



*Ventura Countywide
Stormwater Quality
Management Program*

Ventura Countywide Stormwater and
Total Maximum Daily Load (TMDL) Program
Funding Strategies, Preliminary Cost
Estimate, and Penalties of Non-Compliance

Camarillo
County of Ventura
Fillmore
Moorpark
Ojai
Oxnard
Port Hueneme
Santa Paula
Simi Valley
Thousand Oaks
Ventura
Ventura County Watershed
Protection District

June 15, 2017

Three technical memos on funding, costs, and penalties associated with future
NPDES Permit and TMDL requirements prepared by the
Ventura Countywide Stormwater Quality Management Program's
Management Committee

Ventura Countywide Stormwater and Total Maximum Daily Load (TMDL) Program Funding Strategies, Preliminary Cost Estimate, and Penalties of Non-Compliance

A new stormwater permit is likely to be adopted in late 2017. For planning purposes an understanding of stormwater and TMDL program funding options, projected costs, and penalties of non-compliance are presented here in three technical memorandums.

In 1994, the County of Ventura, the 10 cities in the County, and the Ventura County Watershed Protection District (VCWPD) were issued their first Stormwater Quality (NPDES) Countywide permit. To fund this effort the VCWPD and the cities implemented a countywide benefit assessment. Each subsequent permit increased requirements and costs. Costs have exceeded the Benefit Assessment revenue since the 1990's, and are projected to continually and significantly rise with the next permit.

Preliminary Cost Estimate

An estimate of future costs has been prepared through known existing Stormwater Program costs, a preliminary approximate range of capital costs associated with implementing structural control measures required to meet anticipated Permit requirements, and operations and maintenance (O&M) costs associated with future structural control measures. Estimates were developed from current program costs and extrapolated CIP costs from both TMDL Implementation Plans developed to address water quality impairments in Ventura County, and Enhanced Watershed Management Plans (EWMPs) developed for Los Angeles County Permittees. These costs are summed based on TMDL requirements and an assumed compliance schedule and added to EWMP development costs to produce preliminary cost estimates for Fiscal Years 2018/2019 through 2039/2040.

Countywide capital cost estimates range from under \$260 million to a high of close to \$2 billion for full implementation through 2040. Depending on a permittee's size and TMDL obligation the individual costs range from \$135,000 to over \$2 million per year for a small city, and range from to \$2 million to almost \$70 million per year for the largest cities. The O&M costs are estimated to be between 3.5% and 5.9% of the EWMP-derived capital costs. High and low stormwater program cost estimates are presented for FY 2018/2019 through FY 2028/2029 and FY 2029/2030 through 2039/2040 in Table 5 and Table 6, respectively in the Preliminary Cost Estimate Technical Memo.

Penalties of Non-Compliance

Non-compliance can result in penalties that can easily exceed compliance costs. Fines can be calculated per gallon with a maximum of \$10,000 a day for each constituent violating a receiving water limit. Additional penalties can be assessed based on the potential cost savings the violator achieved by not complying with regulations. Defending against third party lawsuits can also significantly increase the costs of non-compliance, or perceived non-compliance.

Funding Strategies

Making changes within the stormwater management discipline could provide Ventura County permittees with new opportunities for funding. Management activities for stormwater discharge should be funded as managing a resource with inherent value that is closely connected with water, wastewater, and solid waste collection utilities. Pursuing funding opportunities and benefits of a unified approach towards management of water should be considered prior to a balloted fee or tax increase.

Proposition 218 exempt a property-related fee for activities associated with water, wastewater and solid waste collection from balloting, but does require a publically-noticed protest hearing. To defeat an increase, or a new fee, a 50% protest is needed. This reduces the need to generate political support to pass a stormwater funding ballot measure.

Significant effort should be focused on the more technical and detailed analysis to quantify the clear financial and services nexus between stormwater and the water, wastewater and solid waste utilities. These other programs can fund many efforts driven by stormwater permits. Stormwater treatment through infiltration is also a water storage program, dry weather diversions to POTWs can be a wastewater program if a benefit to the POTW is shown (e.g. increase in reclaimed water or better plant operation), and street sweeping and trash capture should be considered solid waste programs.

The administration of multi-utility costs will be easier for municipalities who charge for and provide water, wastewater and/or solid waste collection services, but it is not required. The analysis and quantification is better handled at the City level, due to the unique ways of budgeting, and operating water, wastewater and/or solid waste collection providers. New fees can be successful, but increasing existing fees will not generate as much attention.

The VCWPD is authorized by its enabling legislation to store water. That may allow a prop 218 protest vote to generate funding for stormwater capture projects countywide, projects that will reduce pollutants, recharge groundwater, and provide greater drought resiliency and local water independence.

There are other potential sources of funding. A Proposition 218-compliant, property owner balloted, property-related fee is viable to fund local stormwater permit requirements. Requiring a 50% approval by the parcel owners it is the most common method for funding stormwater, with about 20 approved state-wide over the last ten years. A parcel based special tax would require two-thirds approval by the voting public and has been successful in a few coastal cities. Less likely to succeed would be a sales tax increase as seen with the recent defeat of Measure AA. Also not recommended is increasing the current benefit assessment as it would subject the entire assessment to voter approval, or rejection.

Through acknowledging the value of stormwater as a water source, and connecting it to water production through a robust engineer's nexus report, new funding can be possible using the prop 218 protest vote.

Ventura County City Manager Stormwater Quality Working Group

Stormwater Quality Funding Subcommittee

New Approaches and Opportunities for Stormwater Funding

December 2016

I. Background

In 1994, the County of Ventura the 10 cities in the County, and the Ventura County Watershed Protection District (VCWPD) were issued their first Stormwater Quality (NPDES) Countywide permit. These agencies have been working together to implement the Stormwater Permit as the Ventura Countywide Stormwater Quality Program (VCSQMP). The VCWPD serves as Principal Permittee, providing administration for the 10 cities, the County, and the District as Co-permittees. Concurrent with this first permit, the VCWPD and the cities implemented a countywide benefit assessment to pay for the new requirements. This assessment has been fixed at 1994-95 rates since 1996's Proposition 218 prohibited rate increases without majority balloting approval from property owners. The costs of the program now far exceed the revenue generated through this static benefit assessment.

After the costs for Principal Permittee activities exceeded the benefit assessment revenue received by the VCPWD, the cities began sharing the Principal Permittee costs. The costs were first shared in FY 2007-2008. See attached spreadsheet for current benefit assessment rates and distribution of Principal Permittee costs. In May 2009, the Los Angeles Regional Water Quality Control Board (Regional Board) adopted the new NPDES permit, which includes substantial additional requirements. Projections prepared by the VCSQMP estimate an annual cost of \$70-\$100 per household or \$25-\$35 million Countywide for implementation. If increased revenue streams are not identified then General Fund subsidies will be required to fund these new expenses for mandated stormwater program activities.

Although most California municipalities face similar costs increases associated with stormwater management, very few have successfully implemented dedicated funding mechanisms for these increased services since the passage of Proposition 218. This is largely due to the lack of widespread public support for such services. In 2006, the VCSQMP did some initial polling and found that local property owners only supported a maximum fee of approximately \$25.00 per single family home, which falls short of the needed funding.

II. A Recent Shift in Funding Approach for Stormwater Management Activities

Over the last several years, there has been a significant shift in the approach to local funding for stormwater in California. This shift is the direct result of the combination of several significant legal

cases, as well as a change in the state statute and an internal change within the stormwater management discipline and could provide Ventura County municipalities with new opportunities.

Currently, stormwater effluent and management activities are viewed, and should be funded, as a resource with inherent value that is closely connected with water, wastewater, and solid waste collection utilities. (The City of Los Angeles' "One Water LA2040" program exemplifies the blurring of the traditional and counterproductive lines between stormwater and water, stormwater and even flood control.) Ventura County municipalities are advised to actively pursue the clear funding opportunities and benefits of a unified approach towards management of water – including water, stormwater and wastewater, and solid waste - prior to considering a balloted fee or tax increase.

III. The Clear Nexus between Stormwater and Water, Wastewater and Solid Waste Collection Provides Funding Opportunities without Balloting

Proposition 218 stipulates that a property-related fee for activities associated with water, wastewater and solid waste collection is exempt from costly balloting, and only requires a publically-noticed protest hearing to be implemented. This is extremely significant because it is highly unlikely that a 50% protest would be achieved in most communities regarding funding for stormwater. (A stormwater-only, balloted, property-related fee is discussed in Section V., below)

As a result, the focus for most municipalities should shift away from the very challenging need to generate political support to pass a stormwater funding ballot measure and they should take advantage of the balloting exemption. The focus should be on the more technical and detailed analysis to quantify the clear financial and services nexus between stormwater and with water, wastewater and solid waste collection specific to its community.

