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ESTABLISHED 1850

September 8, 2011

Charles Hoppin, Chair and Members  
 State Water Resources Control Board  
 P.O. Box 100  
 Sacramento, CA 95812-2000  
 c/o Jeanine Townsend, Clerk to the Board



**Subject: Comment Letter—Phase II Small MS4 General Permit**

Dear Chair Hoppin and Members of the Board:

The City of Vacaville (City) has reviewed the State Water Resources Control Board's (SWRCB) *Draft General National Pollutant Discharge Elimination System (NPDES) Permit for Storm Water Discharges from Small Municipal Separate Storm Sewer Systems (MS4s)*, for which the City is an existing traditional small MS4 permittee. The draft Phase II MS4 Permit was made available for public review on June 7, 2011, with comments extended to September 8, 2011, in a public notice dated July 27, 2011.

As an existing traditional MS4 permittee, the City is experienced in MS4 management by actively managing storm water discharges and implementation of its storm water management plan (SWMP). As provided in greater detail throughout this comment letter, the City is gravely concerned that the many new, expanded, and prescriptive measures of the draft Phase II Permit will place a considerable financial and resource burden on the City while yielding modest or unknown benefit to water quality.

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The City's Storm Water program is not a separately funded public utility. The mandatory elements of the existing MS4 Permit are managed and funded across several City departments. Review of the draft includes comments by City staff from each department. The comments first focus on the fiscal implications relative to existing financial commitments of the existing permit. This analysis of costs is followed by specific comments on the various elements of the draft Phase II MS4 Permit.

The City is committed to management and continuous quality improvement of storm water discharges. The City questions whether the approach proposed will effectively achieve these goals. The City strongly urges the State Water Board to reconsider its approach and work to revise the draft Phase II MS4 Permit in a manner that addresses the specific concerns the City has detailed herein. The City wishes to thank the State Water Board for this opportunity to comment, and we look forward to review of a revised draft Phase II MS4 Permit later in 2011.

Sincerely,

  
 Royce W. Cunningham, PE  
 Assistant Director of Utilities

**Fiscal Analysis and Costs to Implement the draft Phase II MS4 Permit**

The City has completed a fiscal analysis to compare the estimated costs to comply with the draft permit to its current costs to comply with the existing permit. Tables 1 and 2 present the results of this analysis. Table 1 shows costs associated with complying with the existing permit vs. costs estimated for the draft permit by program element, including one time costs incurred in the draft permit. Table 2 shows a year-by-year breakdown of estimated costs and estimates of the cost per resident/household based on current and projected population. Compliance with the current permit is estimated to cost the city approximately \$273,000 annually, while compliance with the draft permit is estimated to cost the City approximately \$890,000, on average, annually. At a time when the City has mandatory furloughs and has had to cut jobs, this type of increase will require the City to lay off even more staff, despite increased requirements of those that remain.

**Table 1: Comparison of Compliance Costs by Program Element**

<b>Program Element</b>	<b>Existing Permit Annual Costs</b>	<b>Draft Permit Annual Costs</b>	<b>Draft Permit One-Time Costs</b>
<b>E.4</b> Program Management Element	\$27,856	\$57,029	\$21,019
<b>E.5</b> Public Outreach and Education Program	\$31,395	\$21,421	\$250,000
<b>E.6</b> Public Involvement and Participation	\$34,663	\$5,168	\$2,153
<b>E.7</b> Illicit Discharge Detection and Elimination	\$25,424	\$36,158	\$5,156
<b>E.8</b> Construction Site Storm Water Runoff	\$17,848	\$57,566	\$0
<b>E.9</b> Pollution Prevention/Good Housekeeping For Permittee Operations Program	\$122,422	\$319,563	\$6,894
<b>E.10</b> Trash Reduction Program	N/A	\$2,223	\$15,488
<b>E.11</b> Industrial/Commercial Facility Runoff	N/A	\$36,605	\$147,089
<b>E.12</b> Post Construction Storm Water	\$1,803	\$29,616	\$248,027
<b>E.13</b> Receiving Water Monitoring	N/A	\$35,500	\$150,110
<b>E.14</b> Program Effectiveness Assessment and Improvement	N/A	\$32,001	\$55,357
<b>E.15</b> Total Maximum Daily Loads Compliance	N/A	\$4,286	\$0
<b>E.16</b> Online Annual Reporting Program	\$11,672	\$12,727	\$0
<b>TOTAL</b>	<b>\$273,083</b>	<b>\$649,862</b>	<b>\$901,293</b>

