San Francisco Bay Regional Water Quality Control Board

May 16, 2016

VIA HAND DELIVERY
VIA EMAIL (Response Brief only)

Ryan Mallory-Jones, Esq.
Office of Chief Counsel
State Water Resources Control Board
1001 I Street, 22nd Floor
Sacramento, CA 95814
Ryan.Mallory-Jones@waterboards.ca.gov

Re: State Water Resources Control Board Petitions A-2455(a)-(m)
R2-2015-0049 (San Francisco Bay Municipal Regional Stormwater NPDES Permit)

Dear Mr. Mallory-Jones:

On November 19, 2015, the San Francisco Bay Regional Water Quality Control Board (Regional Water Board) unanimously adopted Order No. R2-2015-0049, reissuing NPDES Permit No. CAS612008, governing discharges from the municipal separate storm sewer systems of 76 jurisdictions and entities. The State Water Resources Control Board (State Water Board) received thirteen petitions for review of the Order. The State Water Board granted an extension to respond to the petitions until May 16, 2016.

The Regional Water Board's response to the petitions is attached to this letter. An electronic version of the Administrative Record is being provided separately to the State Water Board.

Please do not hesitate to contact me with any questions you may have at (510) 622-2395 or at thomas.mumley@waterboards.ca.gov.

Sincerely,

Thomas Mumley
Assistant Executive Officer

Attachments sent separately:
Response to Petition (via email)
Appendix A (via email)
Administrative Record (hand-delivered electronic version)

cc: Interested Parties List

SAN FRANCISCO REGIONAL WATER QUALITY CONTROL BOARD
RESPONSE TO PETITIONS CHALLENGING SAN FRANCISCO BAY MUNICIPAL REGIONAL STORMWATER NPDES PERMIT (MRP 2.0)
(Petitions A-2455(a)-(m))

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I. INTRODUCTION

On November 19, 2015, the San Francisco Bay Regional Water Quality Control Board (Regional Water Board or Board) unanimously adopted Order No. R2-2015-0049, reissuing NPDES Permit No. CAS612008, and governing discharges from the municipal separate storm sewer systems (MS4s) of 76 jurisdictions and entities. The Permit is the fifth generation of municipal stormwater permits in the San Francisco Bay region, and is colloquially referenced as "MRP 2.0." While most requirements of MRP 2.0 are identical to the previous iteration ("MRP 1.0"), the Permit also contains new requirements and implementation alternatives. These provisions incorporate key findings of the State Water Resources Control Board's (State Water Board's) issuance of State Water Board Order WQ 2015-0075 (Order WQ 2015-0075), pertaining to the Los Angeles MS4 (LA MS4).

Compared with the LA MS4 permit, the MRP is even more rigorous and demands even more accountability of Permittees, without sacrificing any of the transparency that the State Water Board requires. In the LA MS4 permit, Los Angeles permittees will comply with the permit through the development of certain plans (EWMPs and WMPs). MRP 1.0 required information-gathering and processing. MRP 2.0 requires much more than the development of plans, setting actual load reductions, numeric effluent limits and mid-term permit requirements. Transparency is not an issue: Permittees will provide annual reports that demonstrate whether they are meeting the permit requirements. For the few management plans required, MRP 2.0 has built in additional public processes to ensure transparency.

As stated in nearly every petition, "the vast majority of MRP 2.0 was not the subject of significant dispute and is a tribute to an otherwise high level of cooperation between [Permittees] and the Regional Board staff." The majority of Permittees' petitions focus on three major issues: 1) the adequacy of monitoring provisions (visual assessments) pertaining to the trash provisions; 2) the adoption of numeric effluent limits (NELs) as opposed to numeric action limits (NALs) for mercury and polychlorinated biphenyls (PCBs); and 3) procedural issues. San Francisco Baykeeper (Baykeeper) has also challenged the adequacy of monitoring provisions and the legality of the "safe harbor."

The Regional Water Board disagrees with each of the contentions raised in the petitions. The State Water Board should uphold MRP 2.0 because it complies with all applicable laws, regulations and policies and the process leading to its adoption was consistent with the Clean Water Act, the Administrative Procedure Act, and due process requirements. MRP 2.0 requires Permittees to meet NELs, implement management practices, and conduct monitoring and reporting to prevent or minimize the discharge of waste and ensure that stormwater discharges do not pollute waters of the United States. The Permit provides Permittees flexibility on how to implement and demonstrate compliance with the Permit. The Permit is responsive to the latest data and information gathered by Permittees over the past two decades of stormwater

regulation as well as the most recent scientific studies. Compliance with MRP 2.0 will result in improvements in water quality conditions and protection of beneficial uses.

II. MRP BACKGROUND

Lessons learned over two decades of managing MS4 discharges through NPDES permits, observing successes from implementation of TMDLs, data accumulation by Permittees and the scientific community, and the distinct physical and regulatory factors present in the San Francisco Bay Region informed the development of this Permit.

A. Permit Development Process.

MRP 2.0 is the culmination of decades of stormwater regulation, beginning in 1990, when the Regional Water Board adopted an NPDES permit for the Santa Clara Valley Nonpoint Source Agencies' stormwater discharges in the Santa Clara Valley. (San Francisco Bay Regional Water Board Order R2-1990-094; see also State Water Board Order WQ 91-03 (*In the Matter of Citizens for a Better Environment*) (*CBE*), pp. 5-19 [summarizing the permit and its history.]) The key characteristics of the 1990 permit, as described in *CBE*, included "area-wide and community-specific source reduction, hydraulic, and treatment-based control measures," including litter ordinances, construction site regulation, increased use of permeable surfaces, increased street sweeping and community cleanups, and other control measures. Not unlike the LA MS4 permit evaluated by the State Water Board in Order WQ 2015-0075, the 1990 permit required dischargers to prepare and submit management plans and then implement the management plans.

In *CBE,* the State Water Board evaluated several environmental groups' petitions, claiming, among other things, that the 1990 permit was defective because it did not include NELs for the regulated discharges of storm water from MS4 systems. (*CBE* at pp. 30-42.) The State Water Board noted that, at that time, the most reasonable way of interpreting the Clean Water Act requirements was "to write permits which seek implementation of water quality standards through the controls which constitute MEP."[1] (*CBE* at p. 41.) At that time, U.S. EPA Region IX concurred, stating that "it would be premature for a municipal storm water permit to include numerical effluent limitations" because "permitting of municipal storm drains is still in its infancy and additional information is necessary to determine the best means for achieving compliance with water quality standards." (*Ibid.*)

Since 1990, the Regional Water Board issued a stormwater permit to the Alameda municipalities in 1991, a Contra Costa county-wide permit in 1993, a San Mateo county-

[1] "MEP" refers to the requirement in Clean Water Act section 402(p)(3)(B)(iii) that municipal stormwater permits "shall require controls to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and system, design and engineering methods, and such other provisions as the Administrator or the State determines appropriate for the control of such pollutants."

wide permit in 1993, a permit for the Cities of Fairfield and Suisun City in 1995, and a permit for the City of Vallejo in 1998. Many of these permits were reissued during the 1990s and early 2000s. Since most issues raised during reissuance of these permits were germane to all of the permits and often re-vetted during reissuance of the separate permits, the Regional Water Board made a decision in the mid-2000s to consider issuance of one permit for all municipalities. A regional permit both streamlines the workload associated with permit issuance and provide a better means of ensuring consistency in permit requirements and accountability mechanisms. It also provides economy of scale opportunities and benefits for municipalities to collaborate and coordinate on compliance efforts and reporting at a regional scale, in addition to a county-wide, watershed, or individual municipality scale.

Regional Water Board staff developed MRP 2.0 over more than two years, providing multiple opportunities for stakeholder input and feedback. The process began in the spring of 2013 when the Regional Water Board staff began discussions with the Bay Area Stormwater Management Agencies Association to engage representatives of the Permittees on the identification and resolution of permit reissuance issues. Those discussions resulted in the formation of the MRP 2.0 Steering Committee, which had its kick-off meeting on July 11, 2013, and the subsequent formation of working groups concerning specific provisions of MRP 2.0. (Items 195-209, Steering Committee Minutes. See also Items 302-306, Trash Committee; Items 378-385, Green Infrastructure Work Group; Items 386-390, Pollutant of Concern Work Group.) Participants on the MRP 2.0 Steering Committee included Regional Water Board staff and representatives of each of the county-wide stormwater programs, who represented all Permittees within the respective counties, and representatives of several municipalities and collectively represent the various types (e.g., population size, location, land-use types) of municipal permittees:

MRP 2.0 Steering Committee - Municipal Participants

Alameda County Clean Water Program (representing all permittees in Alameda County) plus Dublin, Fremont, and Oakland
Contra Costa County Clean Water Program (representing all permittees in Contra Costa County) plus Danville, San Pablo, and Walnut Creek
San Mateo Countywide Water Pollution Prevention Program (representing all permittees in San Mateo County) plus Brisbane, Foster City, San Carlos, Hillsborough, San Mateo (City), and San Mateo County
Santa Clara Valley Urban Runoff Pollution Prevention Program (representing all permittees in Santa Clara County) plus Cupertino, San Jose, and Sunnyvale
Fairfield-Suisun Urban Runoff Management Program (representing Fairfield and Suisun City)

plus Fairfield
Vallejo

US EPA staff also attended some meetings. The Regional Water Board staff had some infrequent contacts with other stakeholders while developing MRP 2.0, notably Save the Bay and San Francisco Baykeeper.

The MRP 2.0 Steering Committee met 13 times in the ensuing months leading up to adoption of MRP 2.0 in November 2015. (Items 195-209, Steering Committee meeting minutes.) These meetings provided opportunities to present reissuance issues and concepts, identify information needs or data gaps to inform permit modifications, and progressively review information, consider alternatives, and seek agreements (or at times agree to disagree, e.g., on the use of action levels or enforceable numeric limits). Summaries of all MRP 2.0 Steering Committee meetings are in the MRP 2.0 Administrative Record. (*Ibid.*)

In addition to the aforementioned stakeholder meetings, the Regional Water Board held a Trash Workshop in December 2014. (See Items 398-402.) Regional Water Board staff subsequently made an informal draft version of MRP 2.0 (Administrative Draft) available to interested parties in January 2015, soliciting feedback by March 2015. (See Items 403-425.) After considering comments received on the Administrative Draft, a tentative order was circulated on May 11, 2015. (Item 433.) The public notice provided a 60-day comment period and included two Regional Water Board hearings, one on June 10, 2015, focused on all parts of the tentative order except for the C.10 Trash Provisions, and one on July 8, 2015, specific to the C.10 Trash Provisions. (Items 427-445.) After consideration of written comments received and oral testimony and Board member questions from the hearings, the Regional Water Board staff public noticed a revised tentative order on October 16, 2015, for further review (Item 449), and a subsequent revised tentative order on November 10 (Item 457). Finally, the Water Board heard oral testimony on the revised tentative order at a hearing on November 18 and 19, 2015, and adopted the final MRP 2.0 on November 19, 2015. (Items 449-473, November 18-19, 2015, hearing documents.)

B. Permit Requirements and Compliance Mechanisms

MRP 2.0 meets the State Water Board's test of rigor, transparency and accountability. (Order WQ 2015-0075, at pp. 79-80.) Like the LA MS4 permit, MRP 2.0 complies with NPDES regulations and is a "rigorous and transparent watershed-based approach that emphasizes low impact development, green infrastructure, multi-benefit projects, and capture, infiltration, and reuse of storm water." (*Ibid.*) MRP 2.0 provides a "promising long-term approach to addressing the complex issues involved." (*Ibid.*) The permit provides an approach that is responsive to Permittees' concerns, but has sufficient structure and accountability to satisfy NPDES regulations and environmental concerns.

A key attribute of MRP 1.0, issued in 2009, is that it included specific output or outcome-based requirements in the permit rather than reference to and reliance on stormwater

management plans developed by municipalities. Prior to MRP 1.0, permits used a management plan-based approach, requiring municipalities to develop plans describing what actions and controls they would implement to reduce pollutants to the maximum extent practicable in the various program elements called for in the permits (e.g., municipal facilities and operations, control of industrial and commercial facility and construction site runoff, and new and redevelopment runoff). Permit compliance was based on compliance with commitments made in the plans. This required recurring review and approval of over 70 plans, which often lacked sufficient specificity or included only vague commitments that made compliance evaluations and enforcement very difficult.

The plan-based permits also posed compliance reporting challenges, resulting in large, cumbersome annual reports that were resource intensive for municipalities to produce and for Regional Water Board staff to review. Although all of the plans had common elements and similar commitments, the degree of specificity varied among the individual plans.

To develop MRP 1.0, Regional Water Board staff worked with all municipalities to identify the common actions and controls in the plans and translated them into specific permit requirements in provisions for each of the base program elements. The resulting requirements specified applicability, scope, and minimum levels of effort required of actions and controls based on practicability, effectiveness, and costs of the actions and controls. As hoped, the resulting requirements also provided a tangible means of tracking and evaluating compliance with requirements and significantly reduced the burden of producing and reviewing annual reports.

The latest permit – MRP 2.0 – retains most of the baseline program elements from MRP 1.0, with some minimal adaptions and modifications to require more targeted measures with documented success. The Permit provides minimum implementation levels (measurable outcomes), but allows Permittees flexibility to take into account the size of their respective jurisdictions and resources available to each.

1. Specific Pollutants of Concern Requirements

A key feature of MRP 2.0 is that it includes requirements for specific pollutants of concern. These include: Provision C.9 - Pesticides Toxicity Control; Provision C.10 - Trash Load Reduction; Provision C.11 – Mercury Controls; Provision C.12 – PCBs Controls; Provision C.13 – Copper Controls; and Provision C.14 – Bacteria Controls (applicable only to the City of Pacifica and San Mateo County in the Pacifica State Beach/San Pedro Creek watershed). These provisions include water quality-based requirements for the municipalities to manage their contributions to violations or to prevent violations of water quality standards in receiving waters. As such, each of these provisions establishes a path to compliance with associated receiving water limitations. These requirements are a direct outgrowth of knowledge and experience with the presence of these pollutants in receiving waters (e.g., San Francisco Bay segments and urban tributaries) based on monitoring and special studies conducted by the San

Francisco Bay Regional Monitoring Program, required monitoring from previous permits, special studies conducted by municipalities, and other studies conducted by the San Francisco Estuary Institute.

Provision C.9, Provision C.11, Provision C.12, and Provision C.14 also implement associated wasteload allocations in a manner directed by and consistent with the total maximum daily load (TMDL) implementation plans adopted into the Basin Plan. These include TMDLs for Diazinon and Pesticide-Related Toxicity in Bay Area Urban Creeks, Mercury in San Francisco Bay, PCBs in San Francisco Bay, and Bacteria in San Pedro Creek and Pacifica State Beach. As described in the MRP 2.0 Fact Sheet sections for each of these specific pollutant of concern provisions, the TMDL implementation plans direct what must be included in a municipal stormwater NPDES permit that implements the wasteload allocation, including whether, and the extent to which, phased and adaptive implementation is allowed. (Item 467.)

There is no TMDL for copper, but the Provision C.13 copper control requirements are consistent with the pollution prevention requirements in the Basin Plan's implementation program for the San Francisco Bay copper site specific water quality objections. There was also no trash TMDL when MRP 1.0 or MRP 2.0 was adopted, but waters throughout the region that receive MS4 discharges covered by the MRP are impaired or threatened by trash. Consequently, the Water Board included trash requirements in MRP 1.0 and continued, adapted, and refined those requirements in MRP 2.0. The trash requirements are at least as stringent as those required by the recently-approved State Water Board Amendments to the Water Quality Control Plan for Ocean Waters of California (Ocean Plan) to Control Trash and Part 1 Trash Provision of the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries (Trash Amendments) (Items 601 and 602). Formal confirmation that the MRP 2.0 requirements are consistent with and implement the Trash Amendments will occur during the term of MRP 2.0 or when it is reissued.

The following table provides a comparison of the MRP 1.0 and MRP 2.0 pollutants of concern requirements and illustrates that MRP 2.0 requirements are equivalent to or more stringent them MRP 1.0 requirements.

Comparison of MRP 1.0 and MRP 2.0 Pollutants of Concern Requirements

Pollutant Provision	MRP 1.0	MRP 2.0
Pesticides Toxicity C.9	• Adopt and Implement Integrated Pest Management (IPM) Policy or Ordinance	• Maintain and Implement IPM Policy or Ordinance
	• Train Municipal Employees	• Train Municipal Employees
	• Require Contractors to Implement IPM	• Require Contractors to Implement IPM
	• Track and Participate in Relevant (Pesticide) Regulatory Processes	• Track and Participate in Relevant (Pesticide) Regulatory Processes
	• Interface with County Agriculture	• Interface with County Agriculture

Comparison of MRP 1.0 and MRP 2.0 Pollutants of Concern Requirements

Pollutant Provision	MRP 1.0	MRP 2.0
	Commissioners • Evaluate Source Control Actions • Public and pest control professionals outreach	Commissioners • Evaluate Source Control Actions • Public and pest control professionals outreach
Trash Load Reduction C.10	• Attain trash load reduction →40% by 2014 →70% by 2017 →100% by 2022 • Short-Term Trash Load Reduction Plans and Baseline Trash Load and Trash Load Reduction Tracking Method (including visual assessments) due Feb 2014 • Minimum full trash capture by 2014 in area = 30% of retail/ wholesale land use area • Minimum number of trash hot spot cleanups • Long-Term Trash Load Reduction Plans due Feb 2014	• Attain trash load reduction →60% by 2014 (action level) →70% by 2017 →80% by 2019 →100% by 2022 • Maintain minimum full trash capture in area = 30% of retail/ wholesale land use area • Demonstrate trash reduction outcomes →Documentation of full trash capture design, operation, and maintenance →Visual assessment of outcomes of other actions →Up to 10% reduction value for source controls →Develop and test receiving water monitoring program • Minimum number of trash hot spot cleanups • Maintain trash load reduction plans • Optional load reduction offsets for →Additional creek and shoreline cleanups →Direct (non-MS4) discharge controls
Mercury Controls C.11	• Conduct pilot implementation projects →5 to abate mercury sources →5 on enhanced MS4 operation and maintenance →10 stormwater treatment retrofit systems →5 diversion of dry weather and first flush flows to municipal wastewater treatment plants	• Identify watersheds and submit implementation plan by September 2016 for mercury controls that will be implemented during permit term • Development and implement load reduction assessment methodology using accounting system described in the Fact Sheet or an alternative by September 2017 • Plan and implement green

Comparison of MRP 1.0 and MRP 2.0 Pollutants of Concern Requirements

Pollutant Provision	MRP 1.0	MRP 2.0
	• Monitor Mercury loads and loads reduced • Develop risk reduction program	infrastructure →Aggregate reduction of 48 g/year divided among county permittees by June 2020 • Prepare and submit plan by September 2020 of mercury control measures with reasonable assurance analysis to attain TMDL wasteload allocations by 2028 • Study SF Bay fate and transport of mercury in urban runoff • Implement risk reduction program
PCBs Controls C.12	• Pilot project to management PCBs-containing building demolition waste • Pilot Implementation Projects →5 to abate mercury sources →5 on enhanced MS4 operation and maintenance →10 stormwater treatment retrofit systems →5 diversion of dry weather and first flush flows to municipal wastewater treatment systems • Monitor PCB loads and loads reduced • Study SF Bay fate and transport of PCBs in urban runoff • Develop risk reduction program	• Manage PCBs-containing building demolition waste by July 2019 (= 2000 g/year benefit) • Identify watersheds and submit implementation plan by September 2016 for PCB controls that will be implemented during permit term →Aggregate reduction of 500 g/year divided among county permittees by June 2018 →Aggregate reduction of 3000 g/year divided among county permittees by June 2018 (includes 2000 g/year benefit of demolition waste management) • Development and implement load reduction assessment methodology using accounting system described in the Fact Sheet or an alternative by September 2017 • Plan and implement green infrastructure →Aggregate reduction of 120 g/year divided among county permittees by June 2020 (part of total reduction of 3000 g/year) • Prepare and submit plan by September 2020 of mercury control measures with reasonable assurance analysis to attain TMDL

Comparison of MRP 1.0 and MRP 2.0 Pollutants of Concern Requirements

Pollutant Provision	MRP 1.0	MRP 2.0
		wasteload allocations by 2030 • Manage PCBs-containing building demolition waste • Study SF Bay fate and transport of PCBs in urban runoff • Implement risk reduction program

2. Alternative Path to Compliance with Discharge Prohibitions and Receiving Water Limitations for Certain Pollutants and Conformance with Order WQ 2015-0075

MRP 2.0, like MRP 1.0, goes beyond requiring an open-ended, iterative approach to compliance with water quality standards by including pollutant-specific provisions with numerical or narrative water quality based effluent limitations (WQBELs) and with milestones and deadlines. Provision C.1 provides a bridge between the MRP 2.0 receiving water limitations, which state that discharges shall not cause or contribute to a violation of any applicable water quality standard, and the pollutant-specific provisions: Provisions C.9 (Pesticides), C.10 (Trash), C.11 (Mercury), C.12 (PCBs), and C.14 (Bacteria in the Pacifica State Beach/San Pedro Creek watershed). These pollutant-specific provisions specify enforceable requirements that Permittees must meet during the term of MRP 2.0 to manage discharges of the specific pollutants.

Order WQ 2015-0075 directs regional water boards to consider reasonable alternative compliance options for meeting receiving water limitations. Order WQ 2015-0075 specifically identifies a suite of principles regional water boards must consider when issuing a municipal stormwater permit with an alternative compliance option, unless a regional water board makes a specific showing that application of a given principle is not appropriate for region-specific or permit-specific reasons. (Order WQ 2015-0075 at pp. 51-52.) MRP 2.0 provides alternative compliance paths for specific pollutants via the aforementioned pollutant specific provisions (C.9, C.10, C.11, C.12, and C.14) that meet the Order WQ 2015-0075 directive. MRP 2.0 conforms with each of the principles:

Principle 1: The receiving water limitations provisions of Phase I MS4 permits should continue to require compliance with water quality standards in the receiving water and should not deem good faith engagement in the iterative process to constitute such compliance. The Phase I MS4 permits should therefore continue to use the receiving water limitations provisions as directed by State Water Board Order WQ 99-05.

Conformance: MRP 2.0 continues to use the receiving water limitations provisions as directed by State Water Board Order WQ 99-05.

Principle 2: The Phase I MS4 permits should include a provision stating that, for water body-pollutant combinations with a TMDL, full compliance with the requirements of the TMDL constitutes compliance with the receiving water limitations for that water body-pollutant combination.

Conformance: MRP 2.0 Provisions C.9, C.11, C.12, and C.14 implement associated wasteload allocations in a manner directed by and consistent with the TMDL requirements specified in the implementation plans adopted into the Basin Plan for and with TMDLs associated with these provisions. MRP 2.0 Provision C.1 states that compliance with Provisions C.9, C.10, C.11, C.12, and C.14 shall constitute compliance during the term of MRP 2.0 with receiving water limitations for the pollutants and the receiving waters identified in the provisions. Although there is no approved TMDL for trash in the San Francisco Bay region, the MRP 2.0 Provision C.10 requirements for trash control meet the requirements of the Trash Amendments to the Ocean Plan and the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California (collectively, "Trash Amendments"), which became effective post MRP 2.0 adoption.[2] (Item 601.)

Principle 3: Phase I MS4 permits should incorporate an ambitious, rigorous, and transparent alternative compliance path that allows Permittees appropriate time to come into compliance with receiving water limitations without being in violation of the receiving water limitations during full implementation of the compliance alternative.

Conformance: MRP 2.0 Provisions C.9, C.10, C.11, C.12, and C.14 each provide an alternative compliance path and schedule based on implementation of controls to reduce the specific pollutants in discharges to the maximum extent practicable. The associated numerical and narrative WQBELs (shown in the above table that provides a comparison of the MRP 1.0 and MRP 2.0 for Provisions C.9, C.10, C.11, and C.12 requirements) are enforceable requirements that reflect results that should be attainable through implementation of practicable actions at levels that will require aggressive efforts by the Permittees. As such, the requirements should provide a basis for municipalities to seek out new resources, reevaluate existing resources, and generate revenue for stormwater management. Concerns expressed by Permittees in comments on these provisions indicate that Permittees consider these alternative compliance paths ambitious and rigorous.

With respect to the requirements for transparency, each of the alternative compliance provisions includes requirements for progress reports and deliverables throughout the term of MRP 2.0. Finding 17 of MRP 2.0 states that the Water Board will notify interested parties of the availability of reports, plans, and schedules, including annual reports, and will provide interested parties with an opportunity for a public hearing and/or an opportunity to submit their written views and recommendations. This finding has been part of every municipal permit issued by the Regional Water Board, and it has now become standard practice to post all required reports and submittals on the

[2] State Water Board adopted the Trash Amendments on April 7, 2015; California Office of Administrative Law and U.S. EPA approved the Trash Amendments on December 2, 2015, and January 12, 2016, respectively.

Regional Water Board web page and to notify interested parties of their availability and to solicit comments on them.

Principle 4: The alternative compliance path should encourage watershed-based approaches, address multiple pollutants, and incorporate TMDL requirements.

Conformance: MRP 2.0 allows or calls for watershed-based approaches at various watershed scales and consideration of multiple pollutants where appropriate. As previously discussed, the pollutant-specific provisions incorporate TMDL requirements.

The Provision C.9 (Pesticides) requirements are applicable throughout the MRP 2.0 footprint, since impairment or threat of impairment applies to all urban creeks in the region. This means that all municipalities must implement actions to control their uses of pesticides, but MRP 2.0 allows them to implement pesticide regulatory and public outreach actions at the county-wide or regional scale. Also, the Pesticides Provision applies to all relevant urban-use pesticides, not just those currently on the 303(d) list of impaired waters.

The Provision C.10 (Trash) requirements require municipalities to reduce trash discharges at the watershed scale, and implement an assessment freamework that best reflects the areas of trash generation and the applicability and effectiveness of trash controls.

The Provision C.11 (Mercury) and C.12 (PCBs) requirements are designed to be implemented in an integrated manner since most controls that reduce PCBs in discharges will also reduce mercury and will likely reduce other contaminants such as dioxins, legacy pesticides, polycyclic aromatic hydrocarbons, and some pollutants of emerging concern. The provisions also direct municipalities to implement controls in specific watersheds while encouraging or allowing them to implement controls at the municipal, county-wide, or regional scale. The Provision C.11 and C.12 requirements are also based on the premise that the most effective load reduction solutions are drainage-area watershed based green infrastructure plans.

The Provision C.14 (Bacteria) requirements for bacteria are specific to Pacifica and San Mateo County in the San Pedro Creek and Pacifica Beach watershed and are based on the current understanding of sources and pathways of bacteria in storm drain system discharges in the watershed.

Principle 5: The alternative compliance path should encourage the use of green infrastructure and the adoption of low impact development principles.