Some clear examples in which stormwater costs should be funded through water, wastewater and/or solid waste collection rates include:

Water

- Supplying stormwater infiltration into the groundwater basin (active and passive)
- Supplying stormwater for use in saltwater intrusion barriers
- Supplying stormwater to emergency backup groundwater basins

Wastewater

- Monitoring and testing associated with wastewater (fecal coliform, etc.)
- Addressing illicit connections, discharges and overflows
- Supplying stormwater for optimal efficiency treatment plant operations

Solid Waste Collection

- Providing Street sweeping
- Conducting catch basin clean outs
- Implementing all Full-Trash-Capture requirements

Virtually all municipalities are involved in some of these activities, and some are already receiving stormwater management funding and/or services associated with these other utilities. It should

be noted that if the municipality directly charges for and provides water, wastewater and/or solid waste collection services, the administration of the service multi-utility costs is easier, but it is still viable for municipalities that do not.

Also, realize that in most cases, these existing stormwater service costs should be incorporated into the rate calculations for water, wastewater and/or solid waste collection utilities which may require an increase in these rates. While admittedly challenging, increasing these rates is less challenging than achieving voter approval for a stormwater fee.

A municipality may implement a stand-alone fee for stormwater funding exempt from balloting as long as it provides water, wastewater and/or solid waste services. For example, a municipality could implement a stand-alone stormwater-related trash capture fee, if that is more viable than just blending in it into an existing solid water collection fee, and still benefit from the balloting exemption.

Additionally, all costs associated with stormwater-related development services (plan checking inspections, etc.) should be carefully calculated and fully reimbursed, typically through a municipality's existing regulatory fees.

IV. City-by-City versus Countywide Approach Considerations

Individual cities in Ventura County are likely to be better poised to effectively fund stormwater management than a one-size-fits-all, County-wide effort. Each city should rigorously evaluate its own stormwater services as a resource that can be funded through its existing water, wastewater and/or solid waste collection revenues, along with development-related regulatory fee reimbursements, as described in the previous section. The analysis and quantification is better handled at the City level, rather than countywide, because each City has its own, unique way of handling the budgeting, operations, and relationships between water, wastewater and/or solid waste collection providers. Furthermore, if additional funding is needed and a balloted process is required, political support is typically easier to attain on the city level. For these reasons, and others, recent countywide efforts in Contra Costa County, Los Angeles County, Orange County and San Mateo County have all stalled.

Nonetheless, the VCWPD can provide a vital role in these efforts. First, by leading the VCSQMP the VCWPD can review, coordinate efforts and provide guidance including selection of consultants to provide the analysis described above for the stormwater as a resource approach. Second, if there is still a need for additional funding though a balloted approach, the VCWPD can coordinate efforts to optimize the economies of scale of working together.

V. Recommended Existing Traditional Approaches to Funding for Stormwater Management

In this section, several recommended approaches are described for additional funding that may be needed in addition to the funding that is already available and described in Section III. There are several options to explore, each with their advantages and disadvantages, and they are generally summarized below.

There are two basic types of balloted measures that can be used to fund stormwater management: special taxes (primarily defined and regulated through Proposition 13-driven language) and property-related fees (primarily defined and regulated through Proposition 218 language). Special taxes are typically conducted at polling places and require two-thirds support of voters, with one vote per registered voter. Property-related fees are typically conducted by mail, with a threshold of 50% support of voting property owners, and one vote per parcel

1.) Balloted Property-Related Fees

A Proposition 218-compliant, property owner balloted, property-related fee is a very viable revenue mechanism to fund local stormwater permit requirements. Proposition 218, approved by California voters in 1996, is well-known for establishing administrative and legal requirements to implement a common funding mechanism called a "benefit assessment." What is less well-known is that Proposition 218 also created a new mechanism called a "property-related fee." A property-related fee is a fee or charge imposed upon a parcel "as an incident of property ownership."

(Since Proposition 218's passage, property-related fees have been widely implemented and used for water, sewer, and solid waste collection services, and are exempt from the balloting requirement for these three services, and municipalities are strongly encouraged to take advantage of this exemption, as described in Section III., above.)

ADVANTAGES

Most Common Mechanism for Stormwater: Property-related fees are the most commonly used mechanism for funding stormwater programs. About 20 of them have been implemented in California over the last 10 years.

Legally Rigorous: There have not been any substantive legal challenges of this mechanism's use for stormwater services.

Political Viable: The approval threshold for a property-related fee is 50%, with one vote per fee-eligible parcel. This mechanism is likely more politically viable than a special tax.

CHALLENGES

Unfamiliar Process: One potential criticism of the property-related fee process is that property owners are generally unfamiliar with the process and opponents can exploit this. However, with the recent dramatic increase in voting by mail in California, this would not likely be a major issue. Nonetheless, political opponents can exploit this unfamiliarity and focus the public's attention on the Proposition 218 process and away from the proposed water quality improvement; this effectively derailed recent efforts in Contra Costa County and Los Angeles County. In the case of Contra Costa County, the opponents (in this case the anti-tax Editorial Board of the Contra Costa Times) characterized the balloting process as flawed because it was not handled by the County Registrar of voters, did not utilize secret ballots, signatures were required on the ballot, there were no pro and con arguments on the ballot materials, and the tabulation was performed by a private accounting firm, even though all of these items are legally required by Proposition 218 as sponsored by the Howard Jarvis Taxpayers Association.

Legal Scrutiny: Property-related fees for stormwater management are well established and legally stout. However, special attention must be paid to ensure the Proposition 218 process is carefully followed. Proposition 218-driven mechanisms are typically subjected to greater legal scrutiny than special taxes.

2.) Parcel Based Special Taxes

Special taxes are decided by registered voters and require a two-thirds majority for approval. Special taxes are well known to Californians but are not as common as property-related fees for funding of stormwater activities. Special taxes to fund stormwater services have been successfully implemented in the cities of Santa Cruz, and Santa Monica, and most recently in Culver City. Most special taxes are conducted on a parcel basis with rates potentially based upon property use and/or size, geographic zone, and other property-based attributes. Parcel taxes based upon the assessed value of a property are constitutionally prohibited.

ADVANTAGES

Legally rigorous: Special taxes, if approved by two-thirds of the registered voters within a community, are very reliable and very rarely successfully legally challenged. Special tax revenue has not been subject to state-level "take-aways" like the Educational Revenue Augmentation Funds (ERAF).

Common mechanism: Most property owners are aware and comfortable with (but not necessarily supportive of) the special taxes and the special tax process.

CHALLENGES

Higher political threshold: Generally speaking, the two-thirds majority threshold for approval is very politically challenging, particularly within the current political climate in California. Special taxes are subject to significant outside influence from media and opposition groups during voting, and are more vulnerable to other measures and candidates on the shared ballot.

VI. Not Recommended Existing Traditional Approaches to Funding for Stormwater Management

1.) Existing Countywide Benefit Assessment:

The 2002 Proposition 218 case, *Jarvis v. City of Salinas* effectively determined that the benefit assessment is not the legally applicable mechanism for stormwater services. To our knowledge, there have not been any significant, agency-wide benefit assessments created to manage stormwater in California since this decision was made in 1996

To be clear, VCWPD's existing countywide benefit assessment was established prior to the passage of Proposition 218 in 1996, and does not appear to be at an elevated risk of successful legal challenge, as long as it is not increased, and the methodology is not changed. However, a benefit assessment for stormwater management in the future is not appropriate.

2.) City or County Sales tax increases:

Although legally viable, a sales tax for stormwater would face significant political obstacles and would face limitations of maximum allowable sales tax percentage capacity.

3.) REGULATORY FEES - SB 310

Public agencies can impose certain “regulatory fees” without a balloting requirement. The fees are not taxes, assessments, nor property-related fees, and do not contradict Proposition 13 nor Proposition 218 if the fees satisfy certain requirements. Regulatory fees are derived from the “police powers” inherent to the local jurisdiction. These fees are commonly called “Sinclair Fees,” after the 1997 California Supreme Court decision in Sinclair Paint Company versus the State Board of Equalization (“Sinclair v. State”), which legally established their use.

In practice, Sinclair Fees are largely imposed by public agencies upon commercial and industrial polluters to defray costs of cleanup. Public agencies have also imposed regulatory fees for liquor stores, billboards, amount of solid waste, and rental housing properties, with the resulting revenue going towards related programs such as police protection, community beautification, recycling programs, and affordable housing. In fact, public agencies have imposed fees to offset the costs of stormwater program inspections on restaurants and other commercial and industrial entities. However, regulatory fees have not been assigned to individual residential parcels, to defray the costs of individual residential stormwater “polluters.”

Proposition 26, approved by California voters on November 2, 2010, has likely effectively eliminated the ability to use a regulatory fee for stormwater management costs, without a balloted two-thirds majority approval. This proposition re-classified many regulatory fees as taxes, with the corresponding election requirements. Additional clarity on the impacts of Proposition 26 will continue to emerge from California's legal community.

VII. Efforts to Amend Proposition 218 to exempt Balloting Requirement for stormwater

Several times over the last 20 years, State constitutional amendments have been introduced that would allow public agencies to increase fees for urban water management with only a protest hearing, adding it to water, wastewater and solid waste collection as exempt from balloting. Unfortunately, in each case, these efforts were not ultimately supported by the California state legislature and there is not a viable effort on the horizon.