**Table 2: Draft Phase II MS4 Permit Costs Per Annum and Per Capita and Household**

<b>COST BY YEAR</b>					
<b>YEAR</b>	<b>2012 - 13</b>	<b>2013 -14</b>	<b>2014 -15</b>	<b>2015 -16</b>	<b>2016 -17</b>
Base Costs	\$649,862	\$649,862	\$649,862	\$649,862	\$649,862
One Time Costs	\$470,493	\$63,292	\$365,744	\$0	\$1,766
<b>Total Cost</b>	<b>\$1,120,355</b>	<b>\$713,154</b>	<b>\$1,015,605</b>	<b>\$649,862</b>	<b>\$651,628</b>
Est. Population <sup>1</sup>	92,428	92,890	93,355	93,821	94,290
Cost per resident	\$12.12	\$7.68	\$10.88	\$6.93	\$6.91
Cost per household <sup>2</sup>	\$30.79	\$19.50	\$27.63	\$17.59	\$17.55

<sup>1</sup> – 2012-2013 population based on 2010 census data (includes both prisons). Future years assume 0.5% per year growth rate.

<sup>2</sup> – Cost per household assumes 2.54 residents per household.

## Detailed Comments on draft Phase MS4 II Permit

**52.2** Comment #1: **Many of the timelines in the draft permit are infeasible and add substantially to the estimated cost of the program.** Aggressive timelines force the City to hire additional staff. If the timeframes were extended existing staff could budget the time to implement requirements. Additional new staff requires time to train in the rudimentary storm water requirements and general municipal day-to-day operations. Compounding the difficulty of implementing the initial requirements in a short timeframe is the frustration that the new staff may later not be needed once the initial requirements have passed. Recommendations for appropriate timelines are also included below:

- Certification of legal authority (E.4.a-b) – May 2013: Developing and approving ordinances requires multiple steps, each of which can take many months. These necessary steps include determining organizational needs and capabilities, and defining internal program procedures and protocols. The public notification process is extensive as well as internal timelines are often many months as the City’s legal staff reviews and re-reviews the proposed ordinance language and the City hosts workshops to educate and provide comment periods for its constituents as well. *Recommend revising to allow a minimum of five years following permit adoption.*
- Resource allocation (E.4.d.ii) – May 2013: It will not be possible to allocate the resources required to implement all the provisions of the draft permit within the first permit year. The City will have to first quantify the costs of compliance with the final adopted permit, determine how to allocate those costs to existing property owners, conduct substantial public outreach, and then conduct a rate payer vote pursuant to the requirements of Proposition 218 to be able to raise storm drain fees. In the current economic climate, such an increase is likely to take several years to pass, if at all. Incorporating the costs into various department budgets is time consuming as well. The permit will most likely be adopted in a budget that has no funding for these new requirements and at best may be able to increase funding by the following fiscal year (12/13). *Recommend revising to allow a minimum of five years following permit adoption.*
- Partnering (E.5.a.i) – September 2013: Regional partnerships can take well over a year to develop as negotiations regarding resource contributions require multiple rounds of internal analyses and involvement across different levels of the agencies involved. If new partners emerge or agreements cannot be reached, longer timeframes may be necessary. These types of partnerships typically exist over a long period of time, and they should not be rushed to meet an unreasonable deadline. The City respectfully requests that the Board allow these relationships the time they need to develop. *Recommend revising to allow a minimum of two years following permit adoption.*
- Develop and implement public outreach program (E.5.b.i) – May 2013: The requirements that the program measurably increase knowledge in the community, and measurably change behaviors, makes this timeline unrealistic. Programs designed to change behaviors will be implemented over the course of decades, and development of such programs is an iterative, carefully planned process. One only need to look at how long Lady Bird Johnson’s 1960s litter campaign, “Keep America Beautiful” took to make the public aware of this problem. *Recommend revising to allow a minimum of three years following permit adoption.*
- Baseline characterization/sediment budgets (E.12.b.1-2) – May, 2015 and May, 2013: These studies are exceedingly complex for most Phase II permittees, and it is certain that the City and most other permittees will need to hire consultants to prepare them at considerable cost. *Recommend developing*