Conformance: MRP 2.0 Provision C.3 (New Development and Redevelopment) requirements include the requirement (C.3.e) that all municipalities must develop and implement green infrastructure plans based on low impact development principles. The Provisions C.11 and C.12 alternative compliance path requirements explicitly require short-term load reductions using green infrastructure and require long-term load reduction plans for load reductions that can only be met by widespread implementation of green infrastructure. The C.9 (Pesticides), C.10 (Trash), and C.14 (Bacteria) requirements are primarily based on source controls (or also full trash capture systems

for trash). Low impact development green infrastructure will also have some pesticides, trash, and bacteria load reduction benefits. Provision C.10 recognizes that certain green infrastructure systems may also qualify as a full trash capture system as a further means of encouraging use of green infrastructure.

Principle 6: The alternative compliance path should encourage multi-benefit regional projects that capture, infiltrate, and reuse stormwater and support a local sustainable water supply.

Conformance: None of the MRP 2.0 alternative compliance path provisions (C.9 through C. 12 and C.14) explicitly encourage multi-benefit regional projects that capture, infiltrate, and reuse stormwater and support a local sustainable water supply. However, the requirement to capture, infiltrate, and reuse stormwater is an explicit part of the Provision C.3 (New Development and Redevelopment) low impact development requirements (C.3.c) that municipalities will use in part to meet mercury and PCBs load reduction requirements (C.11 and C.12). In addition, Provision C.3.c allows use of offsite (watershed-based regional) low impact development facilities in lieu of site-based low impact development systems, and the Provision C.3.e green infrastructure requirements provide the option to consider regional systems to capture, infiltrate, and reuse stormwater.

Principle 7: The alternative compliance path should have rigor and accountability. Permittees should be required, through a transparent process, to show that they have analyzed the water quality issues in the watershed, prioritized those issues, and proposed appropriate solutions. Permittees should be further required, again through a transparent process, to monitor the results and return to their analysis to verify assumptions and update the solutions. Permittees should be required to conduct this type of adaptive management on their own initiative without waiting for direction from the regional water board.

Conformance: Each of the pollutant-specific provisions contains concrete milestones and deadlines and reporting requirements that provide rigor and accountability. All reports, plans, and other required submittals will be made available to all interested parties and input and feedback from interested parties will be considered in the evaluation of all submittals. (Item 467, San Francisco Bay Region Order R2-2015-0049, Finding 17, p. 4.)

Provisions C.10, C.11, C.12, and C.14 have explicit requirements (C.10.b, C.11.b, C.12.b, C.14.b, and C.14.c) to track and assess effectiveness of controls. In addition, Provision C.8 includes monitoring requirements to assess water body and watershed conditions and effectiveness of control actions towards attainment of water quality standards and to inform selection and implementation of new control actions or adaptive improvements of control actions.

Consistent with the TMDLs, more time than the MRP 2.0 permit term likely will be necessary to attain water quality standards for mercury, PCBs and bacteria in San Pedro Creek. In these cases, the respective provisions (C.11.d, C.12.d, C.14.b, and C.14 c) include an additional requirement for the Permittees to submit a proposed plan

of additional or improved control actions and schedule of implementation to attain water quality standards or TMDL wasteload allocations for the Water Board's consideration of numerical or narrative WQBELs in the subsequent permit. Provision C.10 includes a requirement (C.10.d) for municipalities to maintain trash load reduction plans to attain load reduction requirements.

III. STANDARD OF REVIEW

Baykeeper correctly summarizes the State Water Board's role in reviewing petitions regarding MRP 2.0. Water Code section 13330, subdivision (e) states that Code of Civil Procedure section 1094.5 "shall govern proceedings for which petitions are filed pursuant to this section." The Regional Water Board's action must be "based on substantial evidence." (State Water Board Order WQ 86-16 (*Stinnes-Western Chemical Corp.*), p. 11; see also State Water Board Order WQ 85-7 (*Exxon Co., U.S.A.*), pp. 11-12 [substantial evidence "means credible and reasonable evidence"].) Finally, we concur with Baykeeper's citation to the California Supreme Court's requirement "that the agency which renders this challenged decision must set forth findings to bridge the analytic gap between the raw evidence and ultimate decision or order." (Baykeeper, p. 9, citing *Topanga Ass'n for a Scenic Cmty v. County of San Diego* (1974) 11 Cal.3d 506, 515.)

The Regional Water Board parts ways with Baykeeper's conclusion that two decades of data collection underlying MRP 2.0, including data specific to Permittees and pollutants at issue in MRP 2.0, is somehow deficient. Baykeeper claims that the Regional Water Board has abused its discretion, acted arbitrarily and capriciously and that insufficient evidence supports the findings and thus the MRP 2.0 requirements. (See, e.g., Baykeeper, pp. 2, 9.) Far from being "arbitrary and capricious," the Permit, Fact Sheet and Administrative Record demonstrate a thoughtful, considered, data-based decision linking substantial evidence with findings and, ultimately, to Permit requirements. (See Appendix A, Table of Substantial Evidence Supporting Permit Provisions.) To the extent the State Water Board can find any deficiency with the MRP 2.0 Provisions, the Regional Water Board will accept State Water Board guidance.

IV. SPECIFIC RESPONSES TO PERMITTEES' CONTENTIONS

In an effort to provide a meaningful, streamlined response, this response document addresses contentions from all of the petitions together, where appropriate, and by topic. The following permittees are enrolled in MRP 2.0 and have filed petitions: City of Alameda, City of Union City, Albany, City of Newark, City of Hayward, Dublin, Berkeley, City of San Leandro, County of Alameda, City of Oakland, Santa Clara Valley Urban Runoff Pollution Prevention Program, San Mateo Countywide Water Pollution Prevention Program and City of San Jose (collectively "Permittees").

- The following permittees submitted virtually verbatim petitions with only minor, non-substantive modifications: City of Alameda, City of Union City, Albany, City

of Newark, City of Hayward, Dublin, Berkeley, City of San Leandro, County of Alameda, City of Oakland. To simplify references to these petitioners' arguments, the Response refers only to page references in the City of Alameda's petition.

- Santa Clara Valley Urban Runoff Pollution Prevention Program and San Mateo Countywide Water Pollution Prevention Program (collectively "Santa Clara") have separately briefed many of the same arguments. To the extent the arguments are the same, they are incorporated in references to City of Alameda's petition. Where Santa Clara raises additional issues or nuances, the Response cites to "Santa Clara," and page references are from the Santa Clara petition.

- The City of San Jose (San Jose) has incorporated by reference, and also is included in, the reference to "Santa Clara." Where San Jose raises additional issues, the Response cites to "San Jose."

- In addition, the Response references City of San Leandro and Dublin collectively as "San Leandro" with respect to a few unique points related to the Mercury and PCB section. Page references refer to the City of San Leandro's brief, but the two petitions are virtually identical on this point.

- Dublin provides additional comments concerning the fairness of the PCB requirements, which are referenced as "Dublin" with page references corresponding to the City of Dublin's petition.

- City of Dublin and City of San Leandro (Cities) submitted amended petitions in letters to the State Water Board dated February 10, 2016. Those same letters withdrew several issues. Although the State Water Board has granted the Cities' request to withdraw issues, it has not stated whether it will consider the addenda. Pursuant to Water Code section 13320, subdivision (a), the Cities' petitions for review of MRP 2.0 were due within 30 days of the Regional Water Board's action. The Cities admit that the addenda "do[] not introduce any new issues or evidence" (San Leandro letter, at p. 2; Dublin letter at p. 3), and both issues related to briefing already under submission by numerous other Permittees. In these circumstances, the State Water Board should decline to consider the additional evidence. (Cal. Code Regs., tit. 23, § 2050.5, subd. (a).) For these reasons, the Regional Water Board has not responded to the additional facts in the supplemental briefing, but respectfully requests the opportunity to do so in the event the State Water Board wishes to consider or rely upon the additional information the Cities submitted.

A. Trash Monitoring

Numerous Permittees argue that the record lacks documentation that the visual assessment protocol is an accurate and reliable method for determining compliance, and further contend that the visual assessment requirements are unreasonable and inappropriate. (Alameda, pp. 12-13.) In fact, the history of the development and use of the visual assessment protocol validates the use of this method as a reliable means of

determining compliance. To the extent Permittees wish to develop and use an alternate method, MRP 2.0 provides that flexibility.

MRP 1.0 was the Regional Water Board's first foray into permit requirements to reduce trash, including a requirement to reduce trash loads by 40% by 2014. (Item, 503, San Francisco Bay Region Order R2-2009-0074, Provision C.10, p. 92.) This presented some novel challenges to Permittees. First, Permittees had to document a trash load baseline. In other words, to determine there had been a 40% reduction, Permittees needed to answer the question, "What is the baseline load that will be reduced by 40%?" Subsequently, Permittees had the challenge of documenting the actual reductions in trash loads from that baseline number.

The first attempt to develop a baseline involved Permittees' collection of trash from full trash capture devices installed in a variety of land use areas in numerous cities. The theory was that Permittees would collect sufficient data points to determine what amount of trash was generated per acre per land use type per year. This was a monumental effort. Permittees installed hundreds of trash capture devices, expended staff time and resources to gather data to develop a baseline. Using these data, the Permittees produced individual Short-Term Trash Load Reduction Reports (Items 307-377), and the Bay Area Stormwater Management Agencies Association (BASMAA) submitted a Trash Load Reduction tracking Method Plan (Item 187) and Baseline Trash Load Generation Rates Report (Item 186). The data, however, had enormous variability – up to four orders of magnitude. (Items 191, 193.) The averaged data used to generate baseline trash load estimates were too unreliable to enable predictable management decisions about trash source control actions or document actual trash reduction. (*Id.*) Because of deficiencies in the reports and plans, the Regional Water Board staff rejected the proposed baselines and required Permittees to develop a time schedule and submit revised reports and plans. (Item 193, Board Staff Comments on Trash Plans and Reports (June 7, 2012).) The Regional Water Board and staff pushed Permittees to develop a more reliable means of demonstrating baselines and effectiveness of trash management actions. (Items 186-194 [documents regarding the revised approach to trash]; and Items 210-219 [documents regarding the November and December 2013 hearings].)

Over the following year, Permittees worked on a different approach, developing trash generation maps based on visual assessments. Visual assessments involve the simple and straightforward practice of observing and recording the visual impression of the trash and litter on the streetscape, particularly the curb, gutter, and sidewalk area, which has a high potential to wash off into the storm drain system with stormwater runoff. (Item 212, staff presentation [containing slides demonstrating the visual assessment methodology].) The visual impression is recorded photographically and categorized as one of four conditions from clean to very littered, A through D. (*Id.*) Visual assessments may be combined with other ongoing efforts already performed by municipal employees, such as trash pick-up or street-sweeping, to ensure visual assessments are standardized and routine.

Under the revised methodology, in areas where Permittees installed full capture devices, no visual assessments were necessary. Where Permittees did not have full

trash capture, they would perform visual assessments to evaluate the type of land (e.g., residential, commercial or industrial) and amount of trash in those areas. Over time, using the visual assessment protocols allowed Permittees to target measures like street sweeping and evaluate the effectiveness of other measures like plastic bag bans. This approach to determining the effectiveness of trash reduction measures on the urban landscape was developed in collaboration with the Permittees, many of whom formally proposed it in their Long Term Trash Reduction Plans submitted February 1, 2014. (Item 301, BASMAA Draft On-land Visual Trash Assessment Protocol and Items 225-300, Long Term Plans submitted in Feb 1, 2014.)[3]

By the end of the MRP 1.0 permit term, all Permittees had developed and are now using a form of visual assessment to develop trash generation maps, which have been useful in determining the largest sources of trash in each area, and allowing municipalities to prioritize response actions such as increased street sweeping, requiring local proprietors to do more to control trash around businesses with a greater incidence of trash, and targeting high trash generation areas for more aggressive approaches, including installation of full trash capture devices. (Items 225-300, Long Term Plans and Items 103-185, 2013-2014 Annual Reports [demonstrating trash load reductions] and Items 604-649, 2014-2015 Annual Reports [same].) MRP 2.0 accepted Permittees' proposed protocol and Provision C.10 reflects the adapted methodology. (Item 467, Order R2-2015-0049, Provision C.10.b [Demonstration of Trash Reduction Outcomes], pp. 99-102.)

Permittees have performed the visual assessment methodology for a few years now. They have hundreds, if not thousands, of datapoints and associated trash generation maps that demonstrate the success of this method. (Items 225-300, Long Term Plans.) It is disingenuous for Permittees to argue the method is unreliable or inaccurate, when they developed this method in response to the requirement to "provide a means to account for trash load reduction actions and a means to demonstrate progress toward attainment of trash load reduction levels." (Item 193, Water Board Staff Review of Trash Plans and Reports (June 7, 2012), at p. 4.)

The State Water Board has recommended adoption of this approach statewide:

> Because the Los Angeles and San Francisco studies teach that prioritization of the areas with the highest trash generation rates will substantially reduce the discharge of trash to surface waters while maximizing the allocation of trash control resources, this approach is recommended.

(Item 601, Final Staff Report for Trash Amendments (April 7, 2015), p. 78.) MRP 2.0 allows Permittees to propose alternative means of documenting the trash load baseline and reduction. (Item 467, Order R2-2015-0049, Provision C.10.b.ii.b.iv, p. 100.) Provision C.10 allows Permittees to "put forth substantive and credible evidence that certain management actions or sets of management actions when performed to a

[3] This is similar to the State Water Board Trash Amendments' monitoring requirements. (Item 601, Trash Amendments, pp. D-8 – D-9.

specified performance standard yield a certain trash reduction outcome reliably." (*Ibid.*) If this evidence is accepted, the Permittees may claim a similar trash reduction outcome by demonstrating that they have performed these trash reduction actions within certain trash management areas to the same performance standard. Although Permittees have expressed resistance to the visual assessment methodology, to date, none have suggested any monitoring alternative that will provide a comparable assessment of the success of trash reduction measures in each municipality. Other alternatives, such as implementing full trash capture at every stormwater inlet, would significantly increase the costs of trash reduction, potentially adding cost without benefits.

B. Numeric Effluent Limits

Permittees challenge the use of numeric effluent limits (NELs), as opposed to Numeric Action Levels (NALs) on both substantive and procedural grounds. MRP 2.0 set specific load reduction requirements for mercury and PCBs in Provisions C.11 and C.12, respectively. These requirements are consistent with the Basin Plan requirements for implementing the wasteload allocations of the San Francisco Bay Mercury and PCBs TMDLs. Contrary to Permittees' claims, directly enforceable NELs are consistent with the State Water Board's most recent precedential order on this subject, the Expert Panel's conclusions regarding the use of NELs in stormwater permitting, and U.S. EPA's most recent guidance memorandum on implementing TMDL requirements in municipal stormwater permits.

1. NALs Would Be Less Effective Than NELs

Permittees claim that, contrary to State Water Board conclusions, Regional Water Board staff informed the Regional Water Board that NALs are not effective regulatory mechanisms. (Alameda p. 15; Santa Clara p. 10.) As discussed below, staff's statements are consistent with State Water Board orders, the Expert Panel's conclusions on the use of NELs, and U.S. EPA guidance. In objecting to the use of NELs, Permittees disregard the historical use and intent of NELs versus NALs.

NALs are useful tools when applied to an "end-of -pipe" measurement, as in the Industrial General Permit which requires monitoring of effluent water quality. In that case, an NAL will indicate if the effluent is "too dirty" and the discharger must take further action to improve it.

The NELs adopted in MRP 2.0 are not traditional NELs. Historically, an NEL was a concentration or mass-based load limit imposed at a point of discharge for which compliance is determined based on direct measurement(s) (concentration or concentration and flow for load calculation) at a designated point (location). The MRP 2.0 NELs for PCBs are pollutant load reduction levels to be achieved in a geographic area, wherein compliance with the NEL is demonstrated and evaluated based on an assessment methodology and data collection program that quantifies loads reduced by the numbers and types of controls implemented to reduce loads. MRP 2.0 allows Permittees to demonstrate PCB load reductions at a county-wide level or regional level.

For the latter, if the aggregate of the load reductions of all Permittees is met, all Permittees are deemed in compliance. (Item 467, Order R2-2015-0049, Provisions C.12, p. 113.) Permittees may meet the load reductions either as a group, in which case they must collectively achieve the summed load reductions, or individually, in which case each Permittee must meet its proportionate share of the countywide total. (*Id.* at p. 114.) These opportunities to collaborate on implementation of controls at the regional or county scale would or could offset the unintended consequence that newer cities may face. The Permit also allows Permittees to propose an alternative approach to derive Permittee-specific load reductions that better reflects the relationship between an individual Permittee and PCB load reduction opportunities.

Permittees advocate an alternative in which, if a Permittee did not meet the NAL, the only consequence would be that the Permittee would have to implement more actions. (See, e.g., Alameda, pp. 15-19; Santa Clara, pp. 9-13.) This is an approach that Permittees advocated during the drafting process. The Permittees raised the concept of using NALs (action levels) instead of NELs (enforceable load reduction numbers), in reaction to the Administrative Draft, at the March 5, 2015, Steering Committee meeting (Item 205.) Page 2 of the meeting minutes documents Jon Konnan (representing San Mateo Countywide Water Pollution Prevention Program and Santa Clara Valley Urban Runoff Pollution Prevention Program) identifying major issues and associated next steps. (Item 205, Jon Konnan's presentation, slide 4 – Priority Issues and Next Steps.) In short, the alternative would have allowed Permittees to implement a minimum number of specific BMPs, based on Permittee commitments, but the Permittees never provided any BMP commitments for consideration; just concepts. (*Id.* at slide 4 [indicating that BAASMA was working on an alternative BMP-based counterproposal].) Permittees essentially advocated the open-ended iterative approach to meeting receiving water limitations that the State Water Board has rejected. (Order WQ 2015-0075 at p. 42 [expressing concerns where an order does not "incorporate clear requirements that would provide for … verification in the process of implementation."].)

NALs could result in an "action deficit" that would compound over time, and as such, would not provide an ambitious, rigorous, and transparent alternative path to compliance. As Assistant Executive Director Dr. Thomas Mumley explained in the hearing, the desire was to have an enforceable limit that would ensure action. (Item 470, RT-Nov 19, at pp. 143-145 [key distinction between NALs and NELs is enforceability].)[4]

[4] Several permittees contend the use of NELs reflects a psychology of "coercion." (Alameda p. 19; Santa Clara p. 13.) The so-called preference for "coercion-based requirements," i.e., NELs, is the standard approach to NPDES permit writing. The alternative desired by Permittees was to allow a cooperative state-local partnership, trust-based approach, using NALs rather than NELs. However, the Permittees provided no documented commitment to any actions to justify use of NALs rather than NELs, despite numerous opportunities to provide such before and during development of the draft permit. (See Items 195-209 Steering Committee Minutes and Items 386-390, Pollutants of Concern Task Group Minutes.) Permittees are correct to note that a trust-based approach is difficult to oversee and enforce. Some Permittees may implement the same actions whether driven by NELs or NALs, however, there is a logical expectation that many Permittees will implement fewer actions when driven by NALs when there is little or no direct consequence of non-compliance compared to use of NELs. When feasible, permitting authorities should adopt numeric limits. (Section IV.B.2, *supra*, State Water Board, U.S. EPA and the Expert Panel Condone the Use of NELs In Appropriate Circumstances.) Implementation of the load reduction numbers as numeric limits is feasible in these circumstances. (See Item 467, Fact Sheet, Provisions C.11 and C.12, pp. A-103-A-124.)

The more rigorous approach, requiring not only actions but also measurable progress, was to adopt NELs. As stated by Board Vice-Chair Jim McGrath:

> As we parse the discussion of the difference between NALs and NELs, it appears to us that if our desire is to make sure that progress towards implementation of Green Infrastructure that is feasible is secured, and is enforceable, we must use the NEL approach rather than the NAL approach, and it is our intention to make sure that reasonable efforts at building inspection, reasonable efforts at reference of contaminated sites, and reasonable efforts at Green Infrastructure implementation are secured, and that they are enforceable.

(Item 470, RT-Nov 19, p. 179. See also *id.* at p. 181 [Mr. Kissinger "persuaded that we need limits, numerical limits"]; p. 186 [Dr. Ajami concurred that NELs "are definitely where we want to be"]; p. 195 [Chair Young concurred regarding adoption of PCBs requirements].)

Finally, Permittees contend that Regional Water Board staff and counsel confused the Regional Water Board regarding the likelihood for third party lawsuits and the enforceability of NELs. (Santa Clara, p. 4, San Jose, pp. 9-11; Alameda, pp. 16-17.) The transcript reflects the divergent perspectives on this issue, both Permittees' clear preference to have a standard that does not result in enforcement or the risk of third party litigation as well as the Regional Water Board's position that enforceable limits are appropriate in these circumstances, necessary to spur actions to control pollutants, yet emphasizing the flexibility of the Regional Water Board to exercise enforcement discretion for interim requirements. On the whole, the adoption of NELs is consistent with the State Board's expressed policy preference to allow an alternative compliance option to meet receiving water limitations within a permit, but also provide load reduction performance criteria. (Order WQ 2015-0075, pp. 16 ["MS4 permits should incorporate a well-defined, transparent, and finite alternative path to compliance [involving] significant undertakings beyond the iterative process to be deemed in compliance with the receiving water limitations"], and 54-59 [support for TMDL-based requirements in the LA MS4 permit].)

2. State Water Board, U.S. EPA and the Expert Panel Condone the Use of NELs In Appropriate Circumstances

Permittees ask the State Water Board to adopt NALs, rather than NELs, with an accompanying set of appropriate exceedance response action requirements if these benchmarks are not met, consistent with the construction and industrial general stormwater permits. (Alameda p. 3; Santa Clara, p. 5.) Permittees make the following claims concerning NELs:

- There is no substantive basis for NELs. (Santa Clara, p. 11, fn. 29 [citing RT-Nov 19 at 174-175].)
- "There is even more reason for the State Water Board to utilize NALs here. Unlike in this Clean Water Act section 402(p)(3) MS4 permit, NPDES stormwater

permits for construction and industrial activities *must* address the less flexible requirements of Clean Water Act section 301(b)(1)(C)." (Alameda, p. 3.)

- State Water Board has repeatedly found that NELs have not yet proved feasible for MS4 and non-municipal stormwater dischargers alike. (Dublin, p. 19.)

Contrary to these claims, NELs are appropriate in this case and supported by State Water Board, the State Water Board's Expert Panel and U.S. EPA. The Regional Water Board had sufficient information to evaluate the propriety of NELs versus NALs. To the extent Regional Water Board *staff* did not provide any information Permittees view as critical, *Permittees* provided that information in comment letters; the Regional Water Board was fully apprised of the information.

Although the State Water Board, the Expert Panel and U.S. EPA recognize that it may be difficult to determine appropriate NELs for stormwater, all acknowledge that permitting agencies have discretion to adopt NELs, and it is possible to do so with adequate data. In the case of the Mercury and PCBs Provisions of MRP 2.0, sufficient data collected over the past term by Permittees, as well as a wealth of data from other sources, formed a robust, defensible basis for adopting NELs. (Item 467, MRP 2.0, Provisions C11 and C12. See also Item 467, Order R2- 2015-0049, Provisions C.11 and C.12 and Fact Sheet, Provisions at pp. A-103 - A-124; Items 530, 531, 540-542, 554-570, 580-583, 588, 595 and 599 [PCBs]; Items 527-529, 531, 547-549, 554, 566, 588, 595 and 599 [mercury]; and Appendix A [Summary of Substantial Evidence].) Indeed, it is clear that the stormwater discharges of mercury and PCBs have the reasonable potential to cause or contribute to water quality standard excursions (the Bay is impaired by mercury and PCBs, and municipal stormwater discharged to the Bay is a significant source of mercury and PCBs).[5] The clear, measureable, and specific NELs in MRP 2.0 were feasible to develop and are feasible to achieve. (*Ibid.* See also, e.g., Item 605, Alameda 2014-15 Annual Report, sections 11 and 12.) The NELs in this permit can be feasibly achieved with modest increases in effort over and above the level of effort in the previous permit term. (*Ibid.*) This increase in effort is consistent with the approach described in the Fact Sheet and in provisions for mercury and PCBs. (Item 467, Fact Sheet, Provisions C.11 and C.12, pp. A-103 – A-124.) The previous permit term provided an opportunity to test a variety of control measures, and this permit term calls for the implementation of control measures where they may provide effective load reduction benefit. (See comparison of MRP 1.0 and 2.0 terms, Items 501 and 467, respectively, Provisions C.11 and C.12.)

a) State Water Board Supports Using NELs In Appropriate Circumstances

Order WQ 2015-0075 explicitly recognized that NELs may be appropriate in some circumstances. (Order WQ 2015-0075, p. 10 ["requiring strict compliance with water quality standards (e.g., by imposing NELs) is at the discretion of the permitting agency"].) The State Water Board noted that "municipal storm water management is an

[5] See Item 653, PCBs and Mercury TMDLs.

area of continuuing development and, with continued research and data evaluation, water quality standards may evolve and become more nuanced or sophisticated over time." (Order WQ 2015-0075, p. 45.)

Permittees admit that, "the State Water Board acknowledged that the Los Angeles Regional Board's use of NELs to implement 33 TMDLs in its area was not error." (See, e.g., Alameda, p. 16 and Santa Clara, p. 11 [quoting Order WQ 2015-0075 at p. 58-59].) The State Water Board emphasized that NELs were warranted because exceedances had not been resolved to date through BMPs and the Los Angeles Water Board "could feasibly develop numeric WQBELs" using the extensive work underlying the TMDLs. (*Id.* at p. 58.)

The facts underlying the adoption of NELs in MRP 2.0 are similar. In the San Francisco Bay region, TMDLs have been adopted for both mercury and PCBs. The two Provisions of MRP 2.0 concerning these pollutants are designed to address the wasteload allocations and implementation plans in the respective TMDLs. As Dr. Mumley testified, MRP 2.0 will implement:

> TMDL waste[load] allocations, if you're implementing TMDL waste[load] allocations, you should be allowed the alternate path to compliance, and the alternate path to compliance should be robust, accountable, etc., rigorous. I assert what we have does both.

(Item 470, RT-Nov 19, p. 132.) Adoption of NELs as a means to implement the TMDLs for PCBs and Mercury is supported by Order WQ 2015-0075.

Finally, Permittees claim that Regional Water Board staff misinformed the Regional Water Board or omitted information concerning State Water Board's position regarding NALs:

- Regional Water Board staff should have provided the Regional Water Board with information regarding State Water Board's use of NALs and guidance on NALs in Order WQ 2015-0075. (Alameda, p. 16; Santa Clara, p. 10.)
- The State Water Board has repeatedly found that NELs have not yet proved feasible for MS4 and non-municipal stormwater dischargers alike. (Dublin, p. 19.)
- Order WQ 2015-0075 stated, "We also declined to urge the regional water boards to use [NELs] in all MS4 permits." (Santa Clara, p. 11 [quoting Order WQ 2015-0075 at pp. 58-59].)
- Regional Water Board staff should have informed the Regional Water Board that Order WQ 2015-0075 found "'that MS4 Permittees that are developing and implementing [alternative compliance measures] should be allowed to come into compliance with . . . interim and final TMDLs through provisions built directly into their permit rather than through enforcement orders' – i.e., enforcement orders that could arise from noncompliance with NELs per se." (Alameda, p. 17; Santa Clara, p. 11.)