VIII. Recommendations for Next Steps

- 1.) Each municipality should conduct a study to annually determine the specific costs of the services and infrastructure provided by its stormwater program to the local water,

wastewater, and solid waste collection utilities, in order to facilitate the reimbursement of these costs back to its stormwater program. This may require increases to existing property-related fees for these three utilities, or a new non-balloted property-related fees to reimburse local stormwater efforts could be implemented.

- 2.) Each municipality should all evaluate costs associated with stormwater-related development services including plan checking, inspections, etc. and ensure full reimbursement, typically through the municipality's existing regulatory fees.
- 3.) Each municipality should evaluate remaining outstanding stormwater program costs after implementation of steps 1 and 2 above, and consider an additional funding source such as a balloted property-related fee or a parcel based special tax. Careful public opinion surveying and extensive community outreach will be needed for these to succeed.
- 4.) The VCWPD should provide guidance and consistency for step 1, 2 and 3 above.

DRAFT

Memorandum

L A R R Y
W A L K E R



ASSOCIATES

DATE: June 1, 2017

TO: Ventura Countywide MS4 Copermitees

COPY TO: Ashli Desai

SUBJECT: **Preliminary Ventura County MS4 Permit Structural BMP Implementation Cost Estimate**

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INTRODUCTION

The Los Angeles Regional Water Quality Control Board (Regional Board) adopted the Ventura Municipal Separate Storm Sewer (MS4) Permit (Order No. R2-2010-0108) on July 8, 2010 (2010 MS4 Permit). The 2010 MS4 Permit expired on July 8, 2015 and is currently on administrative extension until the Regional Board completes the development of a new MS4 Permit. The preliminary cost estimates presented in this memo are based on the current understanding of the likely requirements in the next Permit the existing regulatory landscape for urban dischargers. These estimates will be revised as additional information becomes available and regulatory drivers evolve.

The Regional Board has indicated that it intends to include watershed management compliance options consistent with those included in the Los Angeles County MS4 Permit (Order No. R4-2012-0175) adopted on November 8, 2012 in the anticipated new Ventura MS4 permit. These new provisions will allow Ventura County Permittees to either develop Enhanced Watershed Management Plans (EWMPs) or meet numeric water quality objectives at each municipal outfall. Regardless of selected compliance options, the new MS4 Permit is expected to require planning for costly stormwater treatment to achieve compliance with TMDLs and/or meet water quality objectives in urban runoff.

This memorandum presents a summary of existing Stormwater Program costs, a preliminary approximate range of capital costs associated with implementing structural control measures required to meet anticipated Permit requirements, and operations and maintenance (O&M) costs associated with future structural control measures. These costs are summed based on an

assumed compliance schedule and added to EWMP development costs to produce preliminary cost estimates for Fiscal Years 2018/2019 through 2039/2040.

A summary of existing stormwater program minimum control measure (MCM) costs extracted from the 2016 Annual Report is presented in **Table 1**

CAPITAL COST ESTIMATES

Capital cost estimates associated with an anticipated Ventura Countywide EWMP were obtained from two types of sources. First, structural control measure implementation costs were reviewed and compiled from EWMPs developed in accordance with the Los Angeles MS4 Permit selected for relevance to Ventura County given similar land use characteristics and to capture the various approaches of the consultant teams involved. EWMPs for the Upper Santa Clara River, Malibu Creek Watershed (the portion within Los Angeles County only), Santa Monica Bay Jurisdictional Groups 2 and 3, Upper San Gabriel River, and North Santa Monica Bay Coastal Watersheds were selected. Capital costs per unit acre of urban area treated were extracted from each of these Los Angeles County EWMPs. A series of cost per unit area treated summary statistics were computed including average (mean), median, 25th percentile and 75th percentile. The urban MS4 jurisdictional area for each municipal agency was multiplied by the 25th percentile cost per unit acre treated and was assumed to represent the low end of the range of anticipated capital costs. Similarly, the urban MS4 jurisdictional area was multiplied by the 75th percentile cost per unit acre treated and was assumed to represent the high end of range of expected capital costs. Average (mean) and median statistics were computed but not used in subsequent steps of the analysis. Annual operations and maintenance (O&M) costs included in these estimates are presented in today's dollars. Capital cost estimate summary statistics based on selected Los Angeles County EWMPs are presented in **Table 2**.

As described in the selected Los Angeles County EWMPs, the cost estimates provided in **Table 2** are planning-level construction capital costs associated with planning, design, permits, and construction of watershed control measures. EWMP costs do not reflect the cost to demonstrate compliance with the Trash Amendments. These planning-level estimates involved some gross assumptions that cannot be verified or adjusted until preliminary planning, concept development, and design efforts are undertaken. Significant cost adjustment could be required to address issues determined during the planning such as: required private land purchases, un-infiltrative natural subsurface conditions, and variations on the type and scale of structural controls feasible for implementation. For example, construction and maintenance costs differ significantly for regional infiltration or treatment projects versus distributed green streets retrofits of existing infrastructure.

Cost estimates were also compiled from existing TMDL implementation plans developed to address water quality impairments in Ventura County. The only finalized TMDL implementation plan within the County is the Lower Santa Clara River Watershed (LSCRW) Bacteria TMDL Implementation Plan. While draft implementation plans exist for other watersheds such as Calleguas Creek, cost estimates are preliminary and are being further refined and were not included in this analysis. A summary of capital cost estimates derived from the LSCRW Bacteria TMDL Implementation Plan is presented in **Attachment 1**.

ESTIMATED OPERATIONS AND MAINTENANCE COST ESTIMATES

Estimated capital and annual O&M estimates were extracted from the LSCRW Bacteria TMDL Implementation Plan for each of the seven identified and evaluated regional structural infiltration BMPs as well as the area assumed to be treated by distributed scale green streets. Estimates of O&M for each of the seven regional infiltration BMPs were approximately 3.5% of estimated capital costs while O&M of distributed scale green streets were 5.9% of estimated capital costs. Implementation efforts are expected to involve some combination of distributed and regional scale infiltration or capture and reuse infrastructure to address pollutants of concern. A “low” O&M cost was computed as 3.5% of the 25th percentile EWMP-derived capital cost estimate while a “high” O&M cost was calculated as 5.9% of the 75th percentile EWMP-derived capital cost estimates. Low and high annual O&M cost estimates for all structures associated with EWMP-derived capital costs are presented in **Table 3**.

EXISTING AND ANTICIPATED VENTURA COUNTYWIDE STORMWATER QUALITY MANAGEMENT PROGRAM

Ongoing efforts of the Ventura Countywide Stormwater Quality Management Program (VCSQMP) including monitoring, reporting, and public outreach are expected to continue. The Permittees have also achieved efficiency by working together through the VCSQMP for regional studies and projects such as the Technical Guidance Manual for New Development and the recent Stormwater Resource Plan. Historically, the VCSQMP has spent approximately \$1.6M a year shared through the principal program implementation agreement cost sharing formula. Recent discussions with the Regional Board have indicated they would allow a single countywide EWMP. It is assumed the VCSQMP will be working together to develop this plan. While the new Permit is expected to require agencies to implement a series of customizable enhanced MCMs, future annual costs were assumed to be consistent with the projected FY 2016/2017 MCM costs associated with the current Permit. An annual MCM cost estimate was computed by summing all program costs outlined in the 2016 Annual Report.

The VCSQMP shared previously developed estimates for EWMP development with smaller, less complex watersheds, expected to cost close to \$250,000 per plan while larger, more complex watersheds would cost closer to \$800,000. The Coastal watersheds (Coastal) were assumed to be smaller and require less complex EWMPs while the Malibu Creek (MCW) and VRW were assumed to require moderately complex EWMPs at a cost of \$650,000. While the CCW was assumed to require a complex EWMP, efforts to translate the existing draft Calleguas Creek Watershed Implementation Plan to a compliant EWMP was assumed to be consistent with a simple effort costing approximately \$250,000. Similarly, efforts to translate the LSCRW Bacteria TMDL Implementation into a complex EWMP was assumed to incur a simple effort cost of \$250,000. Assumed annual plan development costs were split between agencies using the existing principal program implementation agreement cost sharing formula. All EWMP development costs were assumed to be realized evenly between FY 2017/2018 and FY 2019/2020.

PRELIMINARY ASSUMED COMPLIANCE SCHEDULE

A preliminary schedule of control measure implementation was developed for each watershed based on an assumed required implementation schedules driven largely by existing TMDLs, approaches used in Los Angeles County EWMPs that have been approved by the Regional

Board, and best professional judgment. The preliminary schedule of control measure implementation is presented in Table 4. The MCW has the tightest compliance timeline of the County watersheds with a final compliance deadline for dry weather bacteria effective in 2012, trash in July 2017, and final wet weather bacteria compliance by July 2021. This analysis assumes that bacteria will be the driving or limiting pollutant for the MCW and the agencies will collectively be granted a pair of time schedule orders (TSOs) requiring full dry weather bacteria compliance by January of 2023 and full wet weather compliance by July of 2026.