*this as a group project for CASQA to conduct with a small subset of the larger MS4s in order to clarify the feasibility of this and develop a process.*

- Alternatively, recommend that the SWRCB rank the urgency for implementing the above requirements and separate them into two categories, most urgent and least urgent. The most urgent requirements would be incorporated into the current proposed Phase II MS4 Permit with time schedules as proposed above; the less urgent requirements would be planned forward for inclusion in the next subsequent permit renewal.

**52.3** Comment #2: **There is no scientific connection between the numerous prescriptive “minimums” and frequencies and actual water quality protection. Rather, we believe these prescriptive minimums will force the City to expend resources inefficiently, and in some cases, wastefully.** Examples include:

- Ranking 20% of the urbanized boundary as high priority (E.7.b.ii)
- Ranking 20% of catch basins as high priority (E.9.g.ii.d)
- Installation of trash capture controls in 20% of the permittee’s zoned commercial and retail wholesale (E.10)
- Ranking 20% of commercial/industrial facilities as high priority (E.11.c.ii.b)
- Maintenance of 20% of BMPs annually (E.14.d.a.ii)

These requirements effectively punish those MS4s which have expended considerable resources previous to this permit to ensure that their systems are in excellent condition. This also sets an unsound precedent that may limit a permittee’s incentive to address issues. For example, if 30% of catch basins were ranked high priority by the permittee there is a disincentive to limit it to 20%, as future permits may require higher percentages forcing the MS4 to spend even more resources, simply because of assigned minimums. In order for a permit of this magnitude to have any chance of being implementable, the implementation itself must be extremely cost-effective. This means leveraging existing resources, and focusing attention on priority areas. Establishing arbitrary minimums virtually guarantees that the implementation of the permit will not be cost-effective.

*Recommend removing all minimums and allowing the MS4s to establish priorities.*

**52.4** Comment #3: **The draft permit shifts the burden of enforcing state permits onto the Phase II MS4 permittee, without being allocated the resources to do so.** Specifically, the permit requires that the permittee:

- Enforce provisions of the Industrial General Permit (IGP)(E.4.a.ii.g, E.4.c.ii.d)
- Enforce provisions of the Construction General Permit (CGP)(E.4.c.ii.d, E.8)

In challenging economic times this shift in what Vacaville believes is the State’s responsibility may make economic sense to the State, as the State would clearly benefit from MS4s enforcing portions of the CGP and IGP. However, it is difficult to expect that MS4s, under the same set of economic conditions and fewer resources, will have the ability at all. If the state requires MS4s to assist in enforcing these permits, the responsibility should be transitioned over time and streamlined significantly.