The record is replete with references to the State Water Board Order; both from the Permittees' perspective as well as staff's contention that the NELs are consistent with the State Water Board's findings. (See, e.g., Item 469, RT-Nov 18, pp. 242-244 [Robert Falk, representing Santa Clara and BASMAA, "NALs have actually been embraced by the State Water Board;" State Water Board jettisoned the use of NELs; quotes from the Expert Panel Report]; Item 470, RT-Nov 19, pp. 129, 131-132 [Dr. Mumley refuted the argument that the State Water Board and Expert Panel do not endorse effluent limits].) As evidenced from the debate on the transcript, staff and Permittees differ in their interpretations of Order WQ 2015-0075 and the application of the Expert Panel Report to the NELs in MRP 2.0. Regardless of whether *staff* presented the information, however, it was in the record before the Regional Water Board and therefore considered prior to adopting the Permit.

b) The Expert Panel Supports NELs

The State Water Board convened an expert panel to evaluate the feasibility of NELs (Expert Panel). That panel produced a report entitled, *Storm Water Panel Recommendations to the California State Water Resources Control Board: The Feasibility of Numeric Effluent Limits Applicable to Discharges of Storm Water Associated with Municipal, Industrial and Construction Activities* (June 19, 2006) (Report). (Item 578.)

Permittees correctly cite to an Expert Panel finding that, generally speaking, "It is not feasible at this time to set enforceable numeric effluent criteria for municipal BMPs and in particular urban discharges." (Item 578, Report, at p. 8.) Permittees claim that Regional Water Board staff should have provided the Regional Water Board with more information concerning the Expert Panel recommendations re NALs. (Alameda, p. 16; Santa Clara, p. 10.)[6]

Dr. Thomas Mumley testified that the NELs adopted in MRP 2.0 are not the traditional NELs contemplated by the Expert Panel when it reached its conclusions in 2006. The Report, he testified, was:

> reflective of understanding pretty much 2005, 10 years ago, saying they were thinking about end of pipe effluent limits and didn't think they were feasible versus Action Levels. They were not thinking in the context of Effluent Limits as we are presenting them in this permit, which are an enforceable numeric, not necessarily applied at end of pipe, it's a performance measure that will be enforced.

[6] Permittees provided the Regional Water Board with information concerning the Expert Panel Report; the Regional Water Board considered that information. (See, e.g., Item 469, RT-Nov 18, pp. 243-44 [Robert Falk, representing Santa Clara and BAASMA] and 360 [Jeff Brousseau, representing Santa Clara]; and Item 470, RT-Nov 19, pp. 129-132 [Dr. Mumley]. See also Item 461, Item 7 Appendix D, pp. 29-30 [comments letters from Alameda and Santa Clara].) As with Permittees' contentions above, regardless of whether *staff* provided that information to the Regional Water Board, it was before the Regional Water Board in comment letters and testimony.

(Item 470, RT-Nov 19, at p, 131. See also Item 578, Report at pp. 5-6 [noting that the problem with existing effluent limit approaches was the focus only on conventional water quality constituents, the difficulty in determining causative agents, and the challenge of monitoring for enforcement].) The Expert Panel did not consider the use of NELs as used in MRP 2.0: performance measures for aggregate load reduction from a geographic area or watershed, which will be determined and measured through means other than "end-of-pipe."

Finally, the Expert Panel emphasized the importance of setting NELs in cases where a TMDL has been adopted, the circumstances underlying the Mercury and PCBs Provisions:

> When there is a TMDL that defines the permissible load for a watershed, the Numeric Limits should be set to meet the TMDL. Consideration must be given for both the pollutant concentration as well as the volume of runoff, since both contribute to the impacts that required the TMDL to be implemented.

(*Ibid.* See also Item 467, Fact Sheet, Provisions C.11 at pp. A-103 [mercury] and C.12, at A-113 [PCBs].) Permittees ignore the Expert Panel's conclusion that NELs are feasible in certain circumstances – in particular when the limit is expressed as a loading, as is the case in MRP 2.0, rather than a stormwater concentration. (Item 578, Report at pp. 17-19.) The Expert Panel opined that "Numeric Limits are feasible," particularly where there is control over a particular type of facility or construction site. (*Id.* at p. 19.) The panel emphasized the availability of information, "extending back to the 1980s in many cases," concerning types of treatment systems, practices to mitigate stormwater runoff and knowledge about the contents of construction materials. (*Ibid.*) It is precisely the availability of these types of information concerning PCBs and mercury that made it possible for the Regional Water Board to adopt NELs for these two pollutants.

The Expert Panel contemplated the use of NELs because it specified considerations for a regional water board to take into account when adopting NELs:

- "The Board should consider the phased implementation of Numeric Limits and Action Levels, commensurate with the capacity of the dischargers and support industry to respond." (Item 578, Report, p. 17.)
- "The Panel recommends that a Numeric Limit or Action Level should be compared to the average discharge concentration." (*Ibid.*)
- "The Board should set Numeric Limits and Action Levels to encourage loading reductions as appropriate as opposed to only numeric concentrations. Examples include phased construction (e.g. limited exposed soil areas or their duration), infiltration, and spraying captured runoff in vegetated areas as means to reduce loading." (*Id.* at p. 18.)
- "Numeric Limits should be based upon sound and established practices for storm water pollution prevention and treatment, using an approach analogous to that used in the NPDES wastewater process in the 1970s.

> In this approach phased, Numeric Limits were first set that were based upon the use of best currently available technology, and Permittees were given a defined period for compliance. Permits were established based upon industry types or categories, with the recognition that each industry has its own specific problems and financial viability." (*Id.* at p. 19.)

Pursuant to this guidance, the Regional Water Board designed the NELs in a manner that reflected information generated by both Permittees and the broader scientific community.

> [W]e ended up harvesting available knowledge in our review of what are the controls to reduce PCBs to the maximum extent practicable. So we looked at information the Permittees have generated plus what we got through contract grant work through the Estuary Institute, who has done a synthesis of knowledge of PCBs and controllability, there's a number of sources of information that allowed us to come up with what we called "Z being 3 kilograms" by the end of the permit term.

(Item 470, RT-Nov 19, p. 136 [Dr. Mumley's testimony]. See also, e.g., Item 470, pp. 137-139 [basis for calculating PCBs NELs]; Item 467, Fact Sheet, Finding C.11-8, p. A-105, fn. 61; Item 527 McKee, L.J. and Yee, D., Sources, Pathways and Loadings: Multi-Year Synthesis, San Francisco Estuary Institute, Technical Report Prepared for the Regional Monitoring Program for Water Quality in San Francisco Bay (RMP), Sources, Pathways and Loadings Workgroup (SPLWG), Small Tributaries Loading Strategy (STLS) (2015) (McKee (2015)); Item 554, Mangarella, Desktop Evaluation of Controls for Polychlorinated Biphenyls and Mercury Load Reduction (San Francisco Estuary Institute 2010) (Geosyntec Desktop Evaluation); Item 560, Richard Looker, Basis for Required PCBs Load Reductions in MRP 2 (Feb. 23, 2015); Item 467, Fact Sheet, Provision C.12, p. A-111 – A-124; and Items 530, 531, 540-542, 554-570, 580-583, 588, 595 and 599 [documents supporting basis for NELs for PCBs].)[7]

[7] Santa Clara and San Jose challenge the evidentiary basis of the PCB NELs, claiming the record lacked any calculations or specific sources of information. (Santa Clara, pp. 4, 11-12; Alameda, p. 18; San Jose pp. 11-13.) These citations, and the ones in the following paragraph concerning the Mercury Provisions, counter those claims. With respect to the particular claim that Regional Water Board staff "abandoned the calculation" (See, e.g., Santa Clara, p. 12), Permittees omit significant facts. Regional Water Board staff asked for identification of watersheds and commitments to actions to support using the formula, X% reduction in Y watersheds for a cumulative load reduction of Z. Staff presented this formula at the initial Steering Committee meeting on July 11, 2013. (Item 195.) At the February 6, 2014, Steering Committee meeting Regional Water Board staff presented a schedule for identifying watersheds and developing implementation plans for them. The Permittees never followed through. They did some reconnaissance work but never provided proposed plans. Consequently, we used best available information to establish "Z". (See, e.g., (Item 527, McKee (2015); Item 531, IMR; and Item 554, Geosyntec Desktop Evaluation.) Similarly, statements that the Regional Water Board staff proposed "guesstimate estimates" for PCBs load reductions takes testimony out of context and is belied by the Administrative Record, which demonstrates the wealth of data, including Permittee-specific data, that formed the basis for the NELs. To the extent that Regional Water Board staff conceded there is some "uncertainty with the basis of our numbers," the record reflects that the Regional Water Board selected NELs that were conservative and founded in science. (See Item 467, Fact Sheet, Provisions C.11-

Keith Lichten, Chief of the Regional Water Board Watershed Division, testified regarding a similar process in developing NELs for the Mercury Provision:

> Similar to PCBs under MRP 1.0, the Permittees conducted an investigation and pilot projects to reduce Mercury. MRP 2.0 ... would require load reductions of an average of 48 grams per year of Mercury during the Permit's final three years. Now, there is some correlation between areas high in Mercury and areas high in PCBs, although overall Mercury is more broadly distributed.
>
> The Mercury load reductions are likely to be accomplished during MRP 2.0 via implementation of the measures I just described for PCBs ... for the coming Permit term, PCB actions are likely to result in Permittees meeting the Mercury reduction requirements....

(Item 436, RT-Jun 10, pp. 20-21. See also Item 467, Fact Sheet, Findings C.11-1 – C.11-11, pp. A-103-A-106; Provisions C.11.c – C.11.e, pp. A-108 – A-110; Provision C.12.c, p. A-121) and Items 527-529, 531, 547-549, 554, 566, 588, 595 and 599 [documents evidencing basis for the NELs in the Mercury Provisions].)

c) U.S. EPA Supports NELs

U.S. EPA ascribes much of the historic difficulty in applying NELs to stormwater due to the variability of stormwater quality experienced during storm, intensity of storms, the "transitory and unpredictable nature of many pollutant sources and release mechanisms," and the resulting difficulty in accurately measuring pollutant concentrations. (Item 593, U.S. EPA Urban Stormwater BMP Performance Monitoring (April 2002), a p. 7.) Implementation of the NELs established in MRP 2.0 do not pose these challenges. Recent U.S. EPA guidance and memoranda concur with the adoption of NELs.

The most recent U.S. EPA guidance, *Revisions to the November 22, 2002 Memorandum, Establishing Total Maximum Daily Load (TMDL) Wasteload Allocations for Storm water Sources and NPDES Permit Requirements Based on Those WLAs*

C.12, at pp. A-103-A-124; Items 530, 531, 540-542, 554-570, 580-583, 588, 595 and 599 [PCBs]; Items 527-529, 531, 547-549, 554, 566, 588, 595 and 599 [mercury].) Moreover, some uncertainty is permissible – indeed expected - in establishing NELs. (*Natural Resources Defense Council v. U.S. EPA* (2d Cir. 2015) 808 F.3d 505, 578 ["scientific uncertainty does not allow EPA to avoid responsibility for regulating discharges"].) Permittees also contest the Regional Water Board Staff's "economic forecast," which they claim has no basis in the record and requires no deference given lack of expertise in economics. (Alameda, p. 17; Santa Clara, p. 11.) The referenced "economic forecast" was in fact a statement regarding the economic conditions in the *past* permit term, which provided the conservative basis for developing NELs: "We fully expect these load reductions can be achieved because we are requiring load reductions of a similar magnitude to those achieved during MRP I. To put it bluntly, if the Bay Area experiences a pace of redevelopment equivalent to that experienced during the worst recession in 70 years, these load reductions can be achieved." (Item 469, RT-Nov 18, at pp. 122-23.) The load reductions achieved during the previous permit term were based on minimum actions necessary to comply with permit requirements. Permittees' Integrated Monitoring Report Part B: PCB and Mercury Loads Avoided and Reduced via Stormwater (Item 531) provided the load reductions associated with implementing MRP 1.0 New and Redevelopment provision (C.3.b), which requires municipalities to require defined "Regulated Projects" to include LID treatment-based controls. It is reasonable to anticipate that prior performance can be repeated in the next permit term. Importantly, there was no evidence demonstrating that all or many would fall short of meeting the green infrastructure load reduction performance criteria NELs.

(Nov. 26, 2014) (Item 587) affirms that MRP 2.0's approach reflects the recent trend in permitting: "EPA continues to support use of an iterative approach, but with greater emphasis on clear, specific, and measurable permit requirements and, where feasible, numeric NPDES permit provisions...." (*Id.* at p. 2.) That same guidance repeatedly notes the "considerable experience" and "improved knowledge" currently available enable permitting authorities to develop "more clear, specific, and measurable NPDES permit provisions." (*Id.* at pp. 2 and 6.)

Also in 2014, EPA published the results of a nationwide review of current practices used in MS4 permits in Municipal Separate Storm Sewer Systems Permits: Post-Construction Performance Standards & Water Quality-Based Requirements – A Compendium of Permitting Approaches (Compendium) (June 2014) (Item 598). This Compendium demonstrates how NPDES authorities have established effective permit requirements tied to a measurable water quality target, and includes examples of permit requirements expressed in both numeric and non-numeric form. These approaches, while appropriately permit-specific, each share the attribute of being expressed in a clear, specific, and measurable way. (Item 598, Compendium, p. 3.)

U.S. EPA noted that, "[i]ncorporating greater specificity and clarity echoes the approach first advanced by EPA in the 1996 Interim Permitting Policy, which anticipated that where necessary to address water quality concerns, permits would be modified in subsequent terms to include 'more specific conditions or limitations [which] may include an integrated suite of BMPs, performance objectives, narrative standards, monitoring triggers, numeric WQBELs, action levels, etc.'" (*Id.*, at p. 3.) Where feasible, U.S. EPA advocates the adoption of NELs. (*Id.*, at p. 4 ["EPA recommends that the NPDES permitting authority exercise its discretion to include clear, specific, and measurable permit requirements and, where feasible, numeric effluent limitations"]. See also p. 5 ["EPA recommends that NPDES permitting authorities establish clear, specific, and measurable permit requirements to implement the minimum control measures in MS4 permits"].)

The Compendium focuses on "permitting approaches that directly implement TMDLs through numeric requirements or pollutant-specific management measures, or a combination of both." (*Id.* at p. 1.) "NPDES permits for MS4 discharges have included numeric effluent limitations for specific parameters based on an applicable TMDL WLA." (*Id.* at p. 15.) The Compendium highlights as an example of a quantifiable approach the MRP 1.0 permit requirements to reduce trash loads by a certain percentage over time. (*Id.* at pp. 18-19.) U.S. EPA highlights the fact that MRP 1.0 included narrative and numeric WQBELs for trash, mercury and PCBs, requiring "interim milestones and pollutant-specific control measures that are consistent with the implementation actions identified in the applicable WLA." (*Id.* at p. 23.) "The permit incorporates both the aggregate WLA and the interim loading milestone, as well as implementation requirements that are identified in the TMDL Implementation Plan...." (*Ibid.*)

Where an applicable TMDL includes wasteload allocations for stormwater sources, U.S. EPA advises that the wasteload allocation "should, where feasible, be translated into

effective, measurable WQBELs that will achieve this objective. This could take the form of a numeric limit.... (*Id.* at p. 6 [emphasis added].) Numeric limits, like any other permit term, should be based on specific circumstances "including the nature of the stormwater discharge, available data, modeling results, and other relevant information." (*Ibid.*) The Compendium provides four examples of numeric expressions of water quality-based effluent limitations, including a Lake Tahoe permit requirement to reduce sediment particles, total phosphorus and total nitrogen loads by various percentages by a specific date. (*Id.* at p. 10, Box 1.) Additional examples include a "hybrid approach" with both numeric and non-numeric expressions, one of which was the LA MS4 requirement, similar to the MRP 2.0 Trash Provisions, to reduce discharges of trash to the LA River to zero by a particular date. (*Ibid.*) In short, not only does the U.S. EPA recognize the ability of permitting agencies to adopt NELs, it views NELs – including the very type of limits in MRP 2.0 – favorably.

3. The PCBs Loading Approach Will Not Impose Undue Burdens on New Municipalities

The City of Dublin contends that the approach to assigning PCBs loading (Provision C.12.a.ii) unfairly prejudices Dublin because it has a high population but few old industrial or urban areas because it is a relatively new city. (Dublin, p. 23.) Similar comments were raised and rebutted concerning the tentative order (Item 460, Response to Comments, pp. 263-264 [ACCWP Legal Comment No 4; Dublin Comment No. 18] and 325-326 [Berkeley Comment No. 6; ACCWP Comment No 4-7].)

While the population-based assignments of permittee-specific load reductions may pose a relatively higher burden on newer communities like Dublin compared to communities with more old industrial or old urban areas, which tend to have higher levels of PCBs in runoff due to legacy use, there are still PCBs in runoff and opportunities to control them, even in newer cities like Dublin. (Item 527, McKee (2015), *supra;* Item 531, Integrated Monitoring Report Part B: PCB and Mercury Loads Avoided and Reduced via Stormwater (IMR); and Item 554, Geosyntec Desktop Evaluation.)

The PCBs load reduction requirements implement the San Francisco Bay PCBs TMDL, which established county-specific wasteload allocations based on relative population. As such, use of relative population to establish permittee-specific load reduction responsibility is consistent with the assumptions and requirements of the county-specific wasteload allocations. (Item 467, Order R2-2015-0049, Provision C.12.a.ii.(4), p. 113.)

Although Permittees are expected to meet load reductions, MRP 2.0 provides additional flexibility by:

> 1) requiring population-based city-specific reductions only if neither the permit-area-wide total load reduction criteria nor the county-specific load reduction criterion is achieved;

2) allowing municipalities to meet the required reductions either independently or by working with other municipalities on a county-wide level, potentially alleviating the burden on newer municipalities; and

3) allowing Permittees within a county to propose an alternative to the population-based method.

(*Ibid.*)

4. Permittees Had Adequate Notice That The Permit Contains NELs

Permittees contend that the Response to Comments document is the first time that NELs were introduced. (Alameda, p. 10; Santa Clara, p. 7-8.) Other Permittees claim that Board staff and counsel confused the Board by saying that the mercury and PCB requirements in MRP 2.0 were not action-based. (Alameda, p. 15; Santa Clara, p. 10.) The plain language of MRP 2.0, which was included in the public notice draft, and evidence before the Board demonstrates all Permittees had clear notice of staff's proposed inclusion of NELs.

NELs were discussed at length in steering committee groups and other venues. The Response to Comments merely clarifies what was common knowledge among Permittees. Numerical load reductions were discussed at several Steering Committee meetings, including July 11, 2013, February 6, 2014, February 5, 2015, March 5, 2015, June 4, 2015, and August 6, 2015. Santa Clara Urban Runoff PPP, San Mateo County WPPP, and Dublin all had representatives at the meetings; Alameda Countywide Clean Water Program staff, which represented Alameda County and all cities in the county, also attended all of the meetings. Oakland attended the 2105 meetings. (Items 195-209, steering committee minutes.)

MRP 2.0 clearly imposes numeric limits. Provisions C.11 and C.12 each specified a reduction performance criteria that must be implemented by county. (Item 467, Order R2-2015-0049, Provisions C.11 and C.12, pp. 109-110; 112-114.) The language of MRP 2.0 states, "Permittees shall implement green infrastructure projects during the term of the Permit to achieve the mercury load reductions performance criteria...." (*Id.* at p. 109; see also p. 116 [identical language concerning PCBs].) Both the PCBs and mercury provisions require assessments and reporting demonstrating achievement of the required load reductions. (*Id.* at pp. 109 and 111 [mercury assessment and reporting] and pp. 116 and 118 [PCBs assessment and reporting].)

The plain language in MRP 2.0 was not lost on approximately 20 Permittees, who submitted comment letters protesting the potential for enforcement as a result of the inclusion of NELs. (See Item 460, Response to Comments, pp. 266-275; 285; 292-293; 298-300 [objections to numeric requirements].) Testimony during the hearing on June 10, 2015, further demonstrates that Permittees were aware that the Permit establishes NELs. Division Chief Keith Lichten provided background on the Mercury and PCBs Provisions, including the NELs. (Item 436, RT-Jun 10, at pp. 10-21.) He described the major changes between MRP 1.0 and MRP 2.0, emphasizing that MRP 2.0 included

numeric requirements to reduce PCBs and Mercury, consistent with the wasteload allocations in the TMDLs for the two pollutants:

> [T]he Permit is a key tool to achieve TMDLs, including the Bay PCBs and Mercury TMDLs. The Permit's **enforceable numeric requirements** for both near and long term load reductions are important; that's because they will push Permittees to implement controls on the ground. They are achievable. They are based on numbers provided by the Permittees during MRP 1.0. And the on-the-ground work is necessary, both to make progress on the TMDL, but also to trigger the TMDL's adaptive management implementation option if more time is needed.

(*Id.* at p. 27 [emphasis added]. See also pp. 14 [reductions to meet waste load allocations for PCBs] and 20 [reductions to meet waste load allocations for mercury].)

Mr. Lichten further acknowledged that Permittees had expressed concerns about these NELs, demonstrating that Permittees were aware of this issue long before the Response to Comments document was circulated:

> There is some concern from the Permittees on this issue, particularly regarding the near term implementation requirements, which I'll discuss in a moment. Those requirements are needed to drive that implementation of PCB cleanup work consistent with the TMDL schedule.

(*Id.* at p. 16.) At that same hearing, numerous Permittees testified concerning the NELs:

- "[W]e would ask the Board to consider moving away from a numeric limit in PCBs...." (*Id.* at p. 60 [Napp Fukuda, City of San Jose].)
- "We're left with the feeling that we don't know what to do to comply with the numeric load reduction criteria and we support a BMP-based approach." (*Id.* at p. 76 [Eric Anderson, City of Mountain View].)
- "I'm worried about being held to numerical limits...." (*Id.* at p. 82 [Nancy Humphrey, City of Emeryville].)
- "So staff has stated in meetings with Permittee, with BASMAA and Permittees, that they believe the numeric performance criteria are needed to encourage POC Program implementation by the programs, and we would counter that that's really not needed." (*Id.* at pp. 85-86 [Lisa Austin, Contra Costa Clean Water Program].)

These and other permittees ultimately acknowledge in comment letters that failing to meet the numeric criteria would render Permittees subject to enforcement. (See, e.g., Item 460, Response to Comments, pp. 264-65 [expressing concerns that load reduction criteria would create risks of enforcement or litigation].) The Response to Comments was not the first time Permittees learned that MRP 2.0 would impose enforceable NELs.

Finally, San Leandro expressed additional concerns with the public participation process, claiming that NELs were a material change which introduced significant third party liability to the equation as well as mandatory minimum penalties. (San Leandro, p. 16.) Because of these concerns, some permittees claim that the Regional Water Board should have re-opened the comment period. (Alameda, p. 10; Santa Clara, pp. 7-8.) As explained above, there is ample evidence in the record demonstrating that the permit contained NELs, not NALs. No recirculation is required when changes to a draft permit are within the scope of the noticed permit and are responsive to comments and information received. (See Section IV.D.1.c) [authorities concerning changes to a permit falling within the scope of the noticed proposal and constituting a "logical outgrowth" of comments received].) In this case, there was no modification whatsoever to the tentative order. The clarification in the response to comments document is not a basis for recirculation.

5. Staff and Attorneys Appropriately Advised the Board Regarding NELs

Santa Clara claims that "Regional Board counsel contributed to the flawed process and its biased outcome ... by concurrently serving as an advocate for the staff's favored position on NELs and as a supposedly neutral advisor to the Board members at the permit adoption hearing." (Santa Clara, p. 9, n. 22.) Santa Clara's contention incorrectly conflates advising the Board with advocating for a position. In the LA MS4 proceeding, petitioners made a similar argument concerning attorneys advising both the Los Angeles Water Board staff and the Board itself. (Order WQ 2015-0075, at p. 70.) In that case, the State Water Board disagreed with petitioners "and reaffirm[ed] our position that permitting actions do not require the water boards to separate functions when assigning counsel to advise in development and adoption of a permit." (*Ibid.*) This case is no different. MRP 2.0 is a permitting action which is not investigative in nature, and there is no consideration of liability or penalties that would make the action prosecutorial in nature. Santa Clara's claims "advocacy" on the part of the Board's advisors, but all of Santa Clara's citations to the transcript demonstrate that counsel merely advised the Regional Water Board of the legal and factual bases for the permit. (Santa Clara, pp. 9-11.)

C. California Environmental Quality Act (CEQA) and 13241 Economic Analysis

San Jose[8] claims that MRP 2.0 imposes conditions beyond the mandatory requirements of the Clean Water Act, and therefore the Regional Board must conduct an environmental analysis under CEQA and a consideration of economic factors pursuant

[8] The Cities of Dublin and San Leandro also raised concerns regarding Water Code section 13241 in their original petitions, but withdrew those issues in letters to the State Water Board dated February 10, 2016.

to Water Code sections 13263[9] and 13241. (San Jose, p. 8.) The issuance of MS4 permits is exempt from CEQA. (Wat. Code, §§ 13374, 13389; Cal. Code Regs., tit. 14, § 15263; *Cnty. of Los Angeles v. California State Water Resources Control Bd.* (2006) 143 Cal.App.4th 985, 1004-1007 as modified (Nov. 6, 2006) [CEQA review not required for receiving water limitations, stormwater management plans or development planning program].) Water Code section 13241 is also inapplicable. The California Supreme Court has determined that a regional water board is only required to consider the factors in section 13241 (13241 Factors) (e.g., a discharger's cost of compliance) when an effluent limitation is more stringent than federal law requires. (*City of Burbank v. State Water Resources Control Bd.* (2005) 35 Cal.4th 613, 618.) In the case where a regional board adopts a permit where the existing water quality objectives are not protective enough, then the regional water board must consider the 13241 factors. When a regional water board adopts a permit that simply implements existing water quality objectives, including narrative objectives, there is no requirement to consider any of the 13241 Factors. (*Id.* at p. 626.)

San Jose claims that the trash provisions and the NELs for mercury and PCBs exceed the federal MEP standard. (San Jose, at p. 10.) San Jose acknowledges that the Permit and Fact Sheet make findings that the requirements meet the MEP standard, but states that those "assertions" are not supported by evidence in the record. (*Ibid.*) Notably, San Jose fails to specify in what manner requirements in any of the three provisions go beyond MEP. In response, we address first the MEP standard and subsequently provide evidence demonstrating that each challenged provision meets MEP. Because each provision meets and does not exceed MEP, there is no requirement for an environmental or economic analysis.

