwater will significantly reduce runoff and help protect water quality.

Where adjacent landscape space does not exist, a process of "road dieting" can be undertaken. This involves determining just how much paved surface is necessary to safely manage travel, and how much can be converted to green space. In addition to managing runoff, this is also an opportunity to retrofit the functionality of arterial streets, making them more "multi-modal" by incorporating sidewalks, on-street bike lanes, or landscape-separated bike greenways.

Again, as with residential and commercial streets, though it is easier to plan and design all of these uses into a roadway from the beginning, most arterials present opportunities to incorporate Green Street features, and can be highly successful.

Busy arterials need not only be a conduit for traffic. They have the potential to be attractive, green boulevards that reduce runoff and reinforce a community's identity.

VEGETATED SWALES

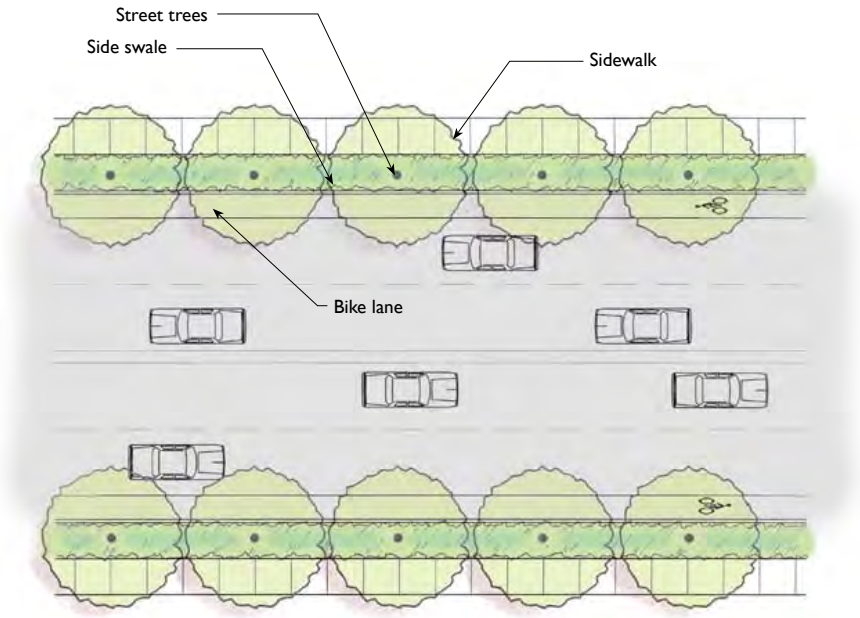
Like residential streets, arterial roadways are good street types for swales because they typically have long, linear stretches of uninterrupted space that can be used to manage stormwater.

Some arterials may not have landscape space in place but do have travel lanes or paved shoulders that can be narrowed to create space for swales.

TYPICAL STREET

OPPORTUNITY

IMPLEMENTATION



Alleys

PERMEABLE PAVING
VEGETATED SWALES

In many towns and cities, alleys comprise a significant amount of impervious surface and are sometimes prone to flooding because they are often not connected to the sewer system. Green Street techniques like vegetated swales and permeable paving effectively reduce and treat runoff, alleviate flooding, and are far less expensive than installing connections to sewers.

Alleys are the "low-hanging fruit" of Green Street design—a good starting point for towns and cities to begin incorporating stormwater management.

PERMEABLE PAVING

Alleys are typically low-speed and low-trafficked streets and therefore suitable locations for using permeable paving. The entire surface could be permeable, or if heavier vehicles are anticipated for loading and unloading, or the alley is "reversed crowned" (sloping toward the center line), then only the middle section needs to be permeable.


TYPICAL ALLEY


OPPORTUNITY


IMPLEMENTATION

VEGETATED SWALES

If the alley is crowned in such a way that water flows to the side, then stormwater can be accommodated by simply greening edges of the alley with swales and planters.

If necessary, water can flow through pipes or covered trenches to allow vehicle access to garages and driveways.


TYPICAL ALLEY


OPPORTUNITY


IMPLEMENTATION

Illustrations and photographs used in this brochure are from the EPA publication *Stormwater Management Handbook–Implementing Green Infrastructure in Northern Kentucky Communities* and were created by Nevue Ngan Associations of Portland, Oregon.

This handbook, as well as other valuable resources, are available at both www.epa.gov/smartgrowth and www.epa.gov/greeninfrastructure.

EPA-833-F-09-002 | August 2009 | www.epa.gov/greeninfrastructure