*Recommend sharing a portion of the fees paid by IGP and CGP permittees to the State with MS4s to fund the additional burden of this requirement. Otherwise Vacaville strongly suggests that the IGP and CGP enforcement provisions be removed from the draft Phase II MS4 permit.*

52.5 → Comment #4: **The requirement to use community-based social marketing (CBSM; E.5.b.ii.c) is cost-prohibitive for the City.** CBSM is notoriously difficult and expensive to implement. The City does not have expertise, nor does the City reasonably expect to be able to acquire this expertise in-house. This requirement alone will cost hundreds of thousands of dollars to implement as it is described in this draft. A more reasonable approach would be to specify elements of CBSM that MS4s could reasonably expect to implement. This change alone would save many millions of dollars across the State, while preserving elements of CBSM which have proven most cost-effective.

*Recommend removing the requirement to use CBSM and replacing with the specific elements of CBSM which the state finds would be most cost-effective and feasible to implement.*

52.6 → Comment #5: **The formation of a citizen advisory group (E.6.ii.b) is time-consuming, unnecessary, and would be an ineffective tool for meaningful public participation, given the prescriptive nature of the permit.** It is the City's experience that finding members of the public who are willing to volunteer to commit their time to a citizen advisory group is exceedingly difficult. In addition, staff time to coordinate, post minutes and notify the public is burdensome. Furthermore, it is unclear to what extent this group would influence the permit conditions, since there is little flexibility in the implementation of the permit to begin with.

*Recommend that formation of a citizen advisory group be optional.*

52.7 → Comment #6: **Dry weather field screening analytical requirements are not defined (E.7.c.i-ii); and follow-up investigations based on analytical results in dry weather are very unlikely to yield meaningful results (E.7.c.ii.d).** Analytical results may take days or weeks to be reported by the laboratory. By this time, dry-weather discharge at a given location will likely have ceased, making follow-up investigation nearly impracticable. In the City's experience, discharges occurring in dry weather are very sporadic, and when detected, they are typically short-lived and rarely long enough to allow repeat investigation.

*Recommend limiting monitoring to field-measurable parameters, and limiting follow-up investigation based on these results to outfalls in areas in which follow-up investigation has a chance of success (i.e., heavily commercial/industrial areas, well-defined urban catchments, minimally branched storm-sewer systems).*

52.8 → Comment #7: **The Water Quality Runoff Standard should be modified from a full-retention requirement to one that requires projects to match pre-project conditions.** Due to underlying soils/bedrock, some sites would not naturally absorb the full 85<sup>th</sup> percentile storm event. Furthermore, site conditions will exist where full retention is not desirable.

*Recommend adding infeasibility criteria, which would include: areas of high groundwater table, projects of concern that are within wellhead protection areas, potential for pollutant mobilization, areas with clay soils, potential geotechnical hazards, land use(s) of concern, potential impairment of beneficial uses, conflict with water conservation goals, and lack of demand for harvested storm water.*

52.9 → Comment #8: **The requirement to retrofit flood management facilities with water quality and habitat enhancement features is problematic for both economic and regulatory reasons, and is not tied to**

**any type of environmental benefit (E.9.i).** The City is concerned about conflicts between this requirement and the requirements of the multiple regulatory agencies involved with the design and construction of such projects.

For example, the City has constructed and is in the process of designing additional detention basins that are under the jurisdiction of the Department of Water Resources, Division of Safety of Dams (DSOD). DSOD provides detailed direction regarding the design of the basins and must approve the plans and specifications for construction of the basins. DSOD does not allow any plantings of trees or shrubs on or near the berms of the basin and requires the removal of any vegetation should any start to grow. If the intent is to create a wetland habitat, the City is concerned that the basins would then be under the jurisdiction of the various environmental regulatory agencies including Fish and Game, U.S. Fish and Wildlife, the Army Corps of Engineers, and the National Marine Fisheries Service. Requirements for maintaining wetland areas are in direct conflict with maintenance activities necessary for the proper operation of a flood control facility. The City is concerned that the original purpose of the facility would become second to the creation of environmental habitat. Sacrificing acre-feet of storage to create environmental habitat would contribute to an unreasonable potential for continued flooding in the City.