Clean Water Act section 402(p)(3)(B)(iii) requires that municipal stormwater permits "shall require controls to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and system, design and engineering methods, and such other provisions[10] as the Administrator or the State determines appropriate for the control of such pollutants." The Clean Water Act and its regulations do not specifically define "MEP." Congress established this flexible standard so that administrative bodies would have "the tools to meet the fundamental goals of the Clean Water Act in the context of storm water pollution." (*Building Industry Ass'n of San Diego County v. State Water Resources Control Board* (2004) 124 Cal.App.4th 866, 884.) Permit writers must have flexibility to tailor permits to the site-specific nature of MS4s and to use a combination of pollution controls that may be different in different permits. (*In re City of Irving, Texas, Municipal Storm Sewer System* (July 16, 2001) 10 E.A.D. 111 (E.P.A.).) The MEP standard is also expected to evolve in light of programmatic improvements, new source control initiatives, and technological advances that serve to improve the overall effectiveness of storm water management

[9] Section 13263 establishes requirements for discharge and references the provisions of 13241 as criteria that must be considered in developing waste discharge requirements.

[10] In rejecting a similar claim concerning the applicability of Water Code section 13241 to the LA MS4 Order, the State Water Board emphasized that the Los Angeles Water Board acted under federal authority to impose "such other provisions as ... determine[d] appropriate for the control of ... pollutants." (Order WQ 2015-0075, p. 14, fn. 51.)

programs in reducing pollutant loading to receiving waters. (55 Fed.Reg. 47990, 48052 (Nov. 16, 1990) ["EPA anticipates that storm water management programs will evolve and mature over time"].)

MRP 2.0 provisions concerning trash, mercury and PCBs, marshal the latest developments in "management practices, control techniques and system, design and engineering methods," not to mention encouraging programmatic and regional or basin-wide efforts among Permittees. These permit requirements will reduce the discharge of these types of pollution to the maximum extent practicable. As stated in the Permit Fact Sheet:

> As discussed in Section V.C., State Mandates, the Water Board finds that the requirements in this Order are not more stringent than the minimum federal requirements. Among other requirements, federal law requires MS4 permits to include requirements to effectively prohibit non-storm water discharges into the MS4s, in addition to requiring controls to reduce the discharge of pollutants in stormwater to the MEP, and other provisions as USEPA or the State determines are appropriate for the control of pollutants in MS4 discharges.
>
> The requirements in this Order may be more specific or detailed than those enumerated in federal regulations under 40 CFR 122.26 and guidance; however, the requirements have been designed to be consistent with and within the federal statutory mandates described in CWA section 402(p)(3)(B)(ii) and (iii) and the related federal regulations and guidance. Consistent with federal law, all of the conditions in this Order could have been included in a permit adopted by USEPA in the absence of the in lieu authority of California to issue NPDES permits.

(Item 467, Fact Sheet, at p. A-9.) The inclusion of numeric WQBELs in this Order does not cause this Order to be more stringent than federal law. Consideration of the factors set forth in CWC section 13241 is not required for permit requirements to implement the effective prohibition on the discharge of non-stormwater discharges into the MS4 or for controls to reduce the discharge of pollutants in stormwater to the MEP, or other provisions that the Water Board has determined appropriate to control such pollutants, as those requirements are mandated by federal law. Substantial evidence in the record demonstrates that each of the Trash, Mercury and PCBs Provisions do not exceed the MEP standard.

1. Trash Provision (C.10)

In April 2015, the State Water Board adopted the Trash Amendments which address "the impacts of trash to the surface waters of California through the establishment of a statewide narrative water quality objective and implementation requirements to control trash." (Item 602, State Water Board Reso. 2015-0019, p. 2, ¶8.) The Staff Report of the Trash Amendments acknowledges that MRP 2.0 requires control requirements are "substantially equivalent" to the Trash Amendments, thereby exempting MRP 2.0 Permittees from certain requirements under the Trash Amendments. (Item 601, Final

Staff Report for Trash Amendments (April 7, 2015), p. 18.) State Water Board cited favorably to the similar provisions in MRP 1.0:

> Under the San Francisco Bay MRP, compliance with the discharge prohibition and trash-related receiving water limitations is met through a timely implementation of control measures, BMPs and any trash reduction ordinances or mandatory full trash capture systems to reduce trash loads from MS4s by set percent reductions over three phases.

(*Id.* at p. 79.) Should the State Water Board overturn the MRP 2.0 Trash Provisions, the Trash Amendments require that the Regional Water Board adopt an NPDES permit with essentially the same exact provisions. (Item 601, Trash Amendments, at pp. D-3 - D-4.)

None of MRP 2.0's trash control requirements exceed the MEP standard, demonstrated by the historic implementation of each respective measure by Permittees in the last permit term and under previous permits. Full trash capture devices "have been successfully installed and operated in California for over ten years." (Item 601, Final Staff Report for Trash Amendments, Response to Comments, p. F-111.) As discussed in the Fact Sheet, Permittees were able to install more full trash capture devices than required by MRP 1.0 for a fraction of the estimated cost. (Item 467, Fact Sheet, Provision C.10.a.iii, p. A-92.) Trash generation area prioritization (mapping) is also standard. Permittees have been generating trash maps for the last two years. (Items 225-301, Long Term Trash Control Plans; Items 103-185, 2013-2014 Annual Reports; and Items 604-649, 2014-2014 Annual Reports. See also Item 603, LA MS4 Permit [requiring maps].) Similarly, Permittees have performed visual assessments since 2014. The final element of trash control is a requirement for a minimum number of creek cleanup days. (Item 467, Order R2-2015-0049, Provisions C.10.cand C.10.e.i, pp. 102-103.) Creek cleanup days have been performed since time immemorial. In short, each of the elements of the Trash Provisions are all MEP; these are practicable controls that can be – and have been - reasonably implemented.

2. Mercury Provision (C.11)

As compared with PCBs, Mercury is distributed much more uniformly in the environment because of the greater role of atmospheric deposition for mercury. (Item 599, McKee, et al., Review of methods used to reduce urban stormwater loads (Task 3.4). A Technical Report of the Regional Watershed Program: SFEI Contribution 429. San Francisco Estuary Institute, Oakland, CA. (2006), Figure B.1.5.) Rather than targeting "hot spots" for mercury, green infrastructure implementation is expected to address mercury distributed throughout the urban environment. (Item 527, McKee, (2015).) MRP 2.0's Mercury Provision contains requirements that are effective, practical and tested means for controlling mercury. (See, e.g., Item 554, Geosyntec Desktop Evaluation; Item 590, CASQA, California Stormwater BMP Handbook, New Development and Redevelopment (2003); Item 588, San Francisco Estuary Institute, A BMP Tool Box for Reducing Polychlorinated Biphenyls (PCBs) and Mercury (Hg) in Municipal Stormwater (2010); International Stormwater BMP Database, http://www.bmpdatabase.org/ [searchable database]; and Item 531, IMR.) The MRP 2.0 mercury requirements were pilot-tested in the MRP 1.0 permit term and results of Permittees' efforts reported in the IMR. (Item

531.) The calculations used to reach the NELs in MRP 2.0 directly accounted for data gathered by Permittees. (Item 549, PCBs/Mercury Interim Accounting Methodology Mercury Yields.)

Control measures that work for other types of pollutants that readily attach to sediment particles also work for mercury. (Item 503, Order R2-2009-0074, Fact Sheet, pp. I-55-I-57 ["Many of the control actions addressing PCBs and mercury will result in reductions of a host of sediment-bound pollutants"].) Controlling sediment discharges through green infrastructure is proven to reduce mercury in stormwater discharges. (Item 531, IMR, pp. 184-190 [Green Streets load reductions].) The IMR also documents that load reductions from mercury recycling efforts (for mercury-containing devices) will take place on an ongoing basis because they are mandated by hazardous waste rules in California. (*Id.* at, pp. 6, 9.) While these measures are not explicitly required by MRP 2.0, the Permittees will still realize the load reduction benefits from such recycling. Gains are also expected from slow and steady implementation of green infrastructure treatment controls, as well as gains associated with other controls like street sweeping and storm drain cleanout. (See *id.* at pp. 109-123 [estimate of loads reduced through new or enhanced street sweeping].)

The Regional Water Board recognized that there are challenges to meeting the requirements, but the practicable controls described above can reasonably be implemented, as demonstrated by the success of the pilot-tested program in MRP 1.0. (Item 531, IMR.)

3. PCBs Provision (C.12)

MRP 2.0's PCBs Provision contains requirements that are effective, practical and tested approaches for controlling PCBs. These requirements were pilot-tested in the MRP 1.0 permit term and results of Permittees' efforts reported in the IMR. (Item 531.) The calculations used to derive the NELs in MRP 2.0 directly accounted for data gathered by Permittees. (Item 554, Geosyntec Desktop Evaluation; Item 562, O'Hara, PCBs in Caulk Project Final Report (2012); Item 565, Summary of 2014 Annual Reports, Perceived High Probability of PCBs in Construction Projects; Item 566, O'Hara, Notes: IMR Part B – PCB and Hg Loads Avoided via SW Controls (2014); and Item 560, Basis for Required PCBs Load Reductions in MRP 2 (2015). See also Items 540-542 [load reduction calculations].)

Like mercury, control measures that work for other types of pollutants that readily attach to sediment particles also work for PCBs. (Items 554, Geosyntec Desktop Evaluation and 527, McKee (2015).) Because PCBs, like mercury, are also widelydistributed in the urban landscape, controlling sediment discharges through green infrastructure will also reduce PCBs in stormwater discharges. (*Ibid.*)

In addition to green infrastructure, PCBs may also be controlled through better management of construction waste. (Items 551, 553, and 555-563 [managing caulk in construction waste].) There are practical ways to accomplish this, as demonstrated by California's Green Building Standards Code, which requires recycling or salvaging for reuse at least 50 percent of the construction waste generated during most new

construction projects. (Cal. Code Regs., tit. 24, §§ 4.408.) U.S. EPA has published a web-based guidance document, "Steps to Safe Renovation and Abatement of Buildings That Have PCB-Containing Caulk," which similarly provides information "on steps that should be considered for projects intended to remove and dispose of known or suspected PCB-containing building materials." (Item 555. See also Items 551, 553 and 556-563 [caulk removal].)

4. The Regional Water Board Considered Costs

Should the State Water Board determine that the Regional Water Board adopted limits in MRP 2.0 that are more stringent than federal law requires, the Regional Water Board has, in fact, considered costs of implementation. The State Water Board has noted that Section 13241 "does not specify how a water board must go about considering the factors, nor does it require that a water board make specific findings on each of the specified factors. Instead, courts have required some evidence that a water board has considered the 13241 Factors." (State Water Board Order WQ 2012-0013 (*Sacramento Reg'l Wastewater Treatment Plant*), p. 14, fn. 58, citing *City of Arcadia v. State Water Resources Control Bd.* (2010) 191 Cal.App.4th 156, 177 and *Cal. Ass'n. of Sanitation Agencies v. State Water Resources Control Bd.* (2012) 208 Cal.App.4th 1438, 1454.) In that proceeding, the State Water Board found that the Central Valley Water Board had "ample evidence" of consideration of the 13241 Factors, in particular the economic considerations, citing to the permit fact sheet, documents and studies in the administrative record, comments received in response to the permit, presentation materials and the transcript. This Regional Water Board has similarly evaluated costs of compliance with MRP 2.0. The following illustrates just some of cost information considered in addition to the cost information Permittees presented:

- Item 493, Radulescu and Swamikannu, Review and Analysis of Budget Data Submitted by the Permittees for Fiscal Years 2000-2003 – Los Angeles County Municipal Storm Water Permit, A Report to the California Regional Water Quality Control Board Los Angeles Region (Jan. 2003);
- Item 494, 64 Fed. Reg. 68722, 68791 et seq. [expansion of the NPDES storm water program, including cost benefit analysis of complying with the requirements of the rule];
- Item 495, California State Water Resources Control Board, NPDES Stormwater Cost Survey (Jan. 2005);
- Item 497, Devinny, et al., Alternative Approaches to Stormwater Quality Control (Jun 2004), pp. 52-66 [cost estimates and recommended approach];
- Item 498, Lin, LA Times, Here's What Ocean Germs Cost You (May 3, 2005);
- Item 499, U.S. EPA, Reducing Stormwater Costs through Low Impact Development (LID) Strategies and Practices (Dec. 2007);

- Item 500, Bay Area Stormwater Management Agencies Ass'n, letter to Executive Officer Bruce Wolfe re. Feasibility/Infeasibility Criteria Report (April 29, 2011);
- Item 501, Bay Area Stormwater Management Agencies Ass'n, Status Report on the Application of Feasibility/Infeasibility Criteria for Low Impact Development (Dec. 1, 2013);
- Item 502, Bay Area Stormwater Management Agencies Ass'n, "White Paper" on Provision C.3 in MRP 2.0 (Feb. 27, 2015);
- Item 512, Storm Water Phase II Compliance Assistance Guide – section 4.9 pertains to Funding Options; and
- Item 601, Trash Amendments, staff report.

D. Procedural Issues

Permittees have raised a number of procedural issues. The following sections demonstrate that Permittees received adequate notice and opportunity to comment throughout the permit development process and that their rights to open meetings were not prejudiced. State Water Board therefore should decline to remand or modify MRP 2.0 based on any procedural ground.

1. Incorporation of the Supplementals Did Not Violate Permittees' Right to Due Process

Permittees claim that they did not have an adequate opportunity to comment on two "supplementals," one proposed by staff and the other by Chair Young, incorporated into the tentative order at the November Board meeting. (San Jose, p. 9; Alameda, p. 9; Santa Clara, p. 7.) San Jose contends that the changes in the staff supplemental would require "significant additional staffing resources costing hundreds of thousands of dollars" (San Jose, p. 9), while Alameda characterizes the changes as "costly, burdensome, and inflexible." (Alameda, p. 9). S an Jose additionally claims that adoption of the staff supplemental required an economic analysis under Water Code section 13241. The following sections refute each of these claims.

a) Staff Supplemental

The staff supplemental proposed language to be added to section C.10.b.ii.b.(i)-(iv) of the Fact Sheet, recommending quarterly visual assessments in all trash management areas during the dry season, and, during the wet season, monthly assessments in very high trash areas, twice quarterly assessments in high trash areas, and quarterly assessments in moderate trash areas. (Item 462, Item 7 For Board Meeting – Supplemental, p. 2.) The supplemental noted that more frequent assessments might be necessary to demonstrate trash reductions, but that less frequent assessments might "be acceptable with justification." (*Ibid.*)

None of this language added any new requirements to MRP 2.0; it merely provided additional clarity on the level of monitoring that would satisfy the permit's narrative requirement to conduct sufficient assessment "to determine or verify effectiveness" of trash control measures. (Item 470, RT-Nov. 19, p. 116 [testimony of Dr. Mumley]; see also R2-2015-0049, Provision C.10.b.ii.b. p. 100.) Staff emphasized that this clarification was provided to address claims that there was still uncertainty about adequate levels of monitoring, and that Permittees retained "a great deal of flexibility" to determine how much monitoring was necessary to "understand[] the effects of their actions." (Item 469, RT-Nov.18, at p. 129 [testimony of Dale Bowyer, Senior Water Resource Control Engineer].) Dr. Mumley also reiterated that the visual assessment frequency recommended in the supplemental was "not directly enforceable," and allowed for alternative assessment methodologies. (Item 470, RT-Nov. 19, p. 117.) Staff's supplemental did not change other language in the tentative order's fact sheet permitting Permittees to extrapolate the results of visual assessments in one area to other areas, nor did it foreclose use of other assessment methods "for determining trash reduction success and positive outcomes." (Item 467, Fact Sheet, Provision C.10.b.ii.b.(i)-(iv), p. A-92; see also Item 470, RT-Nov. 19, pp. 117-19.)

b) Chair's Supplemental

Chair Young also provided a supplemental that refined the receiving water trash monitoring provisions in section C.10.b.v of the tentative order. (Item 463, Chair Young's Supplemental; Item 470, RT Nov. 19, at 120-125). The primary effect of the changes was to clarify that Permittees would be required to begin testing their monitoring programs at representative sites during the permit term, a detail that was not highlighted in the tentative order. (Item 470, RT-Nov. 19, pp. 121-122 [testimony of Dr. Mumley].) Substantively, the supplemental established that Permittees were to identify representative monitoring sites and begin representative monitoring by October 2017, following the July 2017 submission of the Development and Testing Plan. (Item 470, RT Nov. 19, pp. 124-125 [testimony of Dr. Mumley].) The supplemental did not change the nature of the receiving water monitoring provisions or any preexisting deadlines.

c) Incorporation of the Supplementals Did Not Require Recirculation of the Permit

The clarifications in the two supplementals were the logical outgrowth of written comments, and testimony at the July 8, 2015 hearing regarding MRP 2.0's Trash Provisions. Where interested parties "reasonably could have anticipated the final version from the draft permit," a final version is considered the "logical outgrowth" of comments received, and an additional comment period is not required. (State Water Board Order WQ 2013-0101 (*Irrigated Lands*), pp. 10-11; State Water Board Order WQ 2012-0013 (*Sacramento Reg'l Wastewater Treatment Plant*), p. 38; see also *Long Island Care at Home, Ltd. v. Coke* (2007) 551 U.S. 158, 160; *Miami-Dade Cnty. v. U.S. EPA* (11th Cir. 2008) 529 F.3d 1049, 1059; *Am. Coke & Coal Chem. Inst. v. U.S. EPA* (D.C. Cir. 2006) 452 F.3d 930, 938.)

Under this standard, "an agency is not restricted to adopting the position it proposed and on which it sought comment." (*Miami-Dade Cnty. v. U.S. EPA, supra*, 529 F.3d

1049, 1059 [citations omitted].) To the contrary, such a requirement would be "antithetical to the whole concept of notice and comment" (State Water Board Order WQ 2012-0013, p. 39), which anticipates a "dynamic process" in which the agency makes revisions in response to comments received on a proposed draft. (State Water Board Order WQ 2013-0101, p. 11.) A revision is a "logical outgrowth" of comments where interested parties have sufficient notice that "the change was possible" and therefore that "comments directed to the controverted aspect of the [final order] should have been made." (*Miami-Dade Cnty. v. U.S. EPA, supra*, 529 F.3d 1049, 1059 [citations omitted]; see also *Am. Coke & Coal Chem. Inst., supra*, 452 F.3d, 930, 938.) Not only did Permittees have adequate opportunities to comment, but the changes were a logical outgrowth of comments concerning the tentative order. Accordingly, no further opportunity for comment is necessary.

(1) Permittees Had the Opportunity to Comment on the Frequency of Visual Assessments

Permittees were on notice that clarifications to the visual assessment protocol, including, specifically, changes in the recommended frequency of visual assessments, were "possible." Indeed, several permittees and others had proposed changes on this very issue in their written comments and oral testimony at the July Board meeting, recommending that visual assessments be reduced or eliminated altogether. (See Item 461, Cmt. Letters of: Alameda Countywide Clean Water Program, p. 6, Dublin, p. 4; Oakland, p. 4; and Berkeley, p. 5; Item 440, RT-Jul 8, at pp. 138 [James Scanlon on behalf of Alameda Countywide Clean Water]; 200 [Obaid Khan on behalf of the City of Dublin]; and 209 [Laura Hoffmeister on behalf of the City of Clayton].)

Permittees were also aware that visual assessment provisions could become *more* stringent. At the July 8 hearing, Vice Chair McGrath expressed his opinion that the trash provisions needed a "better," more "robust monitoring system," (Item 440, RT-Jul 8, pp. 52-53), while Chair Young expressed her discomfort with the provisions permitting extrapolation of visual assessment results and specifically recommended that the permit include "some additional detail in the frequency of the visual assessments...." (*Id.* at p. 45). Save the Bay echoed the Board members' concern about the lack of specificity in visual assessment frequency, recommended a general standard of twice-quarterly assessments at in all trash management areas, and suggested more frequent assessments in problem areas. (*Id.* at pp. 79-80). The comment period did not close until two days after the July 8, 2015, hearing; all Petitioners had an opportunity to provide written comments on the visual assessment issue in light of the Board members' and Save the Bay's oral comments. (*Id.* at pp. 9-10.)

(2) Permittees Had an Opportunity to Comment on the Receiving Water Trash Monitoring Provisions.

Similarly, Permittees, other commenters, and Chair Young commented extensively in the receiving water monitoring provisions at the July 8 Board meeting, and/or in their

written comments. On the record during the July hearing, Chair Young drew attention to the precise aspects of the receiving water monitoring provisions that her supplemental addressed: "I think we need to do a better job of describing what the requirements are going to be for the receiving water observations, the start dates, the locations, methodology." (Item 440, RT-Jul 8, at p. 45.) Oral testimony and written comments were directed to these topics as well: multiple commenters requested more specificity in the monitoring provisions, highlighted the need to identify monitoring locations, advocated for a phased approach, and asked for more accountability and stringency. (Item 460, Response to Comments, pp. 224 [Permittees]; p. 237 [Clean Water Action]; p. 243 [U.S. EPA] 252, 255 [Baykeeper]; Item 440, RT-Jul 8, at pp. 80-81 [Allison Chan on behalf of Save the Bay], 129 [Miriam Gordon on behalf of Clean Water Action], 158-159 [Vaikko Allen on behalf of Contech], 172-173 [Chris Sommers on behalf of Santa Clara and San Mateo Countywide Stormwater Programs].) In their written comments, numerous other permittees requested that the receiving water monitoring provisions be eliminated completely. (Item 460, Response To Comments at pp. 9, 10.)

(3) Permittees Had an Opportunity to Comment on the Supplementals at the November Board Meeting

Multiple Permittees took advantage of the opportunity to comment on the supplementals at the November Board meeting. Permittees criticized the increased assessments in the staff supplemental (Item 469, RT-Nov. 18, pp. 253 [Phil Bobel on behalf of the City of Palo Alto]; 312-313 [Lesley Estes on behalf of the City of Oakland]; 315 [Tom Dalziel on behalf of Contra Costa Clean Water Program]; 322 [Leah Goldberg on behalf of San Jose]; 330-332 [Michelle Mancuso on behalf of Contra Costa County]). None specifically cited problems with the Chair's supplemental. In these circumstances, no recirculation of the Permit with the supplementals was necessary.

d) The Staff Supplemental Did Not Require an Economic Analysis under Section 13241

San Jose provides no support for its claim that the number of visual assessments recommended in the staff supplemental required an economic analysis under Water Code section 13241. (San Jose, p. 10.) Regional boards must take economic considerations, among other factors, into account when they issue waste discharge requirements that are more stringent than the requirements of the Clean Water Act. (Order WQ 2015-0075, p. 14 fn. 51, citing *City of Burbank v. State Water Resources Control Board* (2005) 35 Cal.4th 613, 626-627; Wat. Code §§ 13263, subd. (a); 13241, subd. (d).) Here, however, the Regional Water Board acted within federal requirements in reissuing the permit (33 U.S.C. § 1342, subdivisions (a), (b) and (p)(3)(B)(iii)); proscribing the discharge of trash (33 U.S.C. 1342, subd. (a)(1); 40 CFR § 122.26, subds. (d)(2)(iv)(B)(1) and (d)(2)(iv)(A)(1)); and in requiring monitoring sufficient to assure compliance (33 U.S.C. 1342, subd. (a)(2); 40 CFR § 122.26, subd. (d)(2)(iv)(B)(1)-(3)). Accordingly, the Regional Water Board was not required to analyze the section 13241 factors in recommending a particular number of visual assessments. (See *City of Burbank v. State Water Resources Control Bd., supra*, 35 Cal. 4th, 626-

627; *City of Arcadia v. State Water Resources Control Bd.* (2010) 191 Cal. App. 4th 156, 178-179).

Even assuming such an analysis were required, the record reflects that the Regional Water Board did take economics into consideration. As described above, numerous commenters, including San Jose, expressed concern about the high cost of the visual assessments at the November Board meeting. (See, e.g. Item 469, RT-Nov. 18, p. 253 [Phil Bobel on behalf of Palo Alto]; p. 272 [Allison Chan on behalf of Save the Bay]; 315 [Tim Dalziel on behalf of the Contra Costa Clean Water Program]; 322 [Leah Goldberg on behalf of San Jose].) Staff also advised the Board on the costs of the assessments, (Item 470, RT-Nov. 19, p. 117-118) and Board Member Ajami rejected Permittees' assertions that visual assessments would necessarily be expensive. (*Id.* at p. 188). Therefore, the Regional Board would have complied with section 13241, subd. (d), had such compliance been required. (See *City of Arcadia v. State Water Resources Control Bd., supra,* 191 Cal. App. 4th, 156, 177 [Section 13241 neither specifies how a water board must go about considering the specified factors, nor requires the board to make specific findings.].)

2. The Regional Water Board Properly Convened a Subcommittee at the June 10, 2015 Hearing

Numerous procedural issues pertain to the convening of a subcommittee at the June 10, 2015, hearing. Permittees contend that there was inadequate notice of the subcommittee; the lack of a full Board deprived Permittees of the opportunity to address all Board members; and Permittees were denied a fair and impartial hearing as the result of an email exchange between Chair Young and Board Member Lefkovits. Each of these claims is meritless.

a) Notice of the Subcommittee Meeting Was Adequate

Permittees contend that the Regional Water Board inappropriately conducted the June 10 hearing as a subcommittee meeting and failed to give notice of the subcommittee meeting. (Alameda pp. 4-5; Santa Clara p. 6; San Jose p. 6.) The Board properly convened a subcommittee to sit as a hearing panel at the June 10, 2015, Board meeting to hear testimony on all sections of the permit except the Trash Provision. (See Wat. Code, § 13228.14.) Separate notice of the subcommittee meeting was not necessary. (Gov. Code, § 11125, subd. (c); see also Wat. Code, § 13228.14, subd. (a) [requiring due notice of the hearing but not specifying which board members will conduct it].) Notice of the meeting of a parent State body constitutes notice of a meeting of an advisory body (such as a subcommittee or hearing panel) meeting at the same time and place. (Wat. Code § 11125, subd. (c).)

The agenda for the June 10, 2015, Board meeting and statements on the record at the June 10 meeting provided adequate notice of the subcommittee proceeding. (Item 432, Board Meeting Agenda (June 10), at p. 2; Item 436, RT-June 10, at p. 7.) Item 8 on the June 10 Board meeting agenda listed the "Municipal Regional Stormwater NPDES

Permit" and indicated there would be a "[h]earing to receive testimony on the TO, all sections except Provision. C.10, Trash Load Reduction." (Item 432, Board Meeting Agenda (June 10), at p. 2.) Dr. Terry Young, Chair of the Regional Water Board, announced, on the record and in open session at the June 10 Board meeting, that a subcommittee, rather than a quorum of the entire Board, would be hearing testimony on the municipal stormwater permit. (Item, 436, RT-Jun 10, at p. 7). The scope of the stormwater issues considered by the subcomemittee was the same as that noticed in the agenda, as Chair Young made clear when she announced that the subcommittee would be hearing testimony "on all provisions of the MRP except trash." (*Ibid.*) The agenda therefore provided adequate notice of the subcommittee hearing.

b) The Hearing of Testimony by the Subcommittee, as Opposed to the Whole Board, Was Not Improper

Permittees claim that, due to the lack of a full Board in attendance, Permittees were deprived of the opportunity to address all Regional Water Board members. (Alameda pp. 4-5; Santa Clara p. 6; San Jose p. 6.) A quorum of the Regional Water Board need not be present to receive testimony. The Water Code permits panels of three or more regional water board members to conduct hearings on waste discharge requirements, provided that they do not take action on the matter. (Water Code, § 13228.14, subd, (a).) The Regional Water Board also has specifically authorized the Board chair to create three-member subcommittees "to hold workshops but not take action on Board Business when a quorum of the Board cannot be convened," provided that such subcommittees do not take action on behalf of the Board, and that the subcommittee reports its findings to the rest of the Board once a quorum is present. (Resolution R2-2004-0094, at p. 2.)