The LSCRW Bacteria TMDL Implementation Plan indicates that, as required by the TMDL, all structural BMPs will be operational by 2029 to meet wet weather wasteload allocations for the watershed. This analysis therefore assumes that all structural control measures will be implemented by 2029.

Compliance timelines for the VRW and Coastal watersheds are less defined given the absence of Bacteria TMDLs for limiting or driving pollutants (except for Channel Island Harbor. This analysis used a 20-year implementation and compliance timeline consistent with the Upper Santa Clara River EWMP that was approved by the Regional Board.

Compliance timelines for Channel Island Harbor (Kiddie and Hobie Beaches) Bacteria TMDL with effective dry weather limits and wet limits due December 2018 is assumed to be extended till 2023 if TSO is granted.

For the CCW, it may be expected that natural attenuation would address most of the required reductions for historic pesticides, the TMDL that currently has the highest required load reductions, for all subwatersheds except Revolon Slough. If natural attenuation in the CCW subwatersheds other than Revolon Slough does not continue at the rate necessary to meet the historic pesticide load reductions, costs may be higher in earlier years to meet the 2026 TMDL deadline. Because there is no TMDL for bacteria in CCW yet, the 20-year implementation timeframe was assumed to be the same as the VRW and Coastal watersheds. Structural BMP implementation costs are assumed to be realized in the five years prior to final compliance deadlines with one year dedicated to planning and environmental studies (e.g. CEQA), one year for design, two years for construction, and one year for the structure to become fully operational. The assumed implementation schedule gives agencies the most time to secure funding and pursue a suite of control measures. Many agencies may pursue an accelerated schedule due to considerations such as staff resources or permitting contingencies.

PRELIMINARY ANNUAL COST ESTIMATES

Estimated low stormwater program cost estimates were computed for each agency for each fiscal year as the sum of the following costs:

- Existing MCM costs presented in **Table 1**
- EWMP development costs for FY 2018/2019 through 2019/2020;
- Ongoing VCSQMP costs;
- The proportion of 25th percentile Los Angeles County EWMP-derived total capital costs presented in **Table 2** implemented during that fiscal year consistent with the compliance schedule; and
- Estimated low O&M costs presented in **Table 3**

- **Table 4** for the proportion of capital costs implemented during each fiscal year and all previous fiscal years based on the compliance schedule.

Estimated high stormwater program cost estimates were computed for each agency for each fiscal year as the sum of the following costs:

- Existing MCM costs presented in **Table 1**;
- EWMP development costs for FY 2018/2019 through 2019/2020;
- Ongoing VCSQMP costs;
- The proportion of 75th percentile Los Angeles County EWMP-derived total capital costs presented in **Table 2** implemented during that fiscal year consistent with the compliance schedule; and
- Estimated high O&M costs presented in **Table 3**
- **Table 4** for the proportion of capital costs implemented during each fiscal year and all previous fiscal years based on the compliance schedule.

High and low stormwater program cost estimates are presented for FY 2018/2019 through FY 2028/2029 and FY 2029/2030 through 2039/2040 in **Table 5** and **Table 6**, respectively.

Table 1. Existing Non-Capital Annual Stormwater Program Minimum Control Measure Costs¹

Jurisdiction	Watershed(s)	Total Stormwater Program Minimum Control Measure Costs
Camarillo	CCW	\$1,367,494
Fillmore	LSCRW	\$73,337
Moorpark	CCW	\$514,522
Ojai	VRW	\$120,690
Oxnard	LSCRW, CCW, Coastal	\$2,337,856
Port Hueneme	CCW	\$209,500
Ventura	LSCRW, VRW, Coastal	\$1,443,328
Santa Paula	LSCRW	\$182,500
Simi Valley	CCW	\$1,705,285
Thousand Oaks	CCW, MCW	\$890,000
Unincorporated County ²	LSCRW, CCW, VRW, MCW, Coastal	\$1,600,000
Watershed Protection District (Principal Permittee and co-Permittee)	LSCRW, CCW, VRW, MCW, Coastal	\$2,949,952
Total	-	\$13,394,464

1. Annual program costs were obtained from the projected FY16/17 budget on page 2-15 in the 2016 Annual Report. These cost estimates were assumed to represent the non-capital Stormwater Program MCM costs for implementation of the new permit.
2. Grant funding for on-going projects are excluded.
3. Capital costs are not included in these annual totals.
4. Non-capital costs may increase as Cities grow and permit requirements evolve.

Table 2. Capital Cost Estimates Based on Los Angeles County EWMPs at Final Compliance Milestones¹

Jurisdiction	Urban Area (acres)	Low or 25th percentile EMWP Costs ⁵	High or 75th percentile EMWP Costs ⁶	Average EMWP Costs ⁷	Median EMWP Costs ⁸
Camarillo	7,841	\$22,450,000	\$166,433,000	\$84,969,000	\$47,079,000
Fillmore	1,193	\$3,416,000	\$25,323,000	\$12,928,000	\$7,163,000
Moorpark	4,356	\$12,472,000	\$92,460,000	\$47,204,000	\$26,154,000
Ojai	1,914	\$5,480,000	\$40,626,000	\$20,741,000	\$11,492,000
Oxnard	14,038	\$40,192,000	\$297,970,000	\$152,122,000	\$84,287,000
Port Hueneme	1,191	\$3,410,000	\$25,280,000	\$12,906,000	\$7,151,000
Ventura	11,202	\$32,072,000	\$237,773,000	\$121,390,000	\$67,259,000
Santa Paula	2,312	\$6,619,000	\$49,074,000	\$25,054,000	\$13,882,000
Simi Valley	14,141	\$40,487,000	\$300,156,000	\$153,238,000	\$84,905,000
Thousand Oaks	18,049	\$51,676,000	\$383,107,000	\$195,587,000	\$108,369,000
Unincorporated County	15,055	\$43,105,000	\$319,564,000	\$163,147,000	\$90,395,000
Watershed Protection District	N/A	-	-	-	-
Total		\$261,379,000	\$1,937,766,000	\$989,286,000	\$548,136,000

1. Cost estimate are in today's dollars and have not been discounted for the future.
2. Final compliance milestones vary by watershed or subwatershed and are presented in Table 4.
3. O&M and land acquisition costs are not included in the estimates.
4. EWMP-based cost estimates do not reflect expenditures needed to comply with the Trash Amendments. Computed as the product of the MS4 jurisdictional acreage and the 25th percentile cost per unit acre treated calculated using EWMPs for the Upper Santa Clara River, Malibu Creek Watershed, Santa Monica Bay Jurisdictional Groups 2 and 3, Upper San Gabriel River, and North Santa Monica Bay Coastal Watersheds. Costs were rounded to the nearest \$1,000.
5. Computed as the product of the MS4 jurisdictional acreage and the 75th percentile cost per unit acre treated calculated using EWMPs for the Upper Santa Clara River, Malibu Creek Watershed, Santa Monica Bay Jurisdictional Groups 2 and 3, Upper San Gabriel River, and North Santa Monica Bay Coastal Watersheds. Costs were rounded to the nearest \$1,000. Costs for the Watershed Protection District cannot be estimated by this method due to absence of urban areas.
6. Computed as the product of the MS4 jurisdictional acreage and the average (mean) cost per unit acre treated calculated using EWMPs for the Upper Santa Clara River, Malibu Creek Watershed, Santa Monica Bay Jurisdictional Groups 2 and 3, Upper San Gabriel River, and North Santa Monica Bay Coastal Watersheds. Costs were rounded to the nearest \$1,000.
7. Computed as the product of the MS4 jurisdictional acreage and the median cost per unit acre treated calculated using EWMPs for the Upper Santa Clara River, Malibu Creek Watershed, Santa Monica Bay Jurisdictional Groups 2 and 3, Upper San Gabriel River, and North Santa Monica Bay Coastal Watersheds. Costs were rounded to the nearest \$1,000.
8. Los Angeles County-derived cost estimates do not reflect the costs associated with complying with the Trash Amendments.

Table 3. Assumed Structural Control Measure Implementation Schedule by Watershed or Subwatershed Reflecting the Municipal Stormwater Regulatory Landscape¹ in Ventura County.

Watershed or Subwatershed	Responsible MS4s	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040
Ventura River	City of Ojai, City of Ventura, and County																		15%	30%	63%	96%	100%
Lower Santa Clara River	City of Fillmore, City of Oxnard, City of Santa Paula, City of Ventura, and County	4%	8%	16%	24%	25%	33%	40%	55%	70%	85%	100%											
Channel Islands Harbor Beaches	City of Oxnard, County, and VC WPD	30%	40%	60%	80%	100%																	
Calleguas Creek (Except Revolon Slough)	City of Camarillo, City of Moorpark, City of Oxnard, City of Simi Valley, and County																		15%	30%	63%	96%	100%
Revolon Slough	City of Camarillo, City of Oxnard, and County				20%	40%	60%	80%	100%														
Malibu Creek	City of Thousand Oaks, County, and VC WPD	4%	8%	23%	39%	55%	70%	85%	100%														

Light blue cells denotes dry weather compliance efforts.