Additionally, the City has concerns about how the DSOD will view incorporating water quality features (i.e. constructing a retention basin vs. a detention basin). This may change the design criteria for construction of the basins and may increase costs to the extent that it is not feasible to construct the much needed projects for protection of the residents of Vacaville. It should be noted that the purpose of the detention basins is to temporarily remove peak flows from the creeks during moderate to heavy storm events to prevent water from overtopping the creek banks downstream, within the city's urban limits. At the point that water starts to enter the basins, substantially turbid water is flowing heavily through the creeks, created naturally from storm erosion throughout the watershed area. Adding water quality features to the basin will not alleviate the water quality issues resulting from the storm event itself. Water continues to flow through the creeks while simultaneously entering the basin. Water within the basin will be metered back into the creeks within 48 to 72 hours once flows start to subside. The basin allow for some settlement of suspended solids and will be an improved condition from the flows in the creeks. Furthermore, retention basins require maintenance over time in order to remove sediment from the basin bottom, which will be an issue if the site is a habitat or protected wetland.

Construction of these basins is very costly due to the environmental issues and all of the regulatory oversight from various agencies. Our Alamo Creek Detention Basin has been designed to hold approximately 600 acre-feet at a total project cost of around \$14,000,000. The City is concerned about the proposed requirement to retrofit the newly constructed basins and the costs to do so. The City is already relying on several grant sources to design and construct the basins. Additionally, design reviews/approvals and the environmental process would need to be revisited.

Flood management facilities should only be retrofitted in the event that substantial environmental benefit is demonstrated, and it is feasible to do so. The requirements as drafted apply whether or not environmental benefit would be realized, and the requirements of the infeasibility analysis are not spelled out. If the high cost of construction, environmental review, and permitting qualifies as a factor contributing to infeasibility, most retrofit projects throughout the state will be infeasible in the current economic climate.



*Recommend removing this requirement until a consensus can be reached by a multi-agency panel comprised of the Division of Safety of Dams, California Department of Fish & Game, US Fish and Wildlife Service, National Marine Fisheries, and Army Corps of Engineers to modify existing regulations and or standards for constructing, retrofitting, and maintaining the flood management facilities as proposed.*

52.10 → Comment #9: **The Long-Term Watershed Process Management requirement (E.12.b.5) uses numerous undefined terms, and requires a process for setting numeric criteria which is poorly defined and untested.** Phrases used in this section that require definition include:

- “support and protect watershed processes”
- “maintain the watershed processes necessary to achieve long-term watershed health”

For example, it is difficult to conceptualize what might be meant by maintaining the watershed process of water quality constituent fate and transport. How is the City to evaluate the “health” of this process, and therefore the extent to which they must be protected? Deriving numeric criteria for watershed protection is, to a large degree, an untested process. It is likely that each permittee’s approach may be dramatically different.

52.11 → Comment #10: **Recommend removing the requirements of this section until a method with clearly defined terms is developed for establishing numeric criteria to protect these processes. (TAR)The Watershed Baseline Characterization requirement is poorly defined, and it is not clear how the results of this effort can be tied to numeric criteria.** There is no direction in the permit on how to compile and interpret the data, and also how to rank the “health” of watershed processes. What is a healthy fate and transport regime for metals, or for nutrients, or for turbidity? To the City’s knowledge, no standardized methods exist for evaluating the “health” of these processes. The City is concerned that tying all of these processes to numeric criteria intended to protect them throughout a watershed would be exceedingly complex, if possible at all.

*Recommend removing this requirement until the methods necessary to evaluate watershed process health and develop numeric criteria to protect these processes are developed or specified.*

52.12 → Comment #11: **The receiving water monitoring program is not justified within the permit, is of questionable value, and will likely yield results of limited utility to the City and other Permittees.** The receiving water monitoring requirement within the permit represents a significant shift from previous Phase II MS4 requirements, and thus its inclusion and design should be clearly justified. The City agrees with members of CASQA which have suggested that the state’s SWAMP program is best-suited to perform this type of receiving water monitoring. The extent of receiving water monitoring that would need to be conducted to determine long term trends is well beyond the resources available to the City or the typical Phase II MS4s permittee. However, if receiving water monitoring is to remain a part of the permit, several issues need to be addressed.