The subcommittee at the June 10, 2015, meeting complied with the Water Code and the Resolution. As stated in the agenda (Item 432, Board Meeting Agenda (June 10), at p. 2) and on the record (Item 436, RT-Jun 10, at p. 7), neither the Regional Water Board nor the subcommittee took action on any portion of MRP 2.0 on June 10. Instead, the subcommittee merely heard testimony from the public regarding the tentative order. (*Id.* at p. 162.) The subcommittee presented its report to the quorum of the Board at the July 8, 2015, Board meeting (Item 440, RT-Jul 8, at p. 7) and Permittees had an additional opportunity to present their comments on the permit directly to a quorum of the Regional Water Board at the November 18-19 Board meeting. The use of the subcommittee to hear testimony on MRP 2.0 met all statutory requirements.[11]

[11] Some Permittees complain that Board Members Kissinger and Ajami did not state that they read the transcript of the July subcommittee hearing. However, they point to no authority requiring Board members to read the transcripts of meetings they did not attend or to state so explicitly on the record. Instead, Chair Young and Board Member Lefkovits presented the hearing panel's findings and recommendations, as required by Water Code section 13228.14 and Regional Water Board Resolution R2-2004-0094. Although there is a legal presumption that the official duties of the Regional Board members will be regularly performed, (Evid. Code § 664; State Water Board Order WQ 77-5 (*Squaw Valley*) p. 34), such duties at most require Board members to have "reviewed the record to a sufficient extent to enable [them] them to make an informed judgment," not to have perused every scrap of paper in the record. (*See Vollstedt v. City of Stockton* (1990) 220 Cal. App. 3d 265, 276.) No Permittee alleges that any of the Board members failed to comply with their official duties in this manner.

c) The Email Exchange Between Chair Young and Board Member Lefkovits Did Not Prejudice Permittees

After the June 10 subcommittee hearing, Chair Young and Board Member Lefkovits communicated via email concerning the report they would provide to the entire Regional Water Board at the July Board meeting. (Item 440, RT-July 8, p. 18.) Although no Permittees objected at the July hearing or sought copies of the emails, Alameda and Santa Clara now claim the emails should have been disclosed (Alameda p. 6; Santa Clara p. 6), while San Jose alleges that an "unnoticed and private serial meeting was conducted via email." (San Jose, p. 6.) San Jose asserts that the exchange "denied the public the right to be heard in a fair and impartial hearing," while Santa Clara vaguely argues that the communication "cast a dark shadow over the propriety and legitimacy of the permit adoption process's ultimate outcome." Alameda claims that nondisclosure "deprived [Permittees] of knowing the content of some of the information considered by Regional Board members." (Alameda, p. 6.)

The Legislature's intent in writing the Bagley-Keene Open Meeting Act was to prohibit "closed or secret meetings of state bodies to discuss or deliberate on public business." (*So. Cal. Edison Co. v. Peevey* (2003) 31 Cal. 4th 781, 808. See also Gov. Code § 11121 and 11122.5, subd. (b)(1) [prohibiting serial communications among a majority of the members of a state body to deliberate or discuss any item within the subject matter jurisdiction of the state body].) In this case, the email exchange between Chair Young and Board Member Lefkovits did not involve a majority of the Regional Water Board, and the content was completely disclosed to the public.

To the extent that the email exchange impermissibly involved a majority of the subcommittee, Permittees' claims of prejudice are unfounded. Chair Young and Board Member Lefkovits exchanged their reactions to the June 10 hearing in order to fulfill their obligation, as hearing panel members, to report their findings and recommendations to the remaining Board members at the next meeting. (Wat. Code § 13228.14(a); *see also* Item 440, RT-July 8, pp. 9, 18). At the July Board meeting, Chair Young and Board Member Lefkovits presented their findings and recommendations individually, repeating, almost verbatim, the content of their emails.[12] (Item 440, RT-Jul 8, at pp. 9-18). Neither they nor the other Board members at the July 8 hearing took any action on the stormwater permit at that time. Therefore, the public was not, as Alameda alleged, deprived of "knowing the content of some of the information" the Board members considered. Nor do the emails provide support for San Jose's argument that the July hearing was less fair or impartial because of the subcommittee communication, much less that nondisclosure has tainted the entire, multi-year permit development process.

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[12] See Item 435, email chain between Chair Young and Board Member Lefkovits. Ms. Ajami was out of the country at the time and did not participate in the email exchange. Mere passive receipt of an email or other communication does not give rise to a meeting. (*See Roberts v. City of Palmdale* (1993) 5 Cal. 4th 363, 376; *Frazer v. Dixon Unif. Sch. Dist.* (1993) 18 Cal. App. 4th 781, 797-798; *Wood v. Battle Ground Sch. Dist.* (2001) 107 Wash. App. 550, 565-566.)

3. Recusals of Board Members Muller and Abe-Koga Were Not Improper

Permittees object to the recusals of Board Members Muller and Abe-Koga at the June 10, July 8 and November 17-18 hearings on the grounds that the recusals were inappropriate and improper. Permittees contend they were entitled to present their testimony to individuals with backgrounds in municipal government; the full Board was required to act on the item; and recusal was not permissible in the absence of a disqualifying financial interest. (Alameda pp. 5-7; see also Santa Clara p. 6 ["the outcome of several key contested issues relative to MRP 2.0 might have been materially different had these two duly appointed and unconflicted Region 2 Board members participated in the proceedings"] and San Jose p. 5 ["had the diversity of opinion that is contemplated in the Water Code been brought to bear in adoption of MRP 2.0, the Final MRP 2.0 could have been materially different"].) Each of these contentions is meritless. Petitioners had no right to have their comments heard by a person in muni

a) The Two Board Members' Professional Background did not Require Them to Participate in the Vote on the Stormwater Item

Petitioners had no right to have their comments heard by a person in municipal government. Although California law authorizes elected or appointed "public officers associated with any area of government" to serve on regional boards (Wat. Code, § 13206), and requires the governor, to the extent practicable, to appoint individuals with "diverse" experience (Wat. Code § 13201, subd. (f)), the Legislature has eliminated historical areas of interest for regional water board members and the statute no longer requires regional water board members to have particular occupations or professional backgrounds. (Wat. Code, § 13201, subds. (b) and (c).) Even before those associational requirements were repealed, they did not supersede applicable conflict of interest requirements or prevent a quorum of the board from acting on a matter merely because any particular member happened to be absent.

b) The Full Board was not Required to Participate in the Vote

The Water Code anticipates that not all regional water board members will be able to vote on every item. (See Wat. Code, § 13207, subd. (a) [board members with disqualifying conflicts of interest required to recuse themselves]; see also Wat. Code, § 13201, subd. (g) [board members must be able to attend "substantially all" (not "all") board meetings].) The minimum quorum for the seven-member board is four. (*See Cnty. of Sonoma v. Superior Court* (2009) 173 Cal. App. 4th 322, 346, fn. 11; *Stanson v. San Diego Coast Regional Comm'n* (1980) 101 Cal. App. 3d 38, 47; 94 Ops. Cal. Atty. Gen. 100, p.3 (2011); Code Civ. Proc., § 15; Civ. Code, § 12.) Here, even with two members recusing themselves, five members, whose eligibility Permittees have not challenged, voted on the tentative order. The quorum requirement was satisfied.

c) Lack of a Financial Interest in the Proceedings Did Not Bar the Recusals

Finally, Board Member Muller's and Board Member Abe-Koga's recusals were both proper, even if, as Permittees contend, neither Board member had a financial interest that would be disqualifying under the Political Reform Act. (See Santa Clara, p. 5; San Jose, p. 6; Alameda, p. 5.) In this case, the two Board members recused themselves to avoid a perception of bias. Board Members Muller and Abe-Koga made a clear record when recusing themselves:

> [Board Member Muller]: I'm going to recuse myself from participating in the Municipal Regional Stormwater Permit, or MRP due to the fact that I've been a long time City Council Member and former Mayor of the City of Half Moon Bay in San Mateo County. The City of Half Moon Bay is a Permittee under the MRP. I'm recusing myself to avoid any appearance of bias due to my relationship with the City of Half Moon Bay.
>
> [Board Member Abe-Koga]: I also will be recusing myself. Last month I did so on the MRP item due to the fact that I served on the Mountain View City Council until January of this year. The City of Mountain View is a Permittee under the MRP ... I'm going to continue recusing myself to avoid any appearance of bias due to my relationship with the City of Mountain View.

(Item 436, RT-Jun 10, pp. 6-7.) Water Code section 13207 does not limit the circumstances under which regional water board members may recuse themselves and it is not the only basis for doing so.

A public official's duty to "avoid situations in which [his or her] allegiances may be divided" can warrant recusal or abstention from participation in matters beside those in which he or she is financially interested. (94 Ops. Cal. Atty. Gen. 100, pp. 4,6; see also *Lexin v. Superior Court* (2010) 47 Cal. 4th 1050, 1102 [absence of financial conflict of interest did not preclude finding that officials had breached fiduciary duty]; *State Water Resources Control Board Cases* (2006) 136 Cal. App. 4th 674, 840 [discussing elements of claim of bias]; Gov. Code, § 11425.40 [administrative officers subject to disqualification for "bias, prejudice, or interest in the proceeding"]; Gov. Code, § 11430.60 [disqualification based on ex parte communications].) In situations where recusal or abstention is not required by law, a public official's decision not to participate in a decision is an "exercise of personal discretion." (94 Ops. Cal. Atty. Gen. 100, p. 6.) Here, regardless of Board Members Abe-Koga's and Muller's actual financial interests, they retained discretion to abstain from the vote on the stormwater permit to avoid accusations or perceptions of bias.

4. Discussing "Tentative Thinking" Provided More Process; It Does Not Demonstrate Prejudgment of Issues

Permittees claim that Board members' preliminary comments regarding the draft Trash Provision (C.10) at the July hearing, and the tentative order at the November hearing,

were impermissible and had "a chilling effect on the public testimony that followed." (Alameda pp. 7-8). Permittees do not provide legal or factual support for either contention.

Although Permittees do not cite to a particular statute or principle, presumably their concern is that Board members' statements concerning tentative order indicate prejudgment of an issue. Impermissible prejudgment exists only where the decision maker has expressed some kind of commitment to a result. (*State Water Resources Control Bd. Cases*, *supra,* 136 Cal. App. 4th 674, 841; *Breakzone Billiards v. City of Torrance* (2000) 81 Cal. App. 4th 1205, 1236.) Here, the Board members' statements regarding their "tentative thinking" were not a commitment to take any particular action on the permit: none of the Board members suggested individually that they had made preliminary, much less final, decisions on whether they would vote for or against the permit. Nor did they, collectively, state or suggest that they had reached a consensus on it.

To the contrary, the Board members' lengthy and detailed comments in open session on the parts of the permit that they liked or had concerns about are in keeping with the letter and purpose of Bagley-Keene, which are to "ensure that actions of state agencies be taken openly and that their deliberation be conducted openly." (Gov. Code, § 11120.) By presenting their initial reactions and inviting feedback on those reactions, Board members kept the public apprised of the areas on which their deliberation would focus. In fact, Chair Young characterized the Board's comments in precisely this manner at both the July and November hearings. At the beginning of the July hearing, she stated:

> [W]e Board members, since we have studied the trash provisions and are pretty familiar with them at this point in time, are going to provide to both the staff and you, the members of the audience, what our draft reaction is to the draft that we see. And we're going to be doing that individually in order that you will be able to comment on our comments when you come up, and also in your written testimony. So we want to, rather than save most of our comments to the end, we're going to give them in the beginning, and that way they will be on the record, and you will be able to kind of see where we think we're going to be going, and be able to comment on that, and I do invite you to do that.

(Item 440, RT-Jul 8, at p. 9). She characterized their "tentative thinking" similarly in November:

> [T]he point of sharing with you what our preliminary thoughts is not to say that, "This is what we're going to do and you guys don't matter." Quite the contrary – it's to say, "These are our preliminary thoughts and if you don't like which direction they're going, come on and talk to us about it." In addition to – it's an opportunity for you folks, as I see it, to be able to target your comments toward the things that you most want to convince us of.

(Item 469, RT-Nov 18, at p. 138.) Other Board members also emphasized that they were open to hearing testimony. For instance, at the July hearing, Board Member Kissinger stated:

> I will be listening with real interest to what the testimony is today. And in particular, not just about the burdens that this permit would impose, but what are the right solutions that should be put in place to make sure that this serious and important problem does get dealt with.... So I really will be listening closely to what people have to say... I'm going to think very hard about the testimony and a closer review of the permit itself.

(Item 440, RT-Jul 8, at pp. 54-55.) Board Member Lefkovits similarly affirmed the value of having constructive input from Permittees:

> [I]f you tell us you don't like something, we have one response; if you tell us that you don't like something and there's a different way to get it done that achieves our basic goal, that's quite another. And so when I read through the comments, I'm really struck by the comments that come with a background of, "We are trying to meaningfully address and solve the problems that we commonly share," and those that don't.... [W]hen you read through, even skimming through, a stack like this, it's really clear where we as a Board can get additional help.... [I]t's really important to provide alternative thinking and different creative ways of addressing a problem, just not saying, "This should be struck."

(Item 469, RT-Nov 18, at pp. 142-143.) These comments suggest that the Board members were sensitive to the burdens MRP 2.0 placed on municipalities, and open to suggestions to improve it.

The record does not support the allegation that the Board member's expression of preliminary thinking "chilled" public testimony. Thirty-two individuals presented oral comments at the July hearing, and over one hundred individuals provided testimony at the November hearing. (Item 440, RT-Jul. 8, at 2-3; and Item 469, RT-Nov. 18, at 3-4.) The Regional Water Board received 60 written comments during the 60-day comment period. Permittees have not specified how their input was negatively affected or cut short, much less actively suppressed, as a result of the Board members' statements regarding their initial impressions of the Permit.

5. The Regional Water Board Properly Noticed and Held a Closed Session to Deliberate on MRP 2.0

A number of permittees allege that the Regional Water Board failed to provide proper notice of a closed session convened on November 19 to deliberate on adoption of MRP 2.0 and that closed session was unauthorized. (Alameda pp. 11; Santa Clara pp. 8-9; San Jose pp. 6-7.) These claims lack merit.

A state body may hold "a closed session to deliberate on a decision to be reached in a proceeding required to be conducted pursuant to Chapter 5 (commencing with Section 11500) or similar provisions of law." (Gov. Code, § 11126, subd. (c)(3).) Regional Water Board meetings are conducted pursuant to Government Code Chapter 4.5, sections 11400 et seq. (Cal. Code Regs, tit. 23, § 648, subds. (a)-(c).) Chapter 4.5 and the regulations governing regional board adjudicative hearings (Cal. Code Regs, tit. 23, §§ 647-649.6) collectively comprise "similar provisions of law" to those of Chapter 5 for the purposes of section 11126, subdivision (c)(3). (See Cal. Law Revision Comm'n Comment, Gov. Code § 11425.20 (1995) [noting that section 11425.20 "supplements" Bagley-Keene and that "under the open meeting law, deliberations on a decision to be reached based on evidence introduced in an adjudicative proceeding may be made in closed session"]; Recorder v. Comm'n on Jud. Performance (1999) 72 Cal. App. 4th 258, 281, fn. 22 [unpublished portion of disposition].) In addition, the formality of the November hearing made the proceeding "similar to" the formal adjudications governed by Chapter 5: Permittees submitted written comments in advance, provided sworn testimony pursuant to Government Code section 11513 and Evidence Code sections 801 through 805, an official transcript was recorded, and there was an extensive, public process throughout which Board members considered and weighed evidence. Accordingly, the closed session was authorized under Government Code section 11126, subdivision (c)(3).

Contrary to Permittees' assertion, the Regional Water Board's deliberations in closed session did not contravene the spirit or the letter of Bagley-Keene. (Santa Clara, p. 9.) As described above, section 11126, subdivision (c)(3), specifically contemplates closed-session deliberations by an agency that otherwise conducts hearings and renders decisions in public. (*Cal. State Emp. Assn v. State Personnel Bd.* (1973) 31 Cal. App. 3d 1009, 1013 [concluding that while Bagley-Keene "preserves inviolate the right of the public to participate fully and completely in open discussions," it allows the agency "an opportunity to review the evidence before it, to exchange views and to deliberate thereon under conditions conducive to calm, orderly and frank discussion."]; 71 *Ops. Cal. Atty. Gen. 96* (1988), p. 6 [refusing to imply closed session deliberation exception in Brown Act, where Legislature had expressly provided for one in Bagley-Keene]; see also *McNair v. NCAA* (2015) 234 Cal. App. 4th 25, 38 [recognizing "longstanding policy and laws protecting the confidentiality… of [deliberations] of administrative agencies acting in an adjudicative capacity"].)

The Regional Water Board gave adequate notice of the closed session. Government Code section 11125, subdivision (b), requires that notice of a meeting must contain "a brief general description," of 20 words or less, of the item to be discussed in closed session that includes "a citation to the specific statutory authority under which a closed session is being held." The notice of a potential need to deliberate in closed session, which appeared as Item 11 on the agenda for the November 18-19 Board meeting, met these requirements. (Item 455, Board Meeting Agenda (Nov. 18-19), 2015, p. 3.) Item 11 contained a citation to Government Code section 11126, subdivision (c)(3), and generally described the subject matter of the Regional Water Board's deliberations: "evidence received in an adjudicatory hearing… and a decision to be reached based on

that evidence." (*Ibid.*) Contrary to Permittees' assertions, the item to be discussed in closed session was clear from the agenda and properly noticed.

Government Code section 11126.3, subdivision (a) requires a state body to state "in an open meeting, the general nature of the item or items to be discussed in closed session." The Regional Water Board fulfilled this requirement. After the staff presentation and testimony from over one hundred commenters, Chair Young indicated, on the record, that "[they were] going to move into closed deliberative session now." (Item 470, RT-Nov. 19, p. 175). Counsel clarified, "[T]he Board is authorized to go into closed session to deliberate on the evidence received in an adjudicatory proceeding such as this one, and Legal can be there to assist you on that deliberation." (*Id.* at p. 164-165.) Thus, not only did the advance notice of the closed session satisfy open meeting requirements, but there was an on-the-record explanation of the purpose and need for the closed session during the hearing.

V. BAYKEEPER'S PETITION

Baykeeper's primary concerns are that the new permit is less stringent than the older permit (claimed backsliding violations) and does not have the rigor, accountability and transparency required by Order WQ 2015-0075.

A. MRP 2.0 Does Not Provide a "Safe Harbor" or Violate Anti-Backsliding Requirements

Baykeeper contends that MRP 2.0 adopts safe harbor provisions in Provision C.1 (Compliance with Discharge Prohibitions and Receiving Water Limitations) that excuse compliance with the receiving water limitations and discharge prohibitions for specific pollutants and receiving waters in violation of anti-backsliding requirements. (Baykeeper, pp. 2, 10-13.) Provision C.1 contains two types of compliance requirements. First, Permittees must comply with Discharge Prohibitions A.1 and A.2 and Receiving Water Limitations B.1 and B.2 by complying with the enumerated provisions of the permit through an iterative process. Permittees are not deemed to be in compliance with the Discharge Prohibitions and Receiving Water Limitations merely because they are engaging in an iterative process. Second, Provision C.1 provides an alternative compliance path to meeting the requirements for pesticides, trash, mercury, PCBs, and bacteria. Permittees who comply with the enumerated Provisions are deemed to be in compliance with the Receiving Water Limitations and, in the case of trash, the Discharge Prohibitions.

As discussed below, it is questionable whether anti-backsliding even applies to the receiving water limitations in MRP 2.0. Even if anti-backsliding applies, the contested provisions are as or more stringent in MRP 2.0 than MRP 1.0. In response to any argument that the provisions of MRP 2.0 are less stringent, new information developed over the prior permit term justifies the alternative compliance strategy adopted in the Permit.

1. Anti-Backsliding Does Not Apply

In considering the LA MS4 permit, the State Water Board's analysis of the anti-backsliding regulations evaluated whether the U.S. EPA intended to apply the regulations to municipal stormwater permits as opposed to traditional point sources. (Order WQ 2015-0075 at p. 20.)[13] The State Water Board further examined the ability to judge whether anti-backsliding occurred in the context of BMPs and plans, as opposed to a traditional numeric effluent limit applied at the "end of the pipe." After extensive consideration of the issue, the State Water Board determined that it was "unnecessary to resolve the ultimate applicability of the regulatory anti-backsliding provisions because, assuming for the sake of argument they do apply, the WMP/EWMP provisions would qualify for an exception to backsliding...." (*Id.* at p. 21.) A similar finding is warranted in this instance.

2. The Permit Terms in MRP 2.0 Are As or More Stringent Than MRP 1.0

Consistent with the LA MS4 and U.S. EPA Guidance concerning stormwater permits, MRP 2.0 Provisions C.9 through C.12 and C.14 each have an alternative compliance approach to meeting receiving water limitations and discharge prohibitions. (These provisions are notably narrower than the alternative compliance WMP/EWMPs in the LA MS4 permit.) As discussed in the Background section (Section II, *supra*), each of the permit requirements in MRP 2.0 for these pollutants are as stringent or more stringent than MRP 1.0, but the paths of compliance are distinct and not easily comparable with the requirements of MRP 1.0 for purposes of the specific, technical anti-backsliding requirements. A brief overview of the changes between the permits demonstrates these points:

a) PCBs

MRP 2.0 imposes a binding obligation on Permittees to meet their proportionate allocation of PCB loading to the Bay, in order to comply with the PCB TMDL. (Item 467, Fact Sheet, Provision C.12.) To achieve this reduction, Permittees must implement control measures more widely and intensively than during the previous permit term. (*Ibid.*) While MRP 1.0 required execution of pilot studies to test the PCB reductions achieved by various control measures, MRP 2.0 requires widespread construction and implementation of the measures that proved most effective in the pilot studies. (*Ibid.* at Provision C.12.a.) The alternative approach to compliance with receiving water limitations for PCBs requires more than long-term planning efforts (e.g., developing green infrastructure and demolition plans); it also includes mid-term and end-of-permit-term load reduction objectives that necessitate implementation of control measures and

[13] The Regional Water Board acknowledges the possibility that regulatory backsliding applies to this permit. See Order WQ 2015-0075, p. 20-21; 64 Fed. Reg. 68722, 68790 (Dec. 8, 1999); but rejects Baykeeper's suggestion that the 1987 amendments to the Clean Water Act conclusively established the applicability of regulatory or statutory backsliding provisions in the stormwater context. (Baykeeper, p. 12.) The Regional Water Board refers to the 1979 rulemaking that created the antibacksliding regulation as an indication of its original purpose, not proof that such purpose has not expanded since. (See Item 467, Fact Sheet, p. A-17 [citing 44 Fed. Reg. 32854, 32864 (June 7, 1979)]; see also Order WQ 2015-0075, p. 20, fn. 69.)

substantiation of the measures' effectiveness at reducing PCB loads using an approved assessment methodology and data collection system (Item 467, R2-2015-0049, Provision C.12.b.iii, p. 116; Fact Sheet, Findings C.12-10 - C.-12, pp. A-114-A-115; Provisions C.12.c, f, pp. A-121-A-123.) Thus, not only are Permittees required to meet quantitative reductions in PCB loading in compliance with the TMDL, the actions they must implement to achieve these reductions are more rigorous and comprehensive than in the previous permit.

b) Mercury

There is also a San Francisco Bay TMDL for mercury, and the MRP imposes corresponding, binding mercury load reductions. (Item 467, Fact Sheet, Finding C.11-5, p. A-104.) The control measures that must be implemented to achieve these reductions will be more rigorous than the pilot projects required by MRP 1.0. (*Id.* at Provision C.11.c. p. A-108.) As with PCBs, Permittees must substantiate their load reduction estimates with an approved methodology and data collection program. (Item 467, R2-2015-0049; Provision C.11.b.iii, p. 109.). However, due to the more diffuse distribution of mercury throughout the urban areas that drain to the MS4, the primary methods of reducing mercury loads are expected to be pollution prevention, source control and wider implementation of green infrastructure, as opposed to hotspot cleanups. (Item 467, Fact Sheet, at Provisions C.11.a, p. A-106 - A-107; C.11.c, p. A-108.)

Gathering of new information supported the discontinuation of methylmercury monitoring over this permit term, so elimination of that requirement does not amount to backsliding. (40 C.F.R. 122.44(*l*)(1).) Data collected by the Regional Monitoring Program demonstrated only a weak connection between methylmercury levels in runoff and in the Bay. Methylation appears to take place overwhelmingly in the Bay, so methylmercury in runoff does not contribute significantly to methylmercury levels in the Bay. Tracking methylmercury levels in runoff does not provide useful information for reducing methylmercury or total mercury levels in the Bay. (Item 597, Yee, *San Francisco Bay Methylmercury Mass Budget,* SFEI, p. 33.)

c) Pesticides

The control measures for urban pesticides, which are also subject to a TMDL and a source of toxicity in urban creeks, have remained consistent with MRP 1.0 required control measures. (Item 467, Order R2-2015-0049, Provision C.9, pp. 91-96; Item 503, Order R2-2009-0074, Provision C.9, pp. 88-91.) As MRP 1.0 stated, the primary means of reducing pesticide runoff is through continued implementation of Integrated Pest Management, a comprehensive suite of public outreach, education, and non-chemical pest control measures to reduce or eliminate reliance on pesticides. (Item 467, Fact Sheet, Provisions C.9.(a)-(d), p. A-85.). The pesticide provisions continue implementation of the pest management techniques begun the previous permit term.

d) Trash

Control measures for trash (which is not subject to a TMDL) have likewise tightened since the previous permit term. Control measures and assessment methodologies have

progressed past the pilot stage, and more widespread implementation is now required (Item 467, Fact Sheet, Finding C.10-8, p. A-90). Permittees must meet more stringent trash reduction requirements by installing and maintaining additional full-trash capture devices, targeting trash reduction efforts (e.g., increased street sweeping) in high and very high trash generation areas mapped in the previous permit term, and continuing to implement source control measures. (*Id.* at Provisions C.10.a.i-C.10.b.iv, p. A-90 - A-96.) In addition, Permittees must meet a new requirement to develop and test a receiving water monitoring program for trash. (*Id.* at Provision C.10.b.v, pp. A-96 – A-97.)

