Attachment H – Fact Sheet

FACT SHEET
FOR

RENEWED WASTE DISCHARGE REQUIREMENTS AND NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT
FOR
STORMWATER/URBAN RUNOFF DISCHARGES FROM THE CITY OF SALINAS, MONTEREY COUNTY

ORDER NO. R3-2019-0073
NPDES NO. CA0049981

Table of Contents

Pursuant to the requirements of sections 124.8 and 124.56 of title 40 of the Code of Federal Regulations, this Fact Sheet sets forth the principal facts and the significant factual, legal, methodological, and policy questions considered in preparing this City of Salinas Municipal Stormwater Permit (hereinafter, this Order).

I. Order Design and Objectives

A. Order Goals

The goals for this Order include:

- Continue regulating municipal stormwater discharges from the City of Salinas (hereinafter, the Permittee).
- Include pathways for complying with effluent and receiving water limitations.
- Include more streamlined and simplified requirements than Order No. R3-2012-0005.
- Incorporate flexibility enabling the Permittee to identify most effective approaches for implementing program elements.
- Improve the framework from which the Permittee pursues program funding.
- Include requirements to target water quality stressors, including socio-economically stressed areas and climate change.
- Allow the necessary planning to achieve effective solutions and to secure funding by specifying long-range planning horizons.

B. Order Structure

This Order requires the next iterative step in municipal stormwater management by providing a pathway to achieving effluent and receiving water limitations and a framework for maintaining basic stormwater program management elements. This Order strikes a balance between prescriptiveness and flexibility to provide the Permittee leeway to structure a program that works most efficiently for the Permittee. The following summarizes this Order's structure:

1) Foundation

This Order requires the Permittee to develop and maintain software platforms and databases to organize and track assets, watershed characteristics, and program implementation through information management (refer to Stormwater Information Management System (SIMS) requirements in Provision G) and asset management (refer to Watershed Asset Management Program requirements in Provision I). These systems provide the foundation for the Permittee's stormwater program and are necessary to inform future planning and support program funding acquisitions. Alike other stormwater programs around the State, stormwater program funding continues to pose a challenge for the Permittee. Additionally, the information management systems will house up-to-date information about stormwater program implementation, providing a

portal for the Central Coast Water Board to evaluate Permittee compliance, and justifying a relaxation of annual reporting requirements.

This Order provides the Permittee latitude to use singular and/or multiple systems to manage required information and acknowledges the overlapping information required for the information management systems and asset management. Additionally, this Order requires and/or provides the option for the Permittee to use these tools to support other program elements. For example, this Order allows the Permittee to use the information management systems to organize and inform pollutant load reduction planning (refer to Pollutant Load Reduction Plan requirements in Provision F and see below discussion regarding "realizing water quality improvements"). Also, this Order allows the Permittee to use the asset management system to manage structural and non-structural measure aspects (e.g., level of service; costs for operation, maintenance, and replacement) implemented pursuant to a required pollutant load reduction strategy.

2) Continued Implementation of Core Program Elements

To continue to provide general pollutant source control and management of stormwater throughout the Permittee's jurisdictional area, this Order requires the Permittee to continue implementation of the Clean Water Act minimum control measures through streamlined and simplified requirements (see below discussion regarding "streamlined and simplified requirements").

3) Realizing Water Quality Improvements

The Permittee has been enrolled under a National Pollutant Discharge Elimination System (NPDES) municipal stormwater permit since 1999; however, the Permittee's urban runoff continues to not meet water quality standards (refer to discussion in Section III (Evolution in Municipal NPDES Stormwater Permitting)). This Order requires the Permittee to develop a Pollutant Load Reduction Plan to demonstrate how it will shift towards actions more certain to achieve water quality improvements as defined by effluent limitations (specifically wasteload allocations assigned to the Permittee in Total Maximum Daily Loads (TMDLs)) and receiving water limitations. This Order provides two compliance pathways for achieving these limitations: 1) a volume reduction option (incentivized option); and 2) an enhanced version of the historical iterative approach. To hold the Permittee accountable for achieving water quality improvement, this Order requires the Permittee to develop and adhere to a schedule for achieving milestones, reflecting measurable progress at a steady or accelerated pace over identified long-range timeframes. In conjunction with implementing the Pollutant Load Reduction Plan, this Order requires the Permittee to continue implementing the core elements of its stormwater management program. However, for catchments managed using the volume reduction option, this Order provides more flexibility to the Permittee for implementing those core elements.

4) Validation

This Order's program effectiveness assessment (refer to Provision G) and water quality monitoring requirements (refer to Monitoring and Reporting Requirements in Provision K and Attachment D) establish a feedback loop to validate the Permittee's stormwater management program. This Order requires the Permittee to track pollutant loading and stormwater runoff volumes from its jurisdictional area to measure program effectiveness. For water quality monitoring, this Order includes the same monitoring requirements as most recently implemented under Order No. R3-2012-0005. However, unlike traditional point source programs, currently, the Central Coast Water Board does not intend for the water quality monitoring to provide the basis to determine compliance with water quality objectives. Instead, the water quality monitoring focuses on providing data to inform the