- **Objectives** – there needs to be a clear statement of what the monitoring programs objectives and goals are. If there are particular questions to be answered, these questions need to be clearly detailed. Without specific objectives and a clear understanding for how the collected information is to be used, there is little expectation that the resources invested in monitoring will yield productive value,



particularly if the objectives are well beyond what can be reasonably expected of a Phase II MS4 permittee.

- **Sampling sites** – monitoring sites located at the lowest end of the urban area also integrate pollutants contributed upstream of the urban area, outside of the jurisdiction of the City’s MS4. To separate out these contributions, a sample site upstream of the urban area is also required. However, for the City, these sites are 4-5 miles upstream in an area that is geologically, topographically, and geomorphologically very different than the downstream site. Distinguishing differences found between the two sites is not a simple task, and may require multiple monitoring stations between the two sites. Understanding storm water’s contribution to receiving water monitoring results, as opposed to contributions sourced upstream of the urbanized area, is exceedingly important given the draft Phase II MS4 Permit’s requirements for Toxicity Identification Evaluations (TIEs)/Toxicity Reduction Evaluations (TREs).
- **TIEs/TREs** – Toxicity investigations are not simple exercises, each one costing upwards of \$100,000 to conduct, and usually taking at least 2 years. Particularly given the above comment about contributions from upstream sources, the City is very concerned that, should multiple TREs be triggered during the permit term, the City would not be able to comply with the permit. Furthermore, TREs are best suited and most typically executed as joint effort between permittee and regulator, as detailed in EPA guidance. TREs are not “one size fits all”, but instead are very site and discharge specific. Such a TRE requirement would surely severely strain Regional and State Water Board resources.
- **General water quality parameters, temperature, nutrients** – it is unclear how this data will be used. These parameters are subject to numerous influences, both natural and anthropogenic. For example, many factors affect temperature and pH in a water body. These factors are often the result of natural conditions, and it is often difficult to attribute a particular change or condition of temperature or pH to an unnatural and controllable factor. Furthermore, a single grab sample for nutrients provides little insight into long-term nutrient trends, or the effect of that particular concentration of nutrients on beneficial uses.
- **Triggers** – The triggers for General Water Quality parameters and nutrients are “20% of results in one water body exceed one or more water quality standard or established threshold”. However, many of these do not have standards. There is no water quality standard for temperature (as part of the “General Water Quality” parameter group) or phosphorus. The requirement under the temperature parameter to compare temperatures to numbers in a reference (Sullivan et al, 2000) is troubling. No reference is made to determining whether there is an existing COLD beneficial use, if salmonids are present, or if they are not, from where a relevant temperature threshold for species that are present would be referenced. Use of thresholds values that are not State or Federally adopted water quality objectives as regulatory thresholds in an NPDES permit is inappropriate.

*Strongly recommend eliminating the receiving water monitoring program, and instead expanding the State’s SWAMP program to collect this data. Alternatively, recommend clearly identifying goals and objectives for monitoring, revising triggers to apply only to constituents with clearly defined enforceable water quality standards, and revising the program to require collection of meaningful data that is tied to the goals/objectives/questions that are to be addressed.*

Comment #12: **The pollutant load modeling requirement is highly burdensome and resource intensive for the City to conduct, and will be of limited accuracy and limited value because it is based on many assumptions and generalized models (E.14.c).** The Program Effectiveness Assessment is already very

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thorough, and a modeling component of limited accuracy and applicability does not add to the ability of the City to assess and improve its program.

*Strongly recommend removal of this requirement.*