3. New Information Justifies Any Claimed Backsliding

The State Water Board ultimately recognized that, even if the alternative compliance path in MS4 permits could be considered subject to anti-backsliding requirements of the Clean Water Act and federal regulations, backsliding would be permissible in the case of the LA MS4 permit because new information was available to the Los Angeles Water Board that was not available in the previous permit term:

> The Los Angeles Water Board makes a compelling argument ... that the development of 33 watershed-based TMDLs adopted since 2001, the inclusion and implementation of three of those TMDLs in the 2001 Los Angeles MS4 Order, and the TMDL-specific and general monitoring and analysis during implementation, have made new information available to the Los Angeles Water Board that fundamentally shaped the ... MS4 Order.

(*Id.* at p. 21. See also 40 C.F.R. § 122.44(l)(1); 40 C.F.R. § 122.62(a)(2); 40 C.F.R. § 122.44(l)(2)(i)(B)(1).)

Baykeeper claims that there is a lack of evidence supporting the Regional Water Board's claim that new information exists that meets the exception to anti-backsliding. (Baykeeper, pp. 13, 18-19.) Baykeeper further claims that the Regional Water Board may not rely on "experience and knowledge," because such a broad interpretation of the anti-backsliding requirements would render the anti-backsliding meaningless." (Baykeeper, p. 13.) To the extent that any of the receiving water limitations are subject to anti-backsliding requirements, however, the same kind of new information the State Water Board adjudged satisfactory to meet the exception to anti-backsliding with respect to the LA MS4 permit exists here. During the MRP 1.0 permit term, the Regional Water Board gained additional experience and knowledge through feedback regarding implementation of actions required by the MRP 1.0, results of source identification studies and control measure effectiveness studies. (See, e.g., Item 527, McKee (2015); Item 531, IMR; and Item 554, Geosyntec Desktop Evaluation.)

4. Section 1342(o)(3) Does Not Prohibit the Regional Water Board's BMP-Based Alternative Compliance Provisions

Baykeeper's argument that the permit requirements violate Clean Water Act section 402, subd. (o)(3) challenges the long-accepted, U.S. EPA-endorsed program-based structure of the permit, the nature of TMDL implementation, and the State Water Board's endorsement of alternative compliance. Section 402, subdivision (o)(3) of the antibacksliding statute provides that: "In no event may a permit [subject to antibacksliding] be renewed, reissued, or modified to contain a less stringent effluent limitation if the implementation of such limitation would result in a violation of a water quality standard under section 1313 of this title." (33 U.S.C. 1342, subd. (o)(3).)

Baykeeper argues that this provision "restrict[s] the extent to which effluent limitations may be relaxed," and that the Regional Water Board's alternate compliance with receiving water limitations essentially allows "discharges that cause or contribute to violations of water quality standards." (Baykeeper, p.13.) Baykeeper ignores, however, the Regional Water Board's authority to require "timely implementation of control measures" to achieve water quality standards in stormwater permits. (See Order WQ 2015-0075, pp. 11, 13-14, citing State Water Board Order WQ 1999-05 (*Orange Cnty. Flood Control Dist.*), p. 2.; see also *City of Arcadia v. State Water Resources Control Bd.* (2006) 135 Cal. App. 4th 1392, 1427-1428; *Building Industry Ass'n v. State Water Resources Control Bd.* (2004) 124 Cal. App. 4th 866, 883.) Stepwise achievement of water quality standards is also authorized for pollutants for which TMDLs are in place and for trash, specifically. (Order WQ 2015-0075, p. 16-17; Final Staff Report for Trash Amendments, App'x D, p. D6-D7; see also State Water Board Reso. 2008-0025, Provision 6.c, pp. 5-6.) The State Water Board also has endorsed alternative compliance as a means of encouraging "significant," "watershed-based," systemic improvements in pollution control. (Order WQ 2015-0075, p. 16.) Thus, contrary to Baykeeper's allegations, alternative compliance measures or time schedules in a stormwater permit do not, in and of themselves, equate to "a relaxation of effluent limitations," "excuse compliance with [r]eceiving [w]ater [l]imitations" or otherwise authorize violations of water quality standards. (Baykeeper, p. 13.) Accordingly, MRP 2.0's recognition that compliance with water quality standards and receiving water limitations for PCBs, mercury, pesticides, bacteria, and trash will require policy-level change and planning, as well as time, does not violate the absolute limitation on backsliding in section 402, subdivision (o)(3).

B. MRP 2.0 Is Consistent with Order WQ 2015-0075

Baykeeper claims that Provision C.1 is inconsistent with Order WQ 2015-0075, and specifically challenges Provisions C.10 (Trash), C.11 (Mercury) and C.12 (PCBs). (Baykeeper, pp. 13-16.) In that Order, the State Water Board directed regional water boards to consider an alternative to direct enforcement of receiving water limitations. (Order WQ 2015-0075, p. 16 ["MS4 permits should incorporate a well-defined, transparent, and finite alternative path to permit compliance that allows MS4 dischargers that are willing to pursue significant undertakings beyond the iterative

process to be deemed in compliance with the receiving water limitations."].) This is exactly what the Regional Water Board has done in adopting MRP 2.0. Contrary to Baykeeper's claims, MRP 2.0 relies on Order WQ 2015-0075, which calls for allowance of alternative approaches to compliance with receiving water limitations. Order WQ 2015-0075 states MS4 permits should incorporate TMDL requirements and a rigorous alternative compliance path, such as C.1 and the C.11 mercury controls and C.12 PCBs controls, that allows Permittees appropriate time to come into compliance with TMDL requirements and receiving water limitations without being in violation of the receiving water limitations during full implementation of the compliance alternative.

NPDES permitting authorities have the authority and discretion "to determine that ensuring strict compliance with state water quality standards is necessary to control pollutants." (*Defenders of Wildlife v. Browner* (9th Cir. 1999) 191 F.3d 1159, 1166.) Pursuant to State Water Board precedents, the Regional Water Board has required compliance with water quality standards, but required less than strict compliance. (Order WQ 2015-0075, p. 11. See also State Water Board Order WQ 98-1, *supra*, at pp. 9-10, as amended by State Water Board Order WQ 1999-05 (*Envtl. Health Coal.*) ["permittees shall comply with ... Discharge Prohibitions and Receiving Water Limitations [] through timely implementation of control measures and other actions to reduce pollutants in the discharge in accordance with the [management plan]...."] [brackets in Order].) The MRP establishes concrete milestones and deadlines (compliance schedules) to achieve receiving water limitations for those pollutants and waters identified in Provisions C.10 through C.12. Requiring such milestones and deadlines is within the Regional Water Board's discretion to require strict compliance with water quality standards. (Order WQ 2015-0075, p. 11) The deadlines are as soon as possible in light of the municipalities' challenges to immediate compliance. (Order WQ 2015-0075, p. 34.) Moreover, the pesticide, mercury and PCBs deadlines are, as required by the federal regulations, consistent with the assumptions and requirements of the wasteload allocations of the relevant TMDLs. (40 C.F.R. § 122.44(d)(1)(vii)(B).)

The MRP 2.0 Fact Sheet describes each provision's consistency with Order WQ 2015-0075. (Item 467, Fact Sheet, pp. A-25 – A-26. See also Section II.B.2, *supra*.) In that Order, the State Water Board evaluated whether the LA MS4 management plans (abbreviated WMP/EWMP) created a sufficient compliance mechanism to ensure that LA MS4 permittees would implement the receiving water limitation provisions. The WMP/EWMPs are an alternative path to compliance with permit requirements; they "are designed to facilitate collaboration, prioritize actions and ensure improved water quality...." (Order WQ 2015-0075, at p. 1.) The Provisions in MRP 2.0 meet the same critical criteria the State Water Board developed in Order WQ 2015-0075: rigor, accountability and transparency.

Baykeeper contends that MRP 2.0 "contains nothing even remotely close to the rigor, accountability, or transparency" of the LA MS4 permit, claiming that MRP 2.0 "provides no objective criteria, specifications, or guidance, and requires no validation, peer-reviewed acceptable modeling methods, or minimum data requirements." (Baykeeper, p. 14.) As described in detail in the Background section (II.B.2 *supra*), MRP 2.0 satisfies each of the Principles outlined in Order WQ 2015-0075.

Baykeeper further contends that the Mercury and PCBs Provisions of MRP 2.0 lack "the rigor and accountability required by the LA Order." (Baykeeper, p. 15.) While Baykeeper admits that MRP 2.0 requires a reasonable assurance analysis (RAA) for PCBs and Mercury, it protests the purported lack of "detail or technical guidance to Permittees with regard to how to conduct such modeling." (*Ibid.*) If anyone should complain about potential ambiguity in provisions, it should be the Permittees, who will be held accountable for compliance. (Indeed, Permittees did express concerns with respect to the purported ambiguity in the visual assessment protocols in the Trash Provisions as described in Section IV.A, *supra.*) Although Permittees contest the Mercury and PCBs Provisions on other grounds, they do not suggest there is inadequate guidance to comply with the RAA requirements in the PCBs and Mercury Provisions.

Permittees do not question the clarity of the Mercury and PCBs Provisions calling for RAA. The RAA is part of Provision C.11.d (Mercury) and Provision C.12.d (PCBs) to submit implementation plans and schedules to attain TMDL wasteload allocations. These plans, which will be submitted with the last annual report within the term of MRP 2.0, will be publically vetted and reviewed and be a fundamental component of applications for permit reissuance. Any RAA shortcomings would trigger more specific and rigorous requirements in the next permit. Permittees are reasonably familiar with the analytical tools available to accomplish the analysis, and demonstrate an adequate understanding as to what the Permit requires in terms of final RAA products. Permittees also acknowledge that the permit requires them to undertake a related and overlapping (load reduction planning) exercise as part of developing their Green Infrastructure plans. Moreover, the Fact Sheet cites the foundational work for RAAs established as part of the LA MS4 permit so Permittees are aware of documentation that can help guide RAA development in this region. (Item 467, Fact Sheet, pp. A-108 - A-110. See also Item 529, Reasonable Assurance Modeling, Los Angeles.) Order WQ 2015-0075 further validates the use and development of these tools. The MRP 2.0 Fact Sheet also points out that LA MS4 RAA guidance should be supplemented by taking into account local watershed characteristics and well as existing data Permittees have already accumulated pursuant to MRP 1.0 regarding the distribution, fate and transport characteristics of Mercury and PCBs. (Item 467, Fact Sheet, pp. A-108 - A-110.)

C. Monitoring Provisions Will Determine Compliance With Permit Terms

Baykeeper contends that MRP 2.0 does not require "monitoring provisions sufficient to determine compliance with permit terms or yield data which are representative of the monitored activity." (Baykeeper, p. 18.) Specifically, Baykeeper claims that Provisions C.9 (Pesticides) and C.10 (Trash) do not include stormwater outfall, end-of-pipe or sufficient wet weather monitoring. (Baykeeper, pp. 2 and 16.) Baykeeper further states that MRP 2.0 does not require wet weather or outfall sampling for any pollutant except pesticides and toxicity monitoring. (Baykeeper, p. 8.) These claims are incorrect.

MRP 2.0 includes monitoring that is comparably effective to the monitoring provisions included in the LA MS4 permit and approved by the State Water Board in Order WQ 2015-0075. Both monitoring programs examine the effect of MS4 discharges in surface water, however, they differ in approach. Because Permittees have conducted comprehensive monitoring since the early 1990s, data already document the discharges from MS4s in the San Francisco Bay region and related impacts on receiving waters. For example, regardless of the type of land use, there are low-level discharges of metals, and these metals do not have detectable impacts to beneficial uses (aquatic life). (Item 650, Compendium of data from 1990s.) The monitoring requirements of MRP 2.0 are designed to fulfill specific monitoring needs and stormwater objectives in a cost effective manner, as U.S. EPA encourages. (61 Fed.Reg. 57425-02, 57428 (Nov. 6, 1996).)

The MRP 2.0 monitoring requirements are comprehensive. They include receiving water monitoring in creeks and in the San Francisco Bay/Estuary and monitoring. They also include stressor and source identification monitoring and monitoring to identify and determine effectiveness of implementation actions and control measures. Key monitoring requirements include:

(1) Monitoring of all San Francisco Estuary segments for a wide variety of pollutants (C.8.c). Permittees are required to contribute to the San Francisco Estuary Regional Monitoring Program conducted by the San Francisco Estuary Institute or to an equivalent monitoring program. The Regional Monitoring Program (RMP) includes status and trends monitoring of pollutants in Estuary waters, sediment, and fish and wildlife. The RMP also conducts studies of pollutant fate and effect and sources, pathways, and loadings, including pollutant loadings from tributaries and MS4s.

(2) Monitoring of creek receiving waters and creek sediments (Provision C.8.d and g) for specific chemicals, toxicity, biological condition, pathogens and parameters that indicate the presence of pollutants, such as temperature, dissolved oxygen, and pH. Monitoring is required in both dry weather and during storm events in urban creeks. Bioassessment and toxicity monitoring is also required. These integrating measurements can account for the effects of many chemicals.

(3) Special project monitoring studies (Provision C.8.e). Monitoring results which demonstrate that a water quality objective may be exceeded or biological assessments show something is stressing the aquatic life, trigger follow-up studies to determine the stressor(s) or source(s) that cause of the impacts.

(4) Monitoring of pollutants of concern (Provision C.8.f), such as pollutants causing impairment (mercury, PCBs, and pesticides) and pollutants that have potential to cause impairment (copper and nutrients). This monitoring encompasses several monitoring types and methods presented in Table 8.3-1, including, but not limited to, monitoring to identify pollutant sources, to inform pollutant load estimates, and to identify and determine effectiveness of management actions and control measures. Table 8.4-2 specifies the pollutants

that must be monitoring and the minimum effort (sites and frequency) of required types of monitoring. (5) In addition, MRP 2.0 contains specific pollutants provisions - C.10 (Trash), C.11 (Mercury), C.12 (PCBs), and C.14 (Bacteria in the Pacifica State Beach/San Pedro Creek watershed) - requiring Permittees to monitor to determine the effectiveness of load reduction actions

Baykeeper advocates for environmental issues, validly self-described as "protecting San Francisco Bay from pollution since 1989." (Baykeeper website, https://baykeeper.org, as of May 16, 2016.) The Regional Water Board partners with Baykeeper in many region-wide efforts and respects Baykeeper's role as an engaged stakeholder from the environmental community. The Regional Water Board shares Baykeeper's concern that Permittees provide sufficient monitoring to validate the effectiveness of BMPs and source control efforts. Much like the Regional Water Board's enforcement efforts, Baykeeper's ability to hold Permittees accountable using Clean Water Act citizen suits depends upon clear evidence of NPDES permit violations. (See, e.g., *NRDC v. Cnty. of Los Angeles, supra*, 725 F.3d 1194, 1207.) Baykeeper's recommended monitoring alternative, is to require end-of-pipe monitoring of receiving waters. (Baykeeper, p. 16.) "End-of pipe monitoring," however, is not straightforward as implied by Baykeeper, and has limited benefits versus multiple challenges when used to determine compliance with permit requirements as discussed further below.

The monitoring required in MRP 2.0 provides adequate data and information to allow both the Regional Water Board and Baykeeper to determine compliance with permit terms, and provides the additional benefit of monitoring the effectiveness of BMPs and source control efforts, allowing Permittees to refine their control measures. MRP 2.0 monitoring requirements reflect and build on decades of data collection in the San Francisco Bay region, both by Permittees and the Regional Monitoring Program. It is truly "next generation" monitoring, and, as discussed below, reflects the very latest in U.S. EPA guidance and permitting efforts across the nation. With more advanced monitoring, targeted to identify weaknesses in pollution control efforts, Permittees are more likely to advance technologies and efforts, ultimately controlling contribution of pollution to the San Francisco Bay, a goal that Baykeeper, Permittees and the Regional Water Board share.

U.S. EPA has determined that stormwater permits should use a variety of storm water monitoring tools including "receiving water chemistry; receiving water biological assessments (benthic invertebrate surveys, fish surveys, habitat assessments, etc.); effluent monitoring; including chemical, whole effluent and visual examinations; illicit connection screenings; and combinations thereof, or other methods," recognizing that end-of-pipe monitoring is more appropriate for an industrial facility than for a municipal facility. (61 Fed. Reg. 57425-02, 57428 (Nov. 6, 1996).) U.S. EPA has long recognized the difficulties inherent in monitoring stormwater because stormwater discharges are highly variable and unpredictable in terms of flow and pollutant concentrations and the relationship between discharges and water quality can be complex. (*Id.* at 57426.) For these reasons, U.S. EPA encourages permitting authorities to evaluate monitoring needs and stormwater objectives, ultimately selecting useful and cost effective monitoring approaches. (*Id.*, at 57428.) U.S. EPA identifies two primary goals of

monitoring: "1) to identify if problems are present, either in the receiving water or in the discharge, and characterize the cause(s) of such problems; and 2) to assess the effectiveness of storm water controls in reducing contaminants and making improvements in water quality." (*Ibid.*) MRP 2.0 monitoring requirements achieve these two goals.

U.S. EPA has acknowledged that the standard end-of-pipe monitoring has produced data of limited usefulness because of a variety of shortcomings which are identified in the National Research Council's (NRC) 2009 report "Urban Stormwater Management in the United States." (Item 576, National Research Council, *Urban Stormwater Management in the United States* (NRC Report), (2009).) Baykeeper correctly quotes a statement from the NRC that "[s]tormwater management would benefit most substantially from a well-balanced monitoring program that encompasses chemical, biological, and physical parameters from outfalls to receiving waters." (Baykeeper, at p. 17, fn. 6, quoting Item 576, NRC Report, at p. 6.) This quote, however, appears in the introduction to a discussion of monitoring needed from both industrial and municipal sources. NRC goes on to state that decades of monitoring from MS4s has provided a robust data set; such data do not exist for industrial facilities. (Item 576, NRC Report, at p. 20 of 529 [Prepublication p. 6] ["the quality of stormwater from urbanized areas is well characterized;" "industry should monitor the quality of stormwater from certain critical industrial sectors in a more sophisticated manner"]. See also p. 176, [Remarking on the "[a]dvances in biological monitoring and assessment over the past two decades"].)

The NRC study, along with many other authorities cited in the record, concludes that historic data collection methods (which are largely outfall- based) are inadequate to determine the effectiveness of targeted actions. *(Id.* at pp. 1 (page 15 of 529) ["there is limited information available on the effectiveness" of stormwater control measures] and 387 [collective "new direction for managing and regulating stormwater that would differ from the end-of-pipe approach traditionally applied"].) The NRC documents a movement toward watershed-based permitting which U.S. EPA believes will have more "environmentally effective results" and an ability to "emphasize measuring the effectiveness of targeted actions on improvement in water quality." (*Id.* at p. 387.)

In 2012, U.S. EPA issued the District of Columbia's MS4 Permit, endorsing the NRC's recommendations that MS4 programs modify their evaluation metrics and methods to include (1) biological and physical monitoring; (2) better evaluations of the performance and effectiveness of controls and overall programs; and (3) an increased emphasis on watershed scale analyses to ascertain what is actually going on in receiving waters. (Item 518, District of Columbia Municipal Separate Storm Sewer System (MS4) Permit, NPDES Permit No. DC0000221 (U.S. EPA 2012), p. 33.) U.S. EPA required the permittee to develop and submit for review and approval a monitoring plan with the following objectives: wet weather loading estimates; evaluate the health of receiving waters; source identification and wasteload allocation tracking (monitoring must be adequate to ensure wasteload allocations are attained in specified timeframes). (*Id.* at p. 32.) U.S. EPA set interim monitoring requirements, including a requirement for the permittee to "continue to implement a program to identify, investigate, and address areas and/or sources within its jurisdiction that may be contributing excessive levels of

pollutants to the MS4...." (*Id.* at p. 36.) Moreover, the annual report must contain "an assessment of the effectiveness of controls established by the [stormwater monitoring plan]." (*Id.* at p. 39.)

MRP 2.0's monitoring requirements mirror these requirements, focused on obtaining useful monitoring data to ensure compliance with the permit. It includes a combination of monitoring provisions designed to monitor urban creeks as well as the ultimate receiving water, the San Francisco Estuary, and to monitor points within the MS4 and areas that drain to MS4s. (Item 467, Order R2-2015-0049, Provisions C.8.c, d, e, f and g, pp. 71-89.) In this fashion, the Permittees will develop information concerning the health of receiving waters as well as information that will assist in identifying sources of pollutants and determining effectiveness of control measures.

In addition to monitoring described in the District of Colombia MS4 permit, MRP 2.0 adopted a suite of monitoring methods resembling those in the U.S. EPA's Multi-Sector General Permit (MSGP), including visual examination, analytical monitoring and compliance monitoring. (See Item 589, *Guidance Manual for the Monitoring and Reporting Requirements of the NPDES Stormwater Multi-Sector General Permit* (MSGP), at p. 3.) Like MRP 2.0 the MSGP requires benchmark monitoring to "determine the overall effectiveness of your control measures and to assist you in determining when additional correction action(s) may be necessary to comply with the effluent limitations." (Item 594, U.S. EPA NPDES Multi-Sector General Permit for Stormwater Associated with Industrial Sources (MSGP), at p. 41.)

U.S. EPA guidance drove the upgrades in the monitoring provisions from MRP 1.0 to the meaningful, action-based evaluations required in MRP 2.0. The 2010 NPDES Permit Writers' Manual advises permit writers to take into account a number of questions in determining monitoring locations; the most critical of which is, "Will the results be representative of the targeted wastestream?" (Item 596, NPDES Permitting Handbook (U.S. EPA, 2010), at p. 8-2.) With respect to monitoring frequency, the Handbook advises that the frequency should be "sufficient to characterize the effluent quality and detect events of noncompliance, considering the need for data and, as appropriate, the potential cost to the permittee." (*Id.* at 8-5.) The Handbook emphasizes that monitoring frequency is determined on a "case-by-case basis." (*Ibid.* See also Item 509, U.S. EPA Storm Water Management Fact Sheet – Visual Inspection (Sept. 1999) [ensuring compliance of BMPs]; and Item 511, U.S. EPA Stormwater Phase II Final Rule, Construction Site Runoff Control Minimum Control Measure (Dec. 2005) ["identify priority sites for inspection and enforcement"].)

U.S. EPA's Urban Stormwater BMP Performance: A Guidance Manual for Meeting the National Stormwater BMP Database Requirements (Item 593) describes the balance between "monitoring either (a) the status or condition of the water resource or (b) the pollutant load and event mean concentrations discharged to the water resource." (*Id.* at p. 10.) *Where the monitoring objective includes relating improvements in water quality to the pollution control activities, it is important that the parameters monitored are connected to the management measures implemented.*" (*Ibid* [emphasis added].) The Manual recognizes that it "is not practical to monitor water quality at every BMP within a

municipality," but it is possible to design a monitoring program that will yield estimates of effluent water quality for other similar BMPs by extrapolating data from a smaller number of locations. (*Id.* at p. 57.) As MRP 2.0 emphasizes, developing a monitoring plan that balances frequency and location with the utility of the data as a feedback loop is important because, "[c]learly, there is a need for balance here, because endless studies should not be substituted for control actions." (*Id.* at p. 68.) The focus should be on obtaining adequate measurements to develop a dataset sufficient to demonstrate actual BMP performance. (*Ibid.*)

Baykeeper claims that MRP 2.0 fails to require any "stormwater outfall, end-of-pipe, or wet weather monitoring for any pollutant, with the exception of one annual 'wet weather' sample from each county for pesticides." (Baykeeper, p. 16.) In fact, MRP 2.0 contains clear monitoring requirements by which the Regional Water Board and third parties will be able to determine Permittee compliance. Numbers and types of samples to collect, analytical parameters and methods, and reporting requirements are spelled out to a greater degree than in MRP 1.0. (Item 503, Order R2-2009-0074 and Item 467 Order R2-2015-0049 [compare, for example, MRP 1.0 Table 8.1 to MRP 2.0 C.8.d in total (Creek Status Monitoring); or MRP 1.0 C.8.c.v to MRP 2.0 C.8.e (Stressor/Source ID Projects)].)

The creek status dry-weather monitoring (Provision C.8.d) requires monitoring for chlorine, temperature, dissolved oxygen, and pH, which will yield data indicating whether there may non-stormwater discharges and whether water quality standards are met (albeit after not during storm events). Provision C.8.g requires pesticides and toxicity monitoring during both dry and wet weather. The pollutants of concern requirements are based on TMDLs, which in turn are based on knowledge that Permittees' discharges are causing violations of water quality standards for those pollutants. (Item 467, Order R2-2015-0049, Provision C.8.f, p. 81.)

The type of location is given, although the exact location in which to collect samples is not mandated, in order to facilitate a meaningful monitoring program that builds upon pre-existing knowledge and additional knowledge gained each year. (*Id.* at Provisions C.8, p. 71, and C.10, p. 97.) The permit also requires development and testing of receiving water monitoring tools and protocols and the option of alternatives like end-of-pipe monitoring, for potential use for compliance monitoring in the next permit term. (*Id.* Provision C.10.b.v, pp. 101-102.

Baykeeper contrasts MRP 2.0 with counterpart MS4 permits in Los Angeles, Santa Ana and San Diego, each of which requires more extensive end-of-pipe monitoring. (Baykeeper, at p. 17.) It bears mentioning that point of compliance monitoring will still occur under MRP 2.0 (Provision C.8.f), particularly for pollutants causing impairments; monitoring receiving water is a fundamental part of MRP 2.0's systematic approach. As part of the sampling required under Provision C.8, Permittees also are required to support the Regional Monitoring Program, which monitors the long-term health of the San Francisco Bay and pollutant sources and loadings. (Item 467, Order R2-2015-0049, Provision C.8.c [Estuary Monitoring], pp. 71-72.) Outfall sampling alone, however, will not yield information about progress towards meeting TMDL wasteload

allocations and mass loadings to the Bay, a primary purpose of the monitoring required in Provision C.8.f. Nor is outfall monitoring always the most effective way to measure the impacts of MS4 discharges to receiving waters because of the extensive variability in outfall monitoring data. For these reasons, MRP 2.0 takes a more holistic approach to monitoring than our sister regions. The targeted monitoring developed in MRP 2.0 is designed to assist Permittees in the development of management solutions as opposed to end-of-pipe monitoring that simply reflects more actions may be needed. Monitoring is optimized to demonstrate the success (or lack thereof) of various control measures. .

The MRP 2.0 monitoring will show compliance with permit requirements. There is no requirement that the San Francisco Bay region emulate monitoring requirements from other regions. (*In re City of Irving, Texas, Municipal Separate Storm Sewer System* (July 16, 2001) 10 E.A.D. 111 (E.P.A.), p. 6 [Clean Water Act allows permit writers to use a combination of pollution controls that may be different in different permits].)