Green text denotes capital project planning and environmental assessments.

Intermediate blue cells denotes wet weather compliance efforts.

Blue text denotes capital project design.

Dark blue cells denotes simultaneous dry and wet weather compliance efforts.

Red text denotes capital project construction.

Purple denotes dry weather construction and wet weather project planning and environmental

Orange text denotes dry weather construction and wet weather design.

- The assumed structural control measure implementation schedule reflects several assumptions regarding the future actions of MS4 Permittees and the Los Angeles Regional Board and should be viewed as a best professional judgment interpretation of anticipated regulatory requirements and drivers.
- The structural BMP implementation schedule assumes that costs will be realized in the five years prior to final compliance deadlines with one year dedicated to planning and environmental studies (e.g. CEQA), one year for design, two years for construction, and one year for the structure to become fully operational. The assumed implementation schedule gives agencies the most time to secure funding and pursue a suite of control measures. Many agencies may pursue an accelerated schedule due to considerations such as staff resources or permitting contingencies.
- The assumed implementation schedule does not reflect the expenditures needed to comply with the trash amendments.

Ventura River Watershed Assumptions

- MS4-funded wet weather structural BMPs are not expected to be needed to address nutrient loading/algae consistent with the wet weather BMP strategy from the Ventura River MS4 Implementation Plan.
- MS4-funded dry weather structural BMPs are not expected to be needed to address final nutrient wasteload allocations in the Ventura River by 2019.
- Ventura River will require dry and wet weather MS4-funded structural BMPs to address bacteria loading by 2040 (consistent with the approach taken in the Upper Santa Clara River EWMP).

Lower Santa Clara River Watershed Assumptions

- A total of 25% of total structural implementation costs was assumed to address dry weather bacteria target load reductions by 2023 by targeting drainage areas identified in a bacteria load reduction strategy (consistent with the 2012 LA County Permit).
- The remaining 75% of total structural implementation costs was assumed to address wet weather bacteria target load reductions by 2029.

Channel Islands Harbor Assumptions

- If approved by RWQCB, a time schedule order (TSO) for wet weather bacteria will require compliance by December of 2023.

Calleguas Creek Watershed Assumptions

- Revolon Slough will require structural control measures to address OC pesticide loading by 2026.
- The rest of the Calleguas Creek Watershed will comply with the OC Pesticides TMDL by 2026 through targeted nonstructural BMPs and natural attenuation (consistent with the natural attenuation study).
- Agencies in the Calleguas Creek Watershed that are not in Revolon Slough may require faster implementation if historic pesticides are not addressed through natural attenuation.
- The Calleguas Creek Watershed will require dry and wet weather MS4-funded structural BMPs to address bacteria loading by 2040 (consistent with the approach taken in the Upper Santa Clara River EWMP).

Malibu Creek Watershed Assumptions

- If approved by RWQCB, a TSO for dry weather bacteria will require compliance by January of 2023.
- If approved by RWQCB, a TSO for wet weather bacteria will require compliance by July of 2026.

Ventura River Watershed Assumptions

- If approved by RWQCB, a TSO for dry weather bacteria will require compliance by January of 2023.

Table 4. Operations and Maintenance Cost¹ Estimates for Capital Projects Implemented as a Result of Costs Presented in Table 2

Jurisdiction	Watershed	Low Annual O&M Cost Estimates	High Annual O&M Cost Estimates
Camarillo	CCW	\$786,000	\$9,820,000
Fillmore	LSCRW	\$120,000	\$1,494,000
Moorpark	CCW	\$437,000	\$5,455,000
Ojai	VRW	\$192,000	\$2,397,000
Oxnard	LSCRW, CCW, Coastal	\$1,407,000	\$17,580,000
Port Hueneme	CCW	\$119,000	\$1,492,000
Ventura	LSCRW, VRW	\$1,123,000	\$14,029,000
Santa Paula	LSCRW	\$232,000	\$2,895,000
Simi Valley	CCW	\$1,417,000	\$17,709,000
Thousand Oaks	CCW, MCW	\$1,809,000	\$22,603,000
Unincorporated County	LSCRW, CCW, VRW, MCW, Coastal (Countywide)	\$1,509,000	\$18,854,000
Total	-	\$9,151,000	\$114,328,000

1. Cost estimate are in today's dollars and have not been discounted for the future.
2. Low operations and maintenance cost estimates are computed as 3.5% of the 25th percentile of EWMP-derived capital costs presented in Table 2 rounded to the nearest \$1,000.
3. High operations and maintenance cost estimates are computed as 5.9% of the 75th percentile of EWMP-derived capital costs presented in Table 2 rounded to the nearest \$1,000.
4. Estimated costs are associated with new structural control measures associated with MS4 permit compliance and do not reflect O&M costs associated with existing or new infrastructure not associated with targeted control measures (e.g. streets or storm drains).
5. Estimated costs do not reflect O&M associated with trash capture devices needed to comply with the Trash Amendments.

Table 5. Estimated Annual Watershed Management Program Development, Implementation, Operations and Maintenance, Ongoing VCSQMP, and Stormwater Program Minimum Control Measure Costs¹ by Fiscal Year from FY 2018/2019 through FY 2028/2029

Jurisdiction	Estimate	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Camarillo	Low	\$1,469,000	\$1,469,000	\$1,439,000	\$2,310,000	\$2,340,000	\$3,415,000	\$3,479,000	\$1,860,000	\$1,635,000	\$1,635,000	\$1,635,000
	High	\$1,469,000	\$1,469,000	\$1,439,000	\$8,048,000	\$8,416,000	\$16,716,000	\$17,526,000	\$5,558,000	\$3,894,000	\$3,894,000	\$3,894,000
Fillmore	Low	\$225,000	\$225,000	\$384,000	\$394,000	\$147,000	\$378,000	\$387,000	\$661,000	\$679,000	\$697,000	\$715,000
	High	\$1,149,000	\$1,149,000	\$2,408,000	\$2,531,000	\$710,000	\$2,468,000	\$2,580,000	\$4,703,000	\$4,928,000	\$5,152,000	\$5,376,000
Moorpark	Low	\$558,000	\$558,000	\$545,000	\$545,000	\$545,000	\$545,000	\$545,000	\$545,000	\$545,000	\$545,000	\$545,000
	High	\$558,000	\$558,000	\$545,000	\$545,000	\$545,000	\$545,000	\$545,000	\$545,000	\$545,000	\$545,000	\$545,000
Ojai	Low	\$135,000	\$135,000	\$131,000	\$131,000	\$131,000	\$131,000	\$131,000	\$131,000	\$131,000	\$131,000	\$131,000
	High	\$135,000	\$135,000	\$131,000	\$131,000	\$131,000	\$131,000	\$131,000	\$131,000	\$131,000	\$131,000	\$131,000
Oxnard	Low	\$8,744,000	\$5,996,000	\$9,281,000	\$9,498,000	\$9,086,000	\$4,155,000	\$4,177,000	\$4,849,000	\$4,893,000	\$4,937,000	\$4,981,000
	High	\$50,690,000	\$30,314,000	\$56,133,000	\$58,839,000	\$56,780,000	\$20,337,000	\$20,612,000	\$25,817,000	\$26,366,000	\$26,915,000	\$27,465,000
Port Hueneme	Low	\$226,000	\$226,000	\$221,000	\$221,000	\$221,000	\$221,000	\$221,000	\$221,000	\$221,000	\$221,000	\$221,000
	High	\$226,000	\$226,000	\$221,000	\$221,000	\$221,000	\$221,000	\$221,000	\$221,000	\$221,000	\$221,000	\$221,000
Ventura	Low	\$4,906,000	\$3,654,000	\$5,719,000	\$5,853,000	\$4,785,000	\$3,364,000	\$3,406,000	\$4,692,000	\$4,776,000	\$4,860,000	\$4,944,000
	High	\$27,318,000	\$18,036,000	\$34,294,000	\$35,968,000	\$28,522,000	\$18,204,000	\$18,729,000	\$28,688,000	\$29,739,000	\$30,790,000	\$31,842,000
Santa Paula	Low	\$478,000	\$478,000	\$786,000	\$805,000	\$328,000	\$775,000	\$793,000	\$1,324,000	\$1,359,000	\$1,394,000	\$1,428,000
	High	\$2,270,000	\$2,270,000	\$4,708,000	\$4,947,000	\$1,418,000	\$4,825,000	\$5,042,000	\$9,157,000	\$9,592,000	\$10,026,000	\$10,460,000
Simi Valley	Low	\$1,864,000	\$1,864,000	\$1,816,000	\$1,816,000	\$1,816,000	\$1,816,000	\$1,816,000	\$1,816,000	\$1,816,000	\$1,816,000	\$1,816,000
	High	\$1,864,000	\$1,864,000	\$1,816,000	\$1,816,000	\$1,816,000	\$1,816,000	\$1,816,000	\$1,816,000	\$1,816,000	\$1,816,000	\$1,816,000
Thousand Oaks	Low	\$2,202,000	\$2,202,000	\$2,614,000	\$2,689,000	\$2,645,000	\$2,693,000	\$2,742,000	\$1,350,000	\$1,350,000	\$1,350,000	\$1,350,000
	High	\$9,768,000	\$9,768,000	\$13,447,000	\$14,268,000	\$14,189,000	\$14,798,000	\$15,407,000	\$5,085,000	\$5,085,000	\$5,085,000	\$5,085,000
Unincorporated County	Low	\$2,737,000	\$2,737,000	\$4,086,000	\$5,423,000	\$5,253,000	\$5,537,000	\$5,649,000	\$6,082,000	\$3,437,000	\$3,467,000	\$3,497,000
	High	\$6,479,000	\$6,479,000	\$17,225,000	\$27,646,000	\$26,837,000	\$29,428,000	\$30,741,000	\$34,494,000	\$14,945,000	\$15,224,000	\$15,504,000
Watershed Protection District	Low	\$4,092,000	\$4,092,000	\$3,750,000	\$3,750,000	\$3,750,000	\$3,750,000	\$3,750,000	\$3,750,000	\$3,750,000	\$3,750,000	\$3,750,000
	High	\$4,092,000	\$4,092,000	\$3,750,000	\$3,750,000	\$3,750,000	\$3,750,000	\$3,750,000	\$3,750,000	\$3,750,000	\$3,750,000	\$3,750,000