Baykeeper asserts that, "without any representative data of stormwater discharges from the Permittees' MS4s, there will be no way to determine whether such discharges are causing or contributing to a violation of any applicable water quality standard for receiving waters." (Baykeeper, at p. 17.) Baykeeper advocates sampling representative outfalls during storm events. (*Ibid.*) Baykeeper's comment letter on the tentative order provided additional detail regarding Baykeeper's concern that creek status monitoring does not focus on stormwater discharges, but rather overall water quality. According to Baykeeper, dry season monitoring will not indicate whether stormwater discharge cause or contribute to any water quality issue. (See Item 461, Baykeeper Cmt. Letter, p. 10; Item 460, Response to Comments, pp. 178-179.)

Contrary to Baykeeper's claims, MRP 2.0 requires both wet and dry season monitoring, and further, will provide information on whether stormwater discharges caused or contributed to water quality issues. (Item 467, Order R2-2015-0049, Provisions C.8.f and g [wet season] and C.8.d and g [dry season]. See also enumerated points above providing the overview of the monitoring regime.) Dry season monitoring is critical because it is the only time to collect certain biologic assessment data (per method requirements) and it provides information on whether creek sediments are experiencing toxicity due to urban runoff By requiring Permittees to monitor the water bodies (both water column and sediment) that receive urban runoff, to take actions when "trigger" values are exceeded (Provision C.8.e), and to conduct pollutants of concern monitoring in strategic locations throughout the MS4 and drainage areas (Provision C.8.f), MRP 2.0 achieves a better level of protection than would be achieved by outfall monitoring, and in a more cost-effective manner.

D. MRP 2.0's Trash Provision Is More Rigorous Than the Trash Amendments and Require Reporting to Demonstrate Compliance.

Baykeeper raises two issues pertaining to the Trash Provision (C.10). First, Baykeeper asserts that permit requirements to implement full trash capture or equivalent controls and to achieve specified percentage are egregious safe harbor provisions because the

permit contains no specified monitoring requirements for determining trash load reductions or for determining whether the controls translate into trash reductions in receiving waters. (Baykeeper, pp. 15, 18.) Baykeeper further protests there is no public review process or any way to discern permittee compliance until the end of the permit term. (Baykeeper, p. 18.) Contrary to these claims, MRP 2.0 requires trash monitoring and reporting throughout the permit term and such results will be available to the Regional Water Board and the public. (Item 467, Fact Sheet, p. A-4, Provision C.7, p. A-66.)

Baykeeper correctly notes that trash does not fall under a wasteload allocation or implementation plan. (Baykeeper, p. 15.) But where Permittees would argue that the lack of an applicable TMDL would require only a numeric action level (see, e.g, Alameda, p. 15; San Jose, p. 10), Baykeeper interprets the absence of a TMDL to require receiving water monitoring to verify trash load reductions. (Baykeeper, pp. 15, 18.) The requirements in MRP 2.0 strike a balance between developing and implementing actions to reach water quality standards and requiring measureable, enforceable deadlines to ensure actions occur. MRP 2.0 has three measureable, enforceable deadlines during the current permit term:

- "Permittees should achieve 60 percent reduction by July 1, 2016... Permittees that do not attain the 60 percent performance guideline shall submit documentation of a plan and schedule of implementation...."
- "70 percent [reduction of trash discharges from 2009 levels] by July 1, 2017;" and
- "80 percent [reduction of trash discharges from 2009 levels] by July 1, 2019."

(Item 467, R2-2015-0049, Provision C.10.a, pp. 97 - 99.) These requirements ratchet up performance each successive year in a logical, stepwise process. The similar requirements in MRP 1.0 were significant and substantial enough to warrant mention as a model quantifiable approach to reduce trash loads by a certain percentage over time in U.S. EPA's nationwide review of current practices used in MS4 permits. (Item 598, U.S. EPA, Municipal Separate Storm Sewer Systems Permits: Post-Construction Performance Standards & Water Quality-Based Requirements – A Compendium of Permitting Approaches (June 2014), pp. 18-19.)

Both Baykeeper and Permittees agree that the visual assessments lack objectivity; both assert that the trash monitoring requirements fail to specify a universal protocol for determining load reductions or whether management actions translate into trash reductions in receiving waters. (Baykeeper, pp. 15-16; Alameda, pp. 12-13; San Jose, p. 9-10.) As discussed above in section IV.A, however, the visual assessment protocols have undoubtedly suffered "growing pains" during the MRP 1.0 permit term, including mid-permit term findings by the Regional Water Board that Permittees' trash baseline load estimates were inadequate, requiring subsequent substantial efforts to re-evaluate trash load baselines and visual assessment protocols.

Permittees do not propose any alternatives. Baykeeper asks the State Water Board to remand the Permit to the Regional Water Board with a requirement to add trash end-of-

pipe and receiving water monitoring, both of which are extremely difficult and lack established protocols, as evidenced by the fact that the Trash Amendments do not require such monitoring. (Item 602, Trash Amendments, pp. D-8, D-9 [like MRP 2.0, the Trash Amendments require monitoring to demonstrate the effectiveness of non-full trash capture approaches, but, unlike MRP 2.0 do not specify a means for doing so].) Similar to the State Water Board's Trash Amendments, MRP 2.0 establishes ambitious and rigorous load reduction requirements, including requirements to document and demonstrate the effectiveness of trash reduction controls albeit through on-land monitoring rather than end-of-pipe or receiving water monitoring. (Item 601, Trash Amendments, pp. D-8, D-9; and Item 467, R2-2015-0049, Provision C.10.b, pp. 99-100) MRP 2.0 also requires development and testing of receiving water monitoring tools and protocols and the option of alternatives like end-of-pipe monitoring, for potential use for compliance monitoring in the next permit term. (Item 467, R2-2015-0049, Provision C.10.b.v, pp. 101-102.)

MRP 2.0 is more aggressive than the Trash Amendments adopted by the State Water Board in 2015. Where MRP 2.0 provides detailed means for monitoring the effectiveness of trash controls and trash reduction, the Trash Amendments contemplate a less-developed trash landscape, in which permittees would be evaluating trash for the first time. The monitoring provisions of the Trash Amendments are in the design phase as compared with MRP 2.0. (Item 601, Trash Amendments, p. D-8, D-9 [describing minimum requirements that must be included in NPDES permits, including a requirement to "develop" monitoring plans.) As discussed above, in the event the State Water Board overturns the C.10 Provisions regarding Trash in MRP 2.0, the Regional Water Board would be required by the Trash Amendments to adopt essentially the same exact provisions. (*Id.* at pp. D-2 and D-5 – D-7 [NPDES permitting authorities shall modify, re-issue or adopt NPDES permits that include requirements consistent with the Trash Amendments"].)

VI. CONCLUSION

MRP 2.0 builds on new information and data developed through the MRP 1.0 permit term, resulting in a permit that complies with all applicable law, regulations, and policies as well as the latest developments in stormwater control. Permittees must control stormwater pollutants to the maximum extent practicable, MRP 2.0 adopts numeric effluent limits where feasible, and still provides flexibility for Permittees to design means of compliance and monitoring in manners that reflect Permittees' individual situations. The Board's public process to consider and adopt the Permit was the most extensive process of its kind in the Regional Water Board's history, inviting stakeholder input and considering hundreds of written comments and proposals, not to mention days of testimony at numerous public for a prior to adoption of the Permit. For these reasons, the Regional Water Board respectfully requests that the State Water Board deny the Petitioners' requests to vacate, remand and/or revise specific provisions of MRP 2.0.

VII. APPENDIX A

The following appendix is a list of all evidence in the Administrative Record. A checkmark has been placed in the adjacent boxes to demonstrate which evidence supports each of the related MRP 2.0 Provisions:

C.3 Green Infrastructure
C.8 Monitoring
C.10 Trash
C.11 Mercury
C.12 PCBs

Taken as a whole, Appendix A demonstrates that each of the contested provisions of MRP 2.0 is supported by substantial evidence.

APPENDIX A

Item Number	Document	C.3.	C.8.	C.10.	C.11.	C.12.
2011-2012 Annual Reports						
1	BASMAA_2011-12_MRP_AR	√	√	√	√	√
2	BASMAA_2011-12_MRP_DEV	√	√	√	√	√
3	BASMAA_2011-12_MRP_AR_POC	√	√	√	√	√
4	BASMAA_2011-12_MRP_AR_POC APPENDIX_A1	√	√	√	√	√
5	BASMAA_2011-12_MRP_AR_POC APPENDIX_A2	√	√	√	√	√
6	BASMAA_2011-12_MRP_AR_POC APPENDIX_A3	√	√	√	√	√
7	BASMAA_2011-12_MRP_AR_POC APPENDIX_A4	√	√	√	√	√
8	BASMAA_2011-12_MRP_AR_POC APPENDIX_A5	√	√	√	√	√
9	BASMAA_2011-12_MRP_AR_POC APPENDIX_A6	√	√	√	√	√
10	BASMAA_2011-12_MRP_AR_POC APPENDIX_A7	√	√	√	√	√
11	BASMAA_2011-12_MRP_AR_POC APPENDIX_A8	√	√	√	√	√
12	BASMAA_2011-12_MRP_AR_POC APPENDIX_A9	√	√	√	√	√
13	BASMAA_2011-12_MRP_AR_POC APPENDIX_A10	√	√	√	√	√
14	BASMAA_2011-12_MRP_AR_POC APPENDIX_A11	√	√	√	√	√
15	BASMAA_2011-12_MRP_AR_POC APPENDIX_A12	√	√	√	√	√
16	BASMAA_2011-12_MRP_AR_POC APPENDIX_B1	√	√	√	√	√
17	BASMAA_2011-12_MRP_AR_POC APPENDIX_B2	√	√	√	√	√
18	BASMAA_2011-12_MRP_AR_POC APPENDIX_B3	√	√	√	√	√
19	BASMAA_2011-12_MRP_AR_POC APPENDIX_B4	√	√	√	√	√
20	BASMAA_2011-12_MRP_AR_POC APPENDIX_B4b	√	√	√	√	√
21	BASMAA_2011-12_MRP_AR_POC APPENDIX_B5	√	√	√	√	√

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Item Number	Document	C.3.	C.8.	C.10.	C.11.	C.12.
22	BASMAA_UC_Monitoring Report 2012	√	√	√	√	√
23	ACCWP_2011-12MRP_AR	√	√	√	√	√
24	Alameda County_2011-12MRP_AR	√	√	√	√	√
25	Alameda_2011-12MRP_AR	√	√	√	√	√
26	Albany_2011-12MRP_AR	√	√	√	√	√
27	Berkeley_2011-12MRP_AR	√	√	√	√	√
28	Dublin_2011-12MRP_AR	√	√	√	√	√
29	Emeryville_2011-12MRP_AR	√	√	√	√	√
30	Fremont_2011-12MRP_AR	√	√	√	√	√
31	Hayward_2011-12MRP_AR	√	√	√	√	√
32	Newark_2011-12MRP_AR	√	√	√	√	√
33	Oakland_2011-12MRP_AR	√	√	√	√	√
34	Piedmont_2011-12MRP_AR	√	√	√	√	√
35	Pleasanton_2011-12MRP_AR	√	√	√	√	√
36	San Leandro_2011-12MRP_AR	√	√	√	√	√
37	Union City_2011-12MRP_AR	√	√	√	√	√
38	Alameda County Flood Control District_2011-12MRP_AR	√	√	√	√	√
39	Zone 7 Water Agency_2011-12MRP_AR	√	√	√	√	√
40	CCCWP_2011-12MRP_AR	√	√	√	√	√
41	Contra Costa County_2011-12MRP_AR	√	√	√	√	√
42	Clayton_2011-12MRP_AR	√	√	√	√	√

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Item Number	Document	C.3.	C.8.	C.10.	C.11.	C.12.
43	Concord_2011-12MRP_AR	√	√	√	√	√
44	Danville_2011-12MRP_AR	√	√	√	√	√
45	El Cerrito_2011-12MRP_AR	√	√	√	√	√
46	Hercules_2011-12MRP_AR	√	√	√	√	√
47	Lafayette_2011-12MRP_AR	√	√	√	√	√
48	Martinez_2011-12MRP_AR	√	√	√	√	√
49	Moraga_2011-12MRP_AR	√	√	√	√	√
50	Orinda_2011-12MRP_AR	√	√	√	√	√
51	Pinole_2011-12MRP_AR	√	√	√	√	√
52	Pittsburg_2011-12MRP_AR	√	√	√	√	√
53	Pleasant Hill_2011-12MRP_AR	√	√	√	√	√
54	Richmond_2011-12MRP_AR	√	√	√	√	√
55	San Pablo_2011-12MRP_AR	√	√	√	√	√
56	San Ramon_2011-12MRP_AR	√	√	√	√	√
57	Walnut Creek_2011-12MRP_AR	√	√	√	√	√
58	CCCFCWCD_2011-12MRP_AR	√	√	√	√	√
59	SMCWPPP_2011-12MRP_AR	√	√	√	√	√
60	San Mateo County_2011-12MRP_AR	√	√	√	√	√
61	Atherton_2011-12MRP_AR	√	√	√	√	√
62	Belmont_2011-12MRP_AR	√	√	√	√	√
63	Brisbane_2011-12MRP_AR	√	√	√	√	√

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Item Number	Document	C.3.	C.8.	C.10.	C.11.	C.12.
64	Burlingame_2011-12MRP_AR	√	√	√	√	√
65	Colma_2011-12MRP_AR	√	√	√	√	√
66	Daly City_2011-12MRP_AR	√	√	√	√	√
67	East Palo Alto_2011-12MRP_AR	√	√	√	√	√
68	Foster City_2011-12MRP_AR	√	√	√	√	√
69	Half Moon Bay_2011-12MRP_AR	√	√	√	√	√
70	Hillsborough_2011-12MRP_AR	√	√	√	√	√
71	Menlo Park_2011-12MRP_AR	√	√	√	√	√
72	Millbrae_2011-12MRP_AR	√	√	√	√	√
73	Pacifica_2011-12MRP_AR	√	√	√	√	√
74	Portola Valley_2011-12MRP_AR	√	√	√	√	√
75	Redwood City_2011-12MRP_AR	√	√	√	√	√
76	San Bruno_2011-12MRP_AR	√	√	√	√	√
77	San Carlos_2011-12MRP_AR	√	√	√	√	√
78	San Mateo_2011-12MRP_AR	√	√	√	√	√
79	SSF_2011-12MRP_AR	√	√	√	√	√
80	Woodside_2011-12MRP_AR	√	√	√	√	√
81	SMCFCD_2011-12MRP_AR	√	√	√	√	√
82	SCVURPPP_2011-12MRP_AR	√	√	√	√	√
83	Santa Clara County_2011-12MRP_AR	√	√	√	√	√
84	Campbell_2011-12MRP_AR	√	√	√	√	√

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Item Number	Document	C.3.	C.8.	C.10.	C.11.	C.12.
85	Cupertino_2011-12MRP_AR	√	√	√	√	√
86	Los Altos_2011-12MRP_AR	√	√	√	√	√
87	Los Altos Hills_2011-12MRP_AR	√	√	√	√	√
88	Los Gatos_2011-12MRP_AR	√	√	√	√	√
89	Milpitas_2011-12MRP_AR	√	√	√	√	√
90	Monte Sereno_2011-12MRP_AR	√	√	√	√	√
91	Mountain View_2011-12MRP_AR	√	√	√	√	√
92	Palo Alto_2011-12MRP_AR	√	√	√	√	√
93	San Jose_2011-12MRP_AR	√	√	√	√	√
94	Santa Clara_2011-12MRP_AR	√	√	√	√	√
95	Saratoga_2011-12MRP_AR	√	√	√	√	√
96	Sunnyvale_2011-12MRP_AR	√	√	√	√	√
97	SCVWD_2011-12MRP_AR	√	√	√	√	√
98	FSURMP_2011-12MRP_AR	√	√	√	√	√
99	Fairfield_2011-12MRP_AR	√	√	√	√	√
100	Suisun_2011-12MRP_AR	√	√	√	√	√
101	Vallejo_2011-12MRP_AR	√	√	√	√	√
102	VSFCD_2011-12MRP_AR	√	√	√	√	√
2013-2014 Annual Reports						
103	Training and Outreach-Provisions C.5.d. (Mobile Cleaners) C.7.b.-c. (Public Info and Outreach and C.9.h.i.(P-1)	√	√	√	√	√
104	Pesticide Toxicity Control-Prov C.9.e	√	√	√	√	√
105	Countywide Program-Alameda Countywide Clean Water Program	√	√	√	√	√

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106	Alameda County	√	√	√	√	√
107	Alameda	√	√	√	√	√
108	Albany	√	√	√	√	√
109	Berkeley	√	√	√	√	√
110	Dublin	√	√	√	√	√
111	Emeryville	√	√	√	√	√
112	Fremont	√	√	√	√	√
113	Hayward	√	√	√	√	√
114	Livermore	√	√	√	√	√
115	Newark	√	√	√	√	√
116	Oakland	√	√	√	√	√
117	Piedmont	√	√	√	√	√
118	Pleasanton	√	√	√	√	√
119	San Leandro	√	√	√	√	√
120	Union City	√	√	√	√	√
121	Alameda County Flood Control District	√	√	√	√	√
122	Zone 7 Water Agency	√	√	√	√	√
123	Countywide Program-Alameda Countywide Clean Water Program	√	√	√	√	√
124	Contra Costa County	√	√	√	√	√
125	Clayton	√	√	√	√	√
126	Concord	√	√	√	√	√
127	Danville	√	√	√	√	√
128	El Cerrito	√	√	√	√	√
129	Hercules	√	√	√	√	√
130	Lafayette	√	√	√	√	√
131	Martinez	√	√	√	√	√
132	Moraga	√	√	√	√	√
133	Orinda	√	√	√	√	√
134	Pinole	√	√	√	√	√
135	Pittsburg	√	√	√	√	√
136	Pleasant Hill	√	√	√	√	√
137	Richmond	√	√	√	√	√
138	San Pablo	√	√	√	√	√
139	San Ramon	√	√	√	√	√
140	Walnut Creek	√	√	√	√	√
141	Contra Costa County Flood Control & Water Conservation District	√	√	√	√	√
142	Countywide Program-San Mateo Countywide Water Pollution Prevention Program	√	√	√	√	√
143	San Mateo County	√	√	√	√	√

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144	Atherton	√	√	√	√	√
145	Belmont	√	√	√	√	√
146	Brisbane	√	√	√	√	√
147	Burlingame	√	√	√	√	√
148	Colma	√	√	√	√	√
149	Daly City	√	√	√	√	√
150	East Palo Alto	√	√	√	√	√
151	Foster City	√	√	√	√	√
152	Half Moon Bay	√	√	√	√	√
153	Hillsborough	√	√	√	√	√
154	Menlo Park	√	√	√	√	√
155	Millbrae	√	√	√	√	√
156	Pacifica	√	√	√	√	√
157	Portola Valley	√	√	√	√	√
158	Redwood City	√	√	√	√	√
159	San Bruno	√	√	√	√	√
160	San Carlos	√	√	√	√	√
161	San Mateo	√	√	√	√	√
162	South San Francisco	√	√	√	√	√
163	Woodside	√	√	√	√	√
164	San Mateo County Flood Control District	√	√	√	√	√
165	Countywide Program-Santa Clara Valley Urban Runoff Pollution Prevention Program	√	√	√	√	√
166	Santa Clara County	√	√	√	√	√
167	Campbell	√	√	√	√	√
168	Cupertino	√	√	√	√	√
169	Los Altos	√	√	√	√	√
170	Los Altos Hills	√	√	√	√	√
171	Los Gatos	√	√	√	√	√
172	Milpitas	√	√	√	√	√
173	Monte Sereno	√	√	√	√	√
174	Mountain View	√	√	√	√	√
175	Palo Alto	√	√	√	√	√
176	San Jose	√	√	√	√	√
177	Santa Clara	√	√	√	√	√
178	Saratoga	√	√	√	√	√
179	Sunnyvale	√	√	√	√	√
180	Santa Clara Valley Water District	√	√	√	√	√
181	Fairfield-Suisun Urban Runoff Management Program	√	√	√	√	√
182	Fairfield	√	√	√	√	√
183	Suisun	√	√	√	√	√

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184	Vallejo	√	√	√	√	√
185	Vallejo Sanitation and Flood Control District	√	√	√	√	√
June 2013 Status Report and Revised Approach to						
186	Baseline Trash Loads			√		
187	Trash Load Reduction Tracking Method			√		
191	Executive Officer's Report - Status of Municipal Efforts to Reduce Trash Loads			√		
193	Board Staff Comments on Trash Reports and Plans			√		
194	Response to Tom Mumley June 7 2012 letter			√		
Steering Committee Meetings (2013-2015)						
195	7-11-13 MRP 2.0 Steering Committee Meeting Notes	√	√	√	√	√
196	9-5-13 MRP 2.0 Steering Committee Meeting Notes	√	√		√	√
197	11-7-13 MRP 2.0 Steering Committee Meeting Notes				√	√
198	2-6-14 MRP 2.0 Steering Committee Meeting Notes	√	√		√	√
199	3-6-14 MRP 2.0 Steering Committee Meeting Notes	√	√		√	√
200	6-5-14 MRP 2.0 Steering Committee Meeting Note	√	√		√	√
201	9-4-14 MRP 2.0 Steering Committee Meeting Notes	√	√		√	√
202	10-2-14 MRP 2.0 Steering Committee Meeting Notes	√	√	√	√	√
203	10-2-14 Steering Committee Presentation Overview Mumley	√	√	√	√	√
204	2-5-15 MRP 2.0 Steering Committee Meeting Notes	√		√	√	√
205	3-5-15 MRP 2.0 Steering Committee Meeting Notes	√		√	√	√
206	4-2-15 MRP 2.0 Steering Committee Meeting Notes	√		√	√	√
207	6-4-15 MRP 2.0 Steering Committee Meeting Notes	√		√	√	√
208	8-6-15 MRP 2.0 Steering Committee Meeting Notes	√	√	√	√	√
209	MRP subcommittee Records					

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November and December 2013 Workshops						
210	June 2013 EO Report			√		
211	Nov 2013 Board Meeting Item 11 SSR			√		
212	Nov 2013 Trash Workshop Staff Presentation			√		
213	Board Meeting Agenda			√		
214	Board Meeting Minutes			√		
215	Board Meeting Transcript			√		
216	Board Meeting Minutes			√		
217	Board Meeting Agenda			√		
218	Board Meeting Transcript			√		
219	Dec 2013 Board Meeting Item 9 SSR			√		
Long Term Trash Plan Required by R2-2009-0074,						
225	Alameda Clean Water Program Long Term Trash Plan			√		
226	Alameda Long Term Trash Plan			√		
227	Alameda County Long Term Trash Plan			√		
228	Albany Long Term Trash Plan			√		
229	Atherton Long Term Trash Plan			√		
230	Belmont Long Term Trash Plan			√		
231	Berkeley Long Term Trash Plan			√		
232	Brisbane Long Term Trash Plan			√		
233	Burlingame Long Term Trash Plan			√		
234	Campbell Long Term Trash Plan			√		
235	Contra Costa Clean Water Program Long Term Trash Plan			√		
236	Clayton Long Term Trash Plan			√		
237	Colma Long Term Trash Plan			√		
238	Concord Long Term Trash Plan			√		
239	Contra Costa County Long Term Trash Plan			√		
240	Contra Costa County Long Term Trash Plan			√		
241	Contra Costa County Long Term Trash Plan Extension			√		
242	Cupertino Long Term Trash Plan			√		
243	Daly City Long Term Trash Plan			√		
244	Danville Long Term Trash Plan			√		
245	Dublin Long Term Trash Plan			√		
246	East Palo Alto Long Term Trash Plan			√		
247	El Cerrito Long Term Trash Plan			√		
248	Emeryville Long Term Trash Plan			√		

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Item Number	Document	C.3.	C.8.	C.10.	C.11.	C.12.
249	Fairfield Long Term Trash Plan			√		
250	Foster City Long Term Trash Plan			√		
251	Fremont Long Term Trash Plan			√		
252	Half Moon Bay Long Term Trash Plan			√		
253	Hayward Long Term Trash Plan			√		
254	Hercules Long Term Trash Plan			√		
255	Hillsborough Long Term Trash Plan			√		
256	Lafayette Long Term Trash Plan			√		
257	Livermore Long Term Trash Plan			√		
258	Los Altos 2-14 Long Term Trash Plan			√		
259	Los Altos Hills Long Term Trash Plan			√		
260	Los Gatos Long Term Trash Plan			√		
261	Martinez Long Term Trash Plan			√		
262	Menlo Park Long Term Trash Plan			√		
263	Millbrae Long Term Trash Plan			√		
264	Milpitas Long Term Trash Plan			√		
265	Monte Sereno Long Term Trash Plan			√		
266	Moraga Long Term Trash Plan			√		
267	Mountain View Long Term Trash Plan			√		
268	Newark Long Term Trash Plan			√		
269	Oakland Long Term Trash Plan			√		
270	Orinda Long Term Trash Plan			√		
271	Pacifica Long Term Trash Plan			√		
272	Palo Alto Long Term Trash Plan			√		
273	Piedmont Long Term Trash Plan			√		
274	Pinole Long Term Trash Plan			√		
275	Pittsburg Long Term Trash Plan			√		
276	Pleasant Hill Long Term Trash Plan			√		
277	Pleasanton Long Term Trash Plan			√		
278	Portola Valley Long Term Trash Plan			√		
279	Redwood City Long Term Trash Plan			√		
280	Richmond Long Term Trash Plan			√		
281	San José Long Term Trash Plan			√		
282	San Bruno Long Term Trash Plan			√		
283	San Carlos Long Term Trash Plan			√		
284	San Leandro Long Term Trash Plan			√		
285	San Mateo Long Term Trash Plan			√		
286	San Mateo County Long Term Trash Plan			√		
287	San Pablo Long Term Trash Plan			√		
288	San Ramon Long Term Trash Plan			√		
289	Santa Clara Long Term Trash Plan			√		
290	Santa Clara County Long Term Trash Plan			√		

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Item Number	Document	C.3.	C.8.	C.10.	C.11.	C.12.
291	Saratoga Long Term Trash Plan			√		
292	Santa Clara Valley Urban Runoff Pollution Prevention Program Long Term Trash Plan and Pilot Trash Assessment Strategy 2-14			√		
293	San Mateo Countywide Pollution Prevntion Program Long Term Trash Plan and Pilot Trash Assessment Strategy 2-14			√		
294	South San Francisco Long Term Trash Plan			√		
295	Suisun Long Term Trash Plan			√		
296	Sunnyvale Long Term Trash Plan			√		
297	Union City Long Term Trash Plan			√		
298	Vallejo Sanitation and Flood Control Long Term Trash Plan			√		
299	Walnut Long Term Trash Plan			√		
300	Woodside Long Term Trash Plan			√		
301	BASMAA Draft On-Land Visual Trash Assessment Protocal			√		
Municipal Regional Stormwater Permit Trash						
302	7-30-13 Trash Committee Meeting Summary			√		
303	6-24-14 Trash Committee Meeting Summary			√		
304	7-29-14 Trash Committee Meeting Summary			√		
305	10-28-14 Trash Committee Meeting Summary			√		
306	9-29-15 Trash Committee Meeting Summary			√		
Individual Trash Load Reduction Reports						
307	Alameda County			√		
308	Alameda			√		
309	Albany			√		
310	Berkeley			√		
311	Dublin			√		
312	Emeryville			√		