1. Cost estimate are in today's dollars and have not been discounted for the future.
2. Low cost estimates for each fiscal year are the sum of existing costs presented in Table 1, the proportion of low or 25th percentile EWMP-derived capital costs presented in Table 2 realized in that year, the proportion of the low total O&M costs presented in Table 3 for capital projects implemented that year and all previous years, existing VCSQMP costs, and EWMP development costs.
3. High cost estimates for each fiscal year are the sum of existing costs presented in Table 1, the proportion of high or 75th percentile EWMP-derived capital costs presented in Table 2 realized in that year, the proportion of the high total O&M costs presented in Table 3 for capital projects implemented that year and all previous years, existing VCSQMP costs, and EWMP development costs.
4. Cost estimates do not reflect expenditures needed to comply with the Trash Amendments.
5. Compliance for agencies in the Calleguas Creek Watershed may require faster implementation if historic pesticides are not addressed through natural attenuation.
6. Compliance with the Revolon Slough Trash TMDL for Oxnard are not reflected in these annual cost estimates.

Ventura River Watershed Assumptions

7. MS4-funded wet weather structural BMPs are not expected to be needed to address nutrient loading/algae consistent with the wet weather BMP strategy from the Ventura River MS4 Implementation Plan.
8. MS4-funded dry weather structural BMPs are not expected to be needed to address final nutrient wasteload allocations by 2019.
9. Ventura River will require dry and wet weather MS4-funded structural BMPs to address bacteria loading by 2040 (consistent with the approach taken in the Upper Santa Clara River EWMP).

Lower Santa Clara River Watershed Assumptions

10. A total of 25% of total structural implementation costs was assumed to address dry weather bacteria target load reductions by 2023 by targeting drainage areas identified in a bacteria load reduction strategy (consistent with the 2012 LA County Permit).
11. The remaining 75% of total structural implementation costs was assumed to address wet weather bacteria target load reductions by 2029.

Channel Islands Harbor Assumptions

12. If approved by RWQCB, a time schedule order (TSO) for wet weather bacteria will require compliance by December of 2023.

Calleguas Creek Watershed Assumptions

13. Revolon Slough will require structural control measures to address OC pesticide loading by 2026.
14. The rest of the Calleguas Creek Watershed will comply with the OC Pesticides TMDL by 2026 through targeted nonstructural BMPs and natural attenuation (consistent with the natural attenuation study).
15. Agencies in the Calleguas Creek Watershed that are not in Revolon Slough may require faster implementation if historic pesticides are not addressed through natural attenuation.
16. The Calleguas Creek Watershed will require dry and wet weather MS4-funded structural BMPs to address bacteria loading by 2040 (consistent with the approach taken in the Upper Santa Clara River EWMP).

Malibu Creek Watershed Assumptions

17. If approved by RWQCB, a TSO for dry weather bacteria will require compliance by January of 2023.
18. If approved by RWQCB, a TSO for wet weather bacteria will require compliance by July of 2026.

Ventura River Watershed Assumptions

19. If approved by RWQCB, a TSO for dry weather bacteria will require compliance by January of 2023.

Table 6. Estimated Annual Watershed Management Program Development, Implementation, Operations and Maintenance, Ongoing VCSQMP, and Stormwater Program Minimum Control Measure Costs^{1,2} by Fiscal Year from FY 2029/2030 through FY 2039/2040

Jurisdiction	Estimate	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040
Camarillo ^{3,4}	Low	\$1,635,000	\$1,635,000	\$1,635,000	\$1,635,000	\$1,635,000	\$1,635,000	\$4,249,000	\$4,338,000	\$7,563,000	\$7,757,000	\$2,898,000
	High	\$3,894,000	\$3,894,000	\$3,894,000	\$3,894,000	\$3,894,000	\$3,894,000	\$23,722,000	\$24,827,000	\$49,725,000	\$52,156,000	\$16,251,000
Fillmore	Low	\$203,000	\$203,000	\$203,000	\$203,000	\$203,000	\$203,000	\$203,000	\$203,000	\$203,000	\$203,000	\$203,000
	High	\$1,577,000	\$1,577,000	\$1,577,000	\$1,577,000	\$1,577,000	\$1,577,000	\$1,577,000	\$1,577,000	\$1,577,000	\$1,577,000	\$1,577,000
Moorpark ³	Low	\$545,000	\$545,000	\$545,000	\$545,000	\$545,000	\$545,000	\$2,481,000	\$2,547,000	\$4,936,000	\$5,080,000	\$1,480,000
	High	\$545,000	\$545,000	\$545,000	\$545,000	\$545,000	\$545,000	\$15,232,000	\$16,050,000	\$34,493,000	\$36,294,000	\$9,698,000
Ojai	Low	\$131,000	\$131,000	\$131,000	\$131,000	\$131,000	\$131,000	\$982,000	\$1,010,000	\$2,060,000	\$2,123,000	\$542,000
	High	\$131,000	\$131,000	\$131,000	\$131,000	\$131,000	\$131,000	\$6,584,000	\$6,944,000	\$15,047,000	\$15,838,000	\$4,153,000
Oxnard ^{3,4}	Low	\$3,725,000	\$3,725,000	\$3,725,000	\$3,725,000	\$3,725,000	\$3,725,000	\$4,398,000	\$4,421,000	\$5,251,000	\$5,301,000	\$4,050,000
	High	\$18,154,000	\$18,154,000	\$18,154,000	\$18,154,000	\$18,154,000	\$18,154,000	\$23,259,000	\$23,544,000	\$29,954,000	\$30,580,000	\$21,336,000
Port Hueneme	Low	\$221,000	\$221,000	\$221,000	\$221,000	\$221,000	\$221,000	\$750,000	\$768,000	\$1,422,000	\$1,461,000	\$477,000
	High	\$221,000	\$221,000	\$221,000	\$221,000	\$221,000	\$221,000	\$4,237,000	\$4,460,000	\$9,503,000	\$9,995,000	\$2,724,000
Ventura	Low	\$2,541,000	\$2,541,000	\$2,541,000	\$2,541,000	\$2,541,000	\$2,541,000	\$3,089,000	\$3,108,000	\$3,784,000	\$3,825,000	\$2,806,000
	High	\$14,026,000	\$14,026,000	\$14,026,000	\$14,026,000	\$14,026,000	\$14,026,000	\$18,185,000	\$18,416,000	\$23,638,000	\$24,148,000	\$16,618,000
Santa Paula	Low	\$435,000	\$435,000	\$435,000	\$435,000	\$435,000	\$435,000	\$435,000	\$435,000	\$435,000	\$435,000	\$435,000
	High	\$3,099,000	\$3,099,000	\$3,099,000	\$3,099,000	\$3,099,000	\$3,099,000	\$3,099,000	\$3,099,000	\$3,099,000	\$3,099,000	\$3,099,000
Simi Valley ³	Low	\$1,816,000	\$1,816,000	\$1,816,000	\$1,816,000	\$1,816,000	\$1,816,000	\$8,102,000	\$8,315,000	\$16,070,000	\$16,538,000	\$4,853,000
	High	\$1,816,000	\$1,816,000	\$1,816,000	\$1,816,000	\$1,816,000	\$1,816,000	\$49,496,000	\$52,153,000	\$112,025,000	\$117,869,000	\$31,532,000
Thousand Oaks ³	Low	\$1,350,000	\$1,350,000	\$1,350,000	\$1,350,000	\$1,350,000	\$1,350,000	\$7,931,000	\$8,154,000	\$16,275,000	\$16,764,000	\$4,529,000
	High	\$5,085,000	\$5,085,000	\$5,085,000	\$5,085,000	\$5,085,000	\$5,085,000	\$55,010,000	\$57,792,000	\$120,484,000	\$126,603,000	\$36,200,000
Unincorporated County ³	Low	\$2,883,000	\$2,892,000	\$2,900,000	\$2,909,000	\$2,918,000	\$2,927,000	\$6,344,000	\$6,469,000	\$10,683,000	\$10,946,000	\$4,621,000
	High	\$10,906,000	\$10,914,000	\$10,922,000	\$10,931,000	\$10,940,000	\$10,949,000	\$36,810,000	\$38,260,000	\$70,732,000	\$73,910,000	\$27,109,000
Watershed Protection District	Low	\$3,750,000	\$3,750,000	\$3,750,000	\$3,750,000	\$3,750,000	\$3,750,000	\$3,750,000	\$3,750,000	\$3,750,000	\$3,750,000	\$3,750,000
	High	\$3,750,000	\$3,750,000	\$3,750,000	\$3,750,000	\$3,750,000	\$3,750,000	\$3,750,000	\$3,750,000	\$3,750,000	\$3,750,000	\$3,750,000

1. Cost estimate are in today's dollars and have not been discounted for the future.
2. Low cost estimates for each fiscal year are the sum of existing costs presented in Table 1, the proportion of low or 25th percentile EWMP-derived capital costs presented in Table 2 realized in that year, the proportion of the low total O&M costs presented in Table 3 for capital projects implemented that year and all previous years, existing VCSQMP costs, and EWMP development costs.
3. High cost estimates for each fiscal year are the sum of existing costs presented in Table 1, the proportion of high or 75th percentile EWMP-derived capital costs presented in Table 2 realized in that year, the proportion of the high total O&M costs presented in Table 3 for capital projects implemented that year and all previous years, existing VCSQMP costs, and EWMP development costs.
4. Cost estimates do not reflect expenditures needed to comply with the Trash Amendments.
5. Compliance for agencies in the Calleguas Creek Watershed may require faster implementation if historic pesticides are not addressed through natural attenuation.
6. Compliance with the Revolon Slough Trash TMDL for Oxnard are not reflected in these annual cost estimates.

Ventura River Watershed Assumptions

7. MS4-funded wet weather structural BMPs are not expected to be needed to address nutrient loading/algae consistent with the wet weather BMP strategy from the Ventura River MS4 Implementation Plan.
8. MS4-funded dry weather structural BMPs are not expected to be needed to address final nutrient wasteload allocations by 2019.
9. Ventura River will require dry and wet weather MS4-funded structural BMPs to address bacteria loading by 2040 (consistent with the approach taken in the Upper Santa Clara River EWMP).

Lower Santa Clara River Watershed Assumptions

10. A total of 25% of total structural implementation costs was assumed to address dry weather bacteria target load reductions by 2023 by targeting drainage areas identified in a bacteria load reduction strategy (consistent with the 2012 LA County Permit).
11. The remaining 75% of total structural implementation costs was assumed to address wet weather bacteria target load reductions by 2029.

Channel Islands Harbor Assumptions

12. If approved by RWQCB, a time schedule order (TSO) for wet weather bacteria will require compliance by December of 2023.

Calleguas Creek Watershed Assumptions

13. Revolon Slough will require structural control measures to address OC pesticide loading by 2026.
14. The rest of the Calleguas Creek Watershed will comply with the OC Pesticides TMDL by 2026 through targeted nonstructural BMPs and natural attenuation (consistent with the natural attenuation study).
15. Agencies in the Calleguas Creek Watershed that are not in Revolon Slough may require faster implementation if historic pesticides are not addressed through natural attenuation.
16. The Calleguas Creek Watershed will require dry and wet weather MS4-funded structural BMPs to address bacteria loading by 2040 (consistent with the approach taken in the Upper Santa Clara River EWMP).

Malibu Creek Watershed Assumptions

17. If approved by RWQCB, a TSO for dry weather bacteria will require compliance by January of 2023.
18. If approved by RWQCB, a TSO for wet weather bacteria will require compliance by July of 2026.

Ventura River Watershed Assumptions

19. If approved by RWQCB, a TSO for dry weather bacteria will require compliance by January of 2023.

Attachment 1:

Table 7. Structural Control Measure Capital Cost Estimates Cost¹ Estimates² from the Existing³ LSCRW Bacteria TMDL Implementation Plan

Jurisdiction	Watershed	Urban MS4 Area (acres)	Cost from Existing Estimates (low)	Cost from Existing Estimates (high)	Source
Camarillo	CCW	7,841	-	-	
Fillmore	LSCRW	1,193	\$24,908,640	\$49,825,098	LSCRW Bacteria TMDL IP ⁴
Moorpark	CCW	4,356	-	-	
Ojai	VRW	1,914	-	-	
Oxnard	LSCRW	2,924	\$32,701,488	\$69,203,174	LSCRW Bacteria TMDL IP ⁴
	CCW	1,514	-	-	
	Coastal	9,600	-	-	
	Total	14,038	\$32,701,488	\$69,203,174	
Port Hueneme	Coastal	1,191	-	-	
Ventura	LSCRW	5,596	\$67,944,049	\$138,187,305	LSCRW Bacteria TMDL IP ⁴
	VRW	1,233	-	-	
	Coastal	4,373	-	-	
	Total	11,202	\$67,944,049	\$138,187,305	
Santa Paula	LSCRW	2,312	\$28,700,404	\$60,007,528	LSCRW Bacteria TMDL IP ⁴
Simi Valley	CCW	14,141	-	-	
Thousand Oaks	CCW	14,807	-	-	
	MCW	3,242	-	-	
	Total	18,049	-	-	
County Unincorporated	LSCRW	1,447	\$171,178,500	\$378,910,000	LSCRW Bacteria TMDL IP ⁴
Watershed Protection District ⁵	LSCRW, CCW, VRW, MCW, and Coastal (Countywide)	N/A	-	-	-

1. Cost estimate are in today's dollars and have not been discounted for the future. O&M and land acquisition costs are not included in the estimates.
2. Final implementation costs have not been developed for the Calleguas Creek Watershed, Ventura River Watershed, Malibu Creek Watershed, or Coastal Watersheds at this time and are therefore not presented.
3. These cost estimates are very conservative based upon compliance with bacteria wet-weather water quality objectives. If these objectives are revised or other regulatory relief is obtained, then these cost estimates would be correspondingly lower (Geosyntec Consultants and Larry Walker Associates, Inc, 2015). Indicator Bacteria Total Maximum Daily Load Implementation Plan for the Lower Santa Clara River Watershed.
4. Soils in the Lower Santa Clara River are generally more infiltrative than soils in other areas of the County (e.g. the Oxnard Plain) and may reflect lower implementation costs.
5. The Watershed Protection District's TMDL compliance is achieved primarily through operations and maintenance and not through constructing BMPs identified in CIPs to treat urban runoff.

DRAFT

Memorandum



DATE: December 9, 2016

TO: Ventura Countywide MS4 Copermittees

COPY TO: Ashli Desai

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SUBJECT: **Potential Costs Associated with MS4 Permit Non-compliance**

The purpose of this memo is to provide a discussion of potential penalties and costs associated with noncompliance with the forthcoming Municipal Separate Storm Sewer (MS4) Permit for Ventura County that will replace Order No. R4-2010-0108. The Los Angeles Regional Water Quality Control Board (Regional Board) has indicated that the new MS4 Permit for Ventura County will include watershed management planning requirements consistent with those included in the Los Angeles County MS4 Permit (Order No. R4-2012-0175) adopted on November 8, 2012. The Los Angeles County MS4 Permit Watershed Management Programs provision provides Permittees with the option to develop Watershed Management Programs (WMPs) or Enhanced Watershed Management Programs (EWMPs) that implement program elements to meet numeric water quality objectives at the watershed or subwatershed scale through customized strategies, control measures and best management practices. These Programs provide a pathway for presumptive interim compliance with water quality based effluent limitations (WQBELs) and receiving water limitations (RWLs) set forth by the Permit. Permittees that do not elect to develop a WMP or an EWMP must demonstrate compliance with applicable RWLs and WQBELs after the Permit's effective date. This memo is intended to describe enforcement penalties that may be levied by the State government and third party lawsuits that may be brought if the control measures required to comply with anticipated Permit provisions are not pursued, resulting in violations of permit provisions.

State and Regional Board Enforcement

The State Water Resources Control Board (SWRCB) Water Quality Enforcement Policy.¹ (Enforcement Policy) dictates the way the SWRCB and the Regional Water Quality Control Boards will enforce water quality laws, regulations, policies and plans in an efficient, effective and consistent manner. The policy provides for consistent treatment of violations and establishes a process for prioritizing enforcement actions to allow the State and Regional Boards to utilize their limited resources to most effectively protect designated beneficial uses.