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Item Number	Document	C.3.	C.8.	C.10.	C.11.	C.12.
313	Fremont			√		
314	Hayward			√		
315	Livermore			√		
316	Newark			√		
317	Oakland			√		
318	Piedmont			√		
319	Pleasanton			√		
320	San Leandro			√		
321	Union City			√		
322	Clayton			√		
323	Concord			√		
324	CCC			√		
325	Danville			√		
326	El Cerrito			√		
327	Hercules			√		
328	Lafayette			√		
329	Martinez			√		
330	Moraga			√		
331	Orinda			√		
332	Pinole			√		
333	Pittsburg			√		

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Item Number	Document	C.3.	C.8.	C.10.	C.11.	C.12.
334	Pleasant Hill			√		
335	Richmond			√		
336	San Pablo			√		
337	San Ramon			√		
338	Walnut Creek			√		
339	Atherton			√		
340	Belmont			√		
341	Brisbane			√		
342	Burlingame			√		
343	Colma			√		
344	Daly City			√		
345	East Palo Alto			√		
346	Foster City			√		
347	Half Moon Bay			√		
348	Hillsborough			√		
349	Menlo Park			√		
350	Millbrae			√		
351	Pacifica			√		
352	Portola Valley			√		
353	Redwood City			√		
354	San Bruno			√		

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Item Number	Document	C.3.	C.8.	C.10.	C.11.	C.12.
355	San Carlos			√		
356	San Mateo County			√		
357	San Mateo			√		
358	SSF			√		
359	Woodside			√		
360	Campbell			√		
361	Cupertino			√		
362	Los Altos Hills			√		
363	Los Altos			√		
364	Los Gatos			√		
365	Milpitas			√		
366	Monte Sereno			√		
367	Mountain View			√		
368	Palo Alto			√		
369	San Jose			√		
370	Santa Clara County			√		
371	Santa Clara			√		
372	Saratoga			√		
373	SCVURPPP			√		
374	Sunnyvale			√		
375	Fairfield			√		

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376	Suisun			√		
377	VSFCD			√		
Municipal Regional Stormwater Permit Green						
378	1-6-14 Green Infrastructure Work Group Meeting Notes	√				
379	2-25-14 Green Infrastructure Work Group Meeting Notes	√				
380	3-25-14 Green Infrastructure Work Group Meeting Notes	√				
381	4-28-14 Green Infrastructure Work Group Meeting Notes	√				
382	6-2-14 Green Infrastructure Work Group Meeting Notes	√				
383	8-4-14 Green Infrastructure Work Group Meeting Notes	√				
384	11-3-14 Green Infrastructure Work Group Meeting Notes	√				
385	7-17-15 Green Infrastructure Work Group Meeting Notes	√				
Municipal Regional Stormwater Permit Pollutant of						
386	5-27-14 Pollutants of Concern Workgroup Summary				√	√
387	8-1-14 Pollutants of Concern Workgroup Meeting Summary				√	√
388	3-10-15 Pollutants of Concern Workgroup Meeting Highlights				√	√
389	2-27-15 Pollutants of Concern Workgroup Meeting Highlights				√	√
390	7-22-15 Pollutants of Concern Workgoup Meeting Outcomes and Agreements				√	√
Municipal Regional Stormwater Permit Applications						
391	Clean Water Program Alameda County, Application for MRP Reissuance	√	√	√	√	√
392	Santa Clara Valley Urban Runoff Pollution Prevention Program, Application for MRP Reissuance	√	√	√	√	√
393	San Mateo Countywide Water Pollution Prevention Program, Application for MRP Reissuance	√	√	√	√	√

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Item Number	Document	C.3.	C.8.	C.10.	C.11.	C.12.
394	Contra Costa Clean Water Program Application for MRP Reissuance	√	√	√	√	√
395	Fairfield Suisun Urban Runoff Management Program, Application for MRP Reissuance	√	√	√	√	√
396	City of Vallejo, Application for MRP Reissuance	√	√	√	√	√
397	Vallejo Sanitation and Flood Control District, Application for MRP Reissuance	√	√	√	√	√
December 2014 Workshop						
398	Water Board Meeting Transcript			√		
399	12-10-14 Board Minutes			√		
400	12-10-14 Agenda			√		
401	Trash Review 5 SSR 12-14-14			√		
402	Trash Workshop 12-2014 Staff Presentation			√		
Municipal Regional Stormwater Permit						
403	Interested Parties List for Administrative Draft					
404	Administrative Draft, Summary of Changes	√	√	√	√	√
405	Administrative Draft, Provisions C1, C3, C11, C12	√			√	√
406	Administrative Draft, Provisions C2, C4, C5, C6, C7, C8, C9, & C15		√			
407	Administrative Draft, Provision C10			√		
408	Administrative Draft, Provision C13					
409	Bay Area Stormwater Management Agencies Association – Administrative Draft Comments C10			√		
410	Alameda Clean Water Program – Administrative Draft Comments	√		√		√
411	Bay Area Stormwater Management Agencies Association – Administrative Draft Comments C7, C8, and C10		√	√		
412	Bay Area Stormwater Management Agencies Association – Administrative Draft Comments C11 and C12				√	√
413	Bay Area Stormwater Management Agencies Association – Administrative Draft Comments on PCBs in Building Materials					√
414	Building Industry Association of the Bay Area – Administrative Draft Comments	√				

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415	CLEAN South Bay – Administrative Draft Comments					
416	Contech – Administrative Draft Comments	√				
417	Contra Costa County – Administrative Draft Comments					
418	Contra Costa Clean Water Program – Administrative Draft Comments	√				
419	Contra Costa Clean Water Program – Administrative Draft Comments C3	√				
420	Oakland – Administrative Draft Comments			√		
421	San Leandro – Administrative Draft Comments	√		√		
422	Save the Bay – Administrative Draft Comments			√		
423	SF Baykeeper – Administrative Draft Comments	√	√	√	√	√
424	US EPA – Administrative Draft Comments	√	√	√	√	√
425	Water Resources Management – Administrative Draft Comments	√		√		
426	Administrative Extension of NPDES Permit No. CAS612008					
Municipal Regional Stormwater Permit Tentative						
427	Request for Legal Notice Publications for May 11, 2015 Tentative Order					
428	Public Notice Proofs for May 11, 2015 Tentative Order					
429	Public Notice Receipts for May 11, 2015 Tentative Order					
430	Interested Parties List for May 11, 2015 Tentative Order					
431	Lyris Notice for Tentative Order – May 11, 2015					
432	San Francisco Bay Regional Water Quality Control Board Meeting Agenda, 6-10-15	√	√	√	√	√
433	Item 8 for 6-10-15 Board Meeting - Municipal Regional Stormwater NPDES Permit	√	√	√	√	√
434	Staff Presentation for Item 8 - Municipal Regional Stormwater NPDES Permit	√	√		√	√
435	Young/Lefkovits emails					
436	6-10-15 Board Meeting Transcript	√	√		√	√

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437	San Francisco Bay Regional Water Quality Control Board Meeting Agenda, 7-8-15			√		
438	Item 6 for 7-8-15 Board Meeting - Municipal Regional Stormwater NPDES Permit			√		
439	Staff Presentation for Item 6 - Municipal Regional Stormwater NPDES Permit			√		
440	7-8-15 Board Meeting Transcript			√		
441	June 10, 2015 Board Agenda			√		
442	June 10, 2015 Draft Minutes for Board Consideration			√		
443	July 8, 2015 Board Agenda	√	√		√	√
444	July 8, 2015 Draft Minutes for Board Consideration	√	√		√	√
445	6-10-15 Agenda	√	√		√	√
446	6-10-15	√	√		√	√
447	7-8-15 Agenda	√	√		√	√
448	7-8-15	√	√		√	√
Municipal Regional Stormwater Permit Revised						
449	Request for Legal Notice Publication for Revised Tentative Order					
450	Interested Parties List for October 16, 2015 Revised Tentative Order					
451	Lyris Notice for Revised Tentative Order – October 16, 2015					
452	Notable Changes to Revised Tentative Order – October 16, 2015	√	√	√	√	√
453	Revised Tentative Order - October 16, 2015	√	√	√	√	√
454	Confirmation of Legal Notice Publication – Chronicle 10-19-15					
455	San Francisco Bay Regional Water Quality Control Board Agenda, 11-18-15					
456	Item 7 for Board Meeting – Municipal Regional Stormwater NPDES Permit – Staff Summary Report	√	√	√	√	√
457	Item 7 for Board Meeting – Municipal Regional Stormwater NPDES Permit – Appendix A – Revised Tentative Order (November 10, 2015)	√	√	√	√	√

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458	Item 7 for Board Meeting – Municipal Regional Stormwater NPDES Permit – Appendix B1 – Notable Changes	√	√	√	√	√
459	Item 7 for Board Meeting – Municipal Regional Stormwater NPDES Permit – Appendix B2 – Errata and Clarifications	√	√	√	√	√
460	Item 7 for Board Meeting – Municipal Regional Stormwater NPDES Permit – Appendix C – Response to Comments	√	√	√	√	√
461	Item 7 for Board Meeting – Municipal Regional Stormwater NPDES Permit – Appendix D – Comment Letters	√	√	√	√	√
462	Item 7 for Board Meeting - Supplemental			√		
463	Item 7 for Board Meeting - Supplemental by Chair Terry Young			√		
464	Staff Presentation for Item 7 - Municipal Regional Stormwater NPDES Permit	√	√	√	√	√
465	Fact Sheet Provision C10 with Changes Made By Board at Adoption Hearing			√		
466	Provision C10 with Changes Made By Board at Adoption Hearing			√		
467	Adopted Order R2-2015-0049 – MRP Reissued	√	√	√	√	√
468	Lyris Notice for R2-2015-0049 – MRP Reissued					
469	11-18-15 Board Meeting Transcript	√	√	√	√	√
470	11-19-15 Board Meeting Transcript	√	√	√	√	√
471	11-18-19-15	√	√	√	√	√
472	November 18, 2015 Board Agenda	√	√	√	√	√
473	November 18-19, 2015 Draft Minutes for Board Consideration	√	√	√	√	√
Municipal Regional Stormwater Permit, Order R2-						
474	C.3 Footnote 9, Flood Frequency Analysis based on USGS Bulletin 17B	√				
475	C.8 Footnote 22 SWAMP Standard Operating Procedures for Bioassessments		√			
476	C.8 Footnote 23 SWAMP Bioassessment Quality Assurance Guidance		√			
477	C.8 Footnote 23 Amendment to SWAMP Bioassessment Quality Assurance Guidance		√			
478	C.8 Footnote 24 Priphyton Bioassessment		√			

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479	C.8 Footnote 26 SWAMP Standard Operating Procedures for Benthic Macroinvertebrates Processing in Lab		√			
480	C.8 Footnote 28 Sullivan etal 2000		√			
481	C.8 Footnote 30 Recreational Water Quality Criteria 2012		√			
482	C.8 Footnote 31 Stressor ID Step 5 Overview		√			
483	C.8 Footnote 32 A Tiered Approach to Identifying Fecal Pollution Sources to Beaches, 12-2013		√			
484	C.8 Footnote 33 EPA 833-R-10-004, Test of Significant Toxicity Technical Document		√			
485	C.8 Footnote 34 Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms		√			
486	C.8 Footnote 35 EPA 833-R10-003, Test of Significant Toxicity Implementation Document		√			
487	C.8 Footnote 36 Methods of Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms		√			
488	C.8 Footnote 37 EPA/600/R-99/064 Toxicity and Bioaccumulation of Sediment-associated Contaminants		√			
489	C.8 Footnote 39 MacDonald Development and Evaluation of Consensus-Based Sediment Quality Guidelines		√			
490	Fact Sheet Footnote 1, 55 Federal Register 47990, 48052 November 16, 1990					
491	Fact Sheet Footnote 1, Irving Texas Storm Sewer System July 16, 2001					
492	Fact Sheet Footnote 1, Building Industry Association vs SWRCB 2004					
493	Fact Sheet Footnote 2, LARWQCB 2003 Review and Analysis of Budget Data FY 2000-03					
494	Fact Sheet Footnote 3, 7 & 12 Federal Register Vol 64, No 235 December 8, 1999 pp 68791-68792					

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495	Fact Sheet Footnote 4, 5 & 8 SWRCB 2005 NPDES Stormwater Cost Survey					
496	Fact Sheet Footnote 9, Epidemiological Study of Possible Adverse Health Effects of Swimming in Santa Monica Bay, May 7, 1996					
497	Fact Sheet Footnote 11, LARWQCB June 2004 Alternative Approaches to Stormwater Control					
498	Fact Sheet Footnote 10, LA Times May 2, 2005, Here's What Ocean Germs Cost You					
499	Fact Sheet Footnote 13 Reducing SW Costs through LID Strategies and Practices	√				
500	Fact Sheet C.3 Footnote 14, 2011 Harvest and Use, Infiltration Feasibility-Infeasibility Criteria Report	√				
501	Fact Sheet C.3 Footnote 15, Status Report on Application of Feasibility-Infeasibility Criteria for LID (2013)	√				
502	Fact Sheet C.3 Footnote 16, BASMAA White Paper on Provision C.3. February 27, 2015	√				
503	Fact Sheet C.3 Footnote 17, SFRWQCB Order No. R2-2009-0074, Attachment L November 27, 2011	√				
504	Fact Sheet C.3 Footnote 18, Western Washington Hydrology Model	√				
505	Fact Sheet C.3 Footnote 19, Bay Area Hydrology Model	√				
506	Fact Sheet C.3 Footnote 20, Contra Costa Clean Water Program Septermber 15, 2013 IMP Monitoring Report	√				
507	Fact Sheet C.3 Footnote 21, City of Vallejo April 2013 Hydromodification Management Plan	√				
508	Fact Sheet C.4 Footnote 23, 24, C.6 Footnote 32, 40, 41, Federal Register, Vol 55, No 222 Nov 16, 1990, pp 48056					
509	Fact Sheet C.4 Footnote 25, US EPA, 1999, 832-F-99-046, Storm Water Management Fact Sheet					

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510	Fact Sheet C.6 Footnote 28, epa.gov, 305b Report, 2004					
511	Fact Sheet C.6 Footnote 29, US EPA, 2005, Stormwater Phase II Final Rule Fact Sheet, Construction Site Runoff					
512	Fact Sheet C.6 Footnote 30,39, 42, 43, 44, 45, US EPA 2000, Stormwater Phase II Compliance Assistance Guide pp 4-31					
513	Fact Sheet C.6 Footnote 31, US EPA 1992, Guidance 833-8-92-002, Section 6.3.2.3					
514	Fact Sheet C.6 Footnote 34, 38, pseudo Footnote 33, 35, 36, 37, US EPA 1990, Sediment and Erosion Control Current Practices, pp II-1					
515	Fact Sheet C.8 Footnote 46 Approach to SW monitor		√			
516	Fact Sheet C.8 Footnote 47 NPDES SW Sampling Guidance EPA 833-B-92-001		√			
517	Fact Sheet C.8 Footnote 49 National Resource Council Urban Stormwater Management		√			
518	Fact Sheet C.8 Footnote 50 Washington DC Permit Fact Sheet		√			
519	Fact Sheet C.9 Footnote 53 EPA TMDL Memo					
520	Fact Sheet C.10 Footnote 54 EPA Stormwater TMDL Revisions to 2012 Memo issued in 2014			√		
521	Fact Sheet C.10 Footnote 55 Water Board Trash Assessment Method SWAMP v8			√		
522	Fact Sheet C.10 Footnote 56 SWAMP Trash Measurement in Streams, 2007			√		
523	Fact Sheet C.10 Footnote 57 Moore and Allen 2000			√		
524	Fact Sheet C.10 Footnote 58 Impacts of Marine Debris, Laist and Liffmann 2000			√		
525	Fact Sheet C.10 Footnote 59 McCauley and Bjorndal 1998			√		
526	Fact Sheet C.10 Footnote 60 Marine Debris, Sheavly 2005			√		

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527	Fact Sheet C.11 Footnote 61 Multi-Year Synthesis 2015, McKee and Yee				√	
528	Fact Sheet C.11 Footnote 62 and Fact Sheet C.12 Footnote 65 EPA Stormwater TMDL Memo				√	
529	Fact Sheet C.11 Footnote 63 Reasonable Assurance Modeling Los Angeles RWQCB				√	
530	Fact Sheet C.12 Footnote 66 PCB Yield Coefficients					√
531	Fact Sheet C.12 Footnote 68 Integrated Monitoring Report Part B Loads Avoided					√
532	Fact Sheet C.13 Footnote 69 Copper Source Report, 2004					
533	Fact Sheet C.13 Footnote 70 Copper Olfactory Final Report					
534	C.10 Region 4 Draft Basin Plan Amendments to Revise Ballona Creek and Wetland Trash TMDL			√		
535	C.10 Region 4 Resolution 2004-023, 3-4-04			√		
536	C.10 Resolution 2004-0059 State Board Approval of Region 4 2004-0059			√		
537	C.10 2004-023 Office of Administrative Law Approval of Region 4 2004-0059			√		
538	C.10 State Board - Proposed Final Staff Report and Trash Amendment, 12-31-14			√		
539	C.10 State Board - Final Staff Report and Trash Amendments, 4-7-15			√		
540	C.12 PCB 3000 gr per year Load Reduction Calculations					√
541	C.12 PCB 500 gr per year Load Reduction Calculations					√
542	C.12 PCB Green Infrastructure Load Reduction Calculations					√
543	C.14 Pacifica Administrative Policy #35					
544	C.14 Pacifica Animal Control Municipal Code					
545	C.14 San Mateo County Confined Animals Ordinance					
546	Fact Sheet C.8 BASMAA 1998		√			
547	Fact Sheet C.11 Mercury Green Infrastructure Load Reduction Calculations				√	

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548	Fact Sheet C.11 Mercury Staff Report Revised 9-2004				√	
549	Fact Sheet C.11 Mercury Yield Coefficients				√	
550	Fact Sheet C.12 Bioretention Paper PAH					√
551	Fact Sheet C.12 BMPs for Demolition Projects 2011					√
552	Fact Sheet C.12 Contra Costa Integrated Monitoring Report Part C					√
553	Fact Sheet C.12 Demolition Brochure, 5-29-13 BAPPG					√
554	Fact Sheet C.12 Desktop Evaluation Report of Controls PCB and Hg					√
555	Fact Sheet C.12 EPA Renovation Abatement of Buildings for PCB-Containing Caulk					√
556	Fact Sheet C.12 Existing Constrn & Demo Debris Programs - June 2015					√
557	Fact Sheet C.12 Existing Rules-PCB Demolitions					√
558	Fact Sheet C.12 Fact Sheet Sampling Methods PCBs in Caulk					√
559	Fact Sheet C.12 Klosterhaus and McKee et al 2014 PCBs in Caulk					√
560	Fact Sheet C.12 PCB Load Reduction Basis 2-23-15					√
561	Fact Sheet C.12 PCBs Caulk Model Implementation Process 2011					√
562	Fact Sheet C.12 PCBs in Caulk Final Report Summary of Findings					√
563	Fact Sheet C.12 PCBs in Caulk Training Strategy, Reduce PCBs Runoff from Demolition and Remodeling Projects					√
564	Fact Sheet C.12 PCBs TMDL Staff Report					√
565	Fact Sheet C.12 Redevelopment Sites MRP 2013-2014 Annual Reports					√
566	Fact Sheet C.12 Review of Integrated Monitoring Report Part B - PCB Hg Loads Avoided					√
567	Fact Sheet C.12 San Mateo Integrated Monitoring Report Part C					√
568	Fact Sheet C.12 Santa Clara Integrated Monitoring Report Part C					√

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569	Fact Sheet C.12 Tacoma PCBs Sampling Information					√
570	Fact Sheet C.12 Tacoma PCBs Sampling Results					√
571	Fact Sheet C.13 Copper Data from RMP					
572	Fact Sheet C.13 Copper Toxicity Paper					
573	Fact Sheet C.13 Hornberger - 1999 Cores Showing Copper Concentrations					
574	Fact Sheet C.14 San Pedro Creek and Pacifica State Beach Bacteria TMD Staff Report					
575	Response to Comments C8 Breuer May 2015		√			
576	Response to Comments C8 NRC SW Managemt in US 2009		√			
577	Response to Comments C8 FAHCE Background Information		√			
578	Response to Comments C12 Storm Water Panel Recommendations to the California State Water Resources Control Board - The Feasibility of Numeric Effluent Limits Applicable to Discharges of Storm Water Associated with Municipal, Industrial and Construction Activities					√
579	6-19-06, Feasibility of Numeric Effluent Limits Applicable to Discharges of Storm Water					√
580	Response to Comments C12 Citation 1 Davis et al 2014 PCB Synthesis					√
581	Response to Comments C12 Herrick 2007 Soil Contam from Caulk 2006					√
582	Response to Comments C12 PCBs in Bldgs - Herrick 2004					√
583	Response to Comments C12 PCBs in Redwood City Storm Drain					√
584	Response to Comments C12 State Board Order WQ 2015-0075					√
585	Response to Comments C12 State Board Order WQ 2000-11					√
586	Response to Comments C13 SFEI Copper Rolling Averages					
587						

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587.5	US EPA Memo to Region's Water Division Directors: Establishing TMDL Waste Load Allocations s for Storm Water Sources and NPDES Permit Requirements Based on Those Wasteload Allocations					
588	BMP Toolbox for Reducing PCB's & Hg				√	√
589	EPA MSGP Guidance Manual					
590	CASQA BMP Handbook 2003					
591	Washington D.C. NPDES Fact Sheet					
592	Washington D.C. NPDES Permit					
593	EPA BMP Monitoring Guidance Manual					
594	msgp #2015					
595	BAASMA Desktop Analysis PCB's and Hg Land Reduction				√	√
596	USEPA Permit Writer's Manual					
597	Yee Methylmercury Mass Budget				√	
598	EPA Compendium of Permitting Approaches	√	√	√	√	√
599	McKee, 2006 Literature Review Re PCB's and Hg				√	√
600	Guidance Manual for Developing Best Mangement Practices (BMP)					
601	Final Staff Report and Supplemental Environmental Document; Amendment to the Water Quality Control Plan for the Ocean Waters of California to Control Trash			√		
602	Trash Amendment Resolution 2015-0019			√		
603	Los Angeles MS4 Permit R4-2012-0175			√		
603.5	Los Angeles MS4 Permit R4-2012-0175 Fact Sheet			√		
2014-2015 Annual Reports						
604	ACCWP 2014-2015 MRP AR	√	√	√	√	√
605	Alameda 2014-2015 MRP AR	√	√	√	√	√
606	Alameda County 2014-2015 MRP AR	√	√	√	√	√
607	Alameda County FCD 2014-2015 MRP AR	√	√	√	√	√
608	Albany 2014-2015 MRP AR	√	√	√	√	√
609	Atherton 2014-2015 MRP AR	√	√	√	√	√
610	BASMAA 2014-2015 MRP AR Pest	√	√	√	√	√
611	BASMAA 2014-2015 MRP AR	√	√	√	√	√
612	BASMAA 2014-2015 MRP AR Train	√	√	√	√	√

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613	Belmont 2014-2015 MRP AR	√	√	√	√	√
614	Berkeley 2014-2015 MRP AR	√	√	√	√	√
615	Brisbane 2014-2015 MRP AR	√	√	√	√	√
616	Burlingame2014-2015 MRP AR	√	√	√	√	√
617	CCCFCWCD 2014-2015 MRP AR	√	√	√	√	√
618	CCCWP 2014-2015 MRP AR	√	√	√	√	√
619	Clayton 2014-2015 MRP AR	√	√	√	√	√
620	Colma 2014-2015 MRP AR	√	√	√	√	√
621	Concord 2014-2015 MRP AR	√	√	√	√	√
622	Contra Costa County 2014-2015 MRP AR	√	√	√	√	√
623	Daly City 2014-2015 MRP AR	√	√	√	√	√
624	Danville 2014-2015 MRP AR	√	√	√	√	√
625	Dublin 2014-2015 MRP AR	√	√	√	√	√
626	El Cerrito 2014-2015 MRP AR	√	√	√	√	√
627	Emeryville 2014-2015 MRP AR	√	√	√	√	√
628	Fremont 2014-2015 MRP AR	√	√	√	√	√
629	Hayward 2014-2015 MRP AR	√	√	√	√	√
630	Hercules 2014-2015 MRP AR	√	√	√	√	√
631	Lafayette 2014-2015 MRP AR	√	√	√	√	√
632	Livermore 2014-2015 MRP AR	√	√	√	√	√
633	Martinez 2014-2015 MRP AR	√	√	√	√	√
634	Moraga 2014-2015 MRP AR	√	√	√	√	√
635	Newark 2014-2015 MRP AR	√	√	√	√	√
636	Oakland 2014-2015 MRP AR	√	√	√	√	√
637	Orinda 2014-2015 MRP AR	√	√	√	√	√
638	Piedmont 2014-2015 MRP AR	√	√	√	√	√
639	Pinole 2014-2015 MRP AR	√	√	√	√	√
640	Pittsburg 2014-2015 MRP AR	√	√	√	√	√
641	Pleasant Hill 2014-2015 MRP AR	√	√	√	√	√
642	Pleasanton 2014-2015 MRP AR	√	√	√	√	√
643	Richmond 2014-2015 MRP AR	√	√	√	√	√
644	San Leandro 2014-2015 MRP AR	√	√	√	√	√
645	San Pablo 2014-2015 MRP AR	√	√	√	√	√
646	San Ramon 2014-2015 MRP AR	√	√	√	√	√
647	Union City 2014-2015 MRP AR	√	√	√	√	√
648	Walnut Creek 2014-2015 MRP AR	√	√	√	√	√
649	Zone 7 Water Agency 2014-2015 MRP AR	√	√	√	√	√
650	Summary - BASMAA Monitoring Data Analysis 1988-1995	√	√	√	√	√

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651	Annual Reports for 2012-2013 are available at http://www.waterboards.ca.gov/sanfranciscobay/water_issues/programs/stormwater/MRP/Annual_Reports.shtml	√	√	√	√	√
652	The Water Quality Control Plan for the San Francisco Bay Basin (Basin) is available at http://www.waterboards.ca.gov/sanfranciscobay/basin_planning.shtml#basinplan	√	√	√	√	√
653	The Total Maximum Daily Loads for PCBs, Mercury and Bacteria (Pacfica) are available athttp://www.waterboards.ca.gov/sanfranciscobay/water_issues/programs/TMDLs/index.shtml				√	√