Enforcement actions taken by the State and Regional Boards may include the following: an oral or written warning, Notices of Violation (NOVs), Cleanup and Abatement Orders (CAOs), Time Schedule Orders (TSOs), Cease and Desist Orders (CDOs), modification or rescission of Waste Discharge Requirements (WDRs), and Administrative Civil Liabilities (ACLs).

The Enforcement Policy, in conjunction with California Water Code (CWC) section 13385 sets out mandatory enforcement obligations (Mandatory Minimum Penalties, or MMPs) for violations of NPDES permit effluent limitations. Failure to comply with MS4 Permit conditions could result in the following minimum fines:

- Serious violation (exceedance of an effluent limitation by greater than 40% for Group 1² pollutants, or greater than 20% for Group 2² pollutants): \$3,000 per violation
- Non-serious violation (exceedance of an effluent limitation by less than the percentages described above): \$3,000 per violation, not counting the first three violations within a 180-day period.

If a WMP or an EWMP is not developed, MS4s would be subject to MMPs when WQBELs are exceeded at the effective date of the permit, depending on the severity and chronic nature of the violations. To help show how the MMPs work, **Table 1** describes a hypothetical situation in which several effluent limitation exceedances occur within a 180-day period and the associated MMPs.

Table 1. Theoretical Calculation of Mandatory Minimum Penalty Example Within a 180 Day Period

Constituent	Number of samples taken during 180-day period	Number of exceedances by greater than 40% of effluent limitation	Number of exceedances by greater than 20% of effluent limitation	Number of exceedances by less than 20% of effluent limitation	MMP
Group 2 Pollutant #1	3	0	2	1	\$6,000
Group 2 Pollutant #2	6	0	0	4	\$3,000
Group 1 Pollutant #1	6	1	1	0	\$3,000
Pollutant not included in Group 1 or Group 2	24	5	5	0	\$6,000
Total					\$18,000

¹ State Water Resources Control Board, 2010. Water Quality Enforcement Policy. It should be noted that the SWRCB is in the process of adopting the 2016 proposed amendments to the Enforcement Policy.

² Group 1 and Group 2 pollutants are specified in Appendices C and D of the Enforcement Policy. Group 1 includes priority pollutants such as toxics (metals, pesticides, etc.). Examples of Group 2 compounds are nutrients, metals not included in the California Toxics Rule (CTR), biological oxygen demand and total suspended solids. Bacteria is not included in either Group 1 or Group 2, and exceedances of bacteria effluent limitations are treated as non-serious violations.

No examples of MMPs being applied to stormwater are available because numeric WQBELs were only recently placed into MS4 permits (starting with the 2012 Los Angeles MS4 permit).

The Enforcement Policy also describes a process for assessing discretionary administrative civil liabilities (ACLs), which consider the following factors:

- Potential for harm to beneficial uses, degree of toxicity of the discharge, and ease of cleanup or abatement;
- For discharge violations, fees may be assessed per gallon of discharge (with a maximum amount of \$2³ per gallon for municipal stormwater) and per day, with a maximum liability of \$10,000 per day;
- For non-discharge violations, fees are assessed per day, with a maximum liability of \$10,000 per day;
- The violator's conduct, degree of culpability and history of violations;
- The violator's ability to pay fees;
- The economic benefit to the discharger derived from the actions constituting a violation; and
- Costs associated with investigating violations and issuing the ACL.

The Enforcement Policy stipulates that violations that pose a significant and immediate threat to beneficial uses, referred to as "Class I" violations, will receive the highest priority when ACLs are administered. The discretionary ACLs can be added to the MMPs as part of an enforcement action (i.e. for each day of discharge exceeding a WQBEL, an ACL could be added to the MMP for a total liability of up to \$10,000 per violation per day), but are more typically used for non-discharge violations or spills. As these fines are discretionary, they are more likely to be applied if the violations are a result of lack of implementation and less likely to be applied if good faith efforts are being taken to implement actions and violations occur.⁴

In the case that a Permittee completes a WMP or EMWP but does not implement the plan as submitted and approved by the Regional Board's Executive Officer, the Permittee may be subject to ACLs due to a non-discharge violation, or may no longer be exempt from discharge violations due to effluent limitation exceedances. Permittees may request an extension of deadlines to achieve final and interim compliance milestones in the WMP or EWMP provided the Permittee makes the request in writing 90 days prior to the deadline and includes the justification for the extension in the request. If the Permittee is not granted an extension for a final compliance deadline, the Permittee may request a TSO from the Regional Board. Under the Enforcement Policy, not implementing the plan or any other permit provision could be subject to the non-discharge violations of up to \$10,000 per day.

³ The July 2016 draft of the amendments to the Enforcement Policy include changes to give the State and Regional Boards discretion to select a value between \$2 and \$10 per gallon for discharges between 100,000 and 2,000,000 gallons, and a maximum value of \$1 per gallon for discharges over 2,000,000 gallons.

⁴ At the December 8, 2016 Los Angeles Regional Water Quality Board Meeting, Chair Munoz stated that the RWQCB would work with dischargers that were making good faith efforts to implement WMPs/EWMPs and would be open to considering more time for implementation if justified, but if MS4s were not implementing actions, there would be consequences.

In July of 2016, the San Diego Regional Water Quality Control Board (SDRWQCB) levied a \$4.6 million dollar ACL against the City of San Diego for failing to conduct proper inspections of construction sites as part of the City's stormwater program⁵. The SDRWQCB determined three violations of the San Diego County MS4 Permit had occurred, for which it imposed a civil penalty using an adjustment multiplier between 0.1 and 1 applied to the \$10,000 per day statutory maximum liability for the violation, as follows:

- For failing to require implementation of minimum best management practices at construction sites, a per day fee of \$8,500 was imposed. The SDRWQCB alleged that the violation occurred from October 25, 2010 through May 14, 2015, and was thus in violation for 1,663 days, but determined that it was appropriate to reduce number of violation days to 170 days.
- For 19 documented discharges of sediment to the MS4 from construction sites, a per day fee of \$2,000 was imposed.
- For failure to implement an escalating enforcement process at construction sites, a per day fee of \$5,500 was applied. The SDRWQCB alleged that the violation occurred from October 6, 2013 to May 14, 2015, for 586 days, but elected to reduce the number of violation days to 25.

Maximum liability totals for each complaint were multiplied by adjustment factors based on the City's degree of culpability, corrective actions, and prior violations in 2007.

The Los Angeles Regional Water Quality Control Board issued NOVs to municipalities responsible for the Santa Monica Bay Bacteria TMDL for exceeding TMDL allocations, but no fines were issued because of the NOVs.

Actions by Other Entities

In certain cases, other agencies besides the State and Regional Boards, such as the California Department of Fish and Game have the ability to enforce certain water quality provisions. State law also permits the public to bring enforcement matters to the attention of the State and Regional Boards. Additionally, the Clean Water Act authorizes citizens to bring lawsuits against dischargers for certain types of violations. This presents the possibility of lawsuits from environmental non-governmental organizations (NGOs) in response to Permit violations.

In 2014 San Francisco Baykeeper, an NGO environmental group, sued the City of San Jose for unlawful discharges of pollutants in stormwater, including bacteria and trash, from the San Jose MS4 and for sewage spills that allegedly contaminated the MS4. The lawsuit was settled in an agreement that required the City of San Jose to conduct trash monitoring and cleanups, install and maintain full capture systems from 3,000 acres of very high to moderate trash generating areas, conduct monitoring for bacteria, construct \$100 million in structural stormwater BMPs to address bacteria loads, and implement collection system improvements.

⁵ California Regional Water Quality Control Board San Diego Region, 2016. Technical Analysis of Proposed Administrative Civil Liability Contained in Complaint No. R9-2016-0122 against The City of San Diego for Noncompliance with San Diego Water Board Order No. R9-2007-001.

In another example of a third party lawsuit against a stormwater agency, in 2012, a \$6.6 million dollar settlement was reached in a lawsuit brought forth by the Santa Monica Baykeeper and the Natural Resources Defense Council (NRDC) against the City of Malibu for violating the 2001 Los Angeles County MS4 Permit by discharging stormwater to an Area of Special Biological Significance (ASBS) along the coast of northern Los Angeles County and southern Ventura County⁶. The settlement covered \$750,000 in legal fees, \$250,000 for an ocean health assessment, and \$5.6 million through the construction of structural control measures to address stormwater discharges.

As shown by these examples, the discretionary fines under the Enforcement Policy and third party lawsuits are more likely to result in significant monetary implications for municipalities than the MMPs. Additionally, municipalities that are making good faith efforts to implement the permit, but do not meet designated milestones appear less likely to receive discretionary enforcement actions.

⁶ Los Angeles Times, 2012. \$6.6 million settlement reached on Malibu beach water pollution. <http://latimesblogs.latimes.com/lanow/2012/04/malibu-environmental-groups-reach-accord-on-beach-water-pollution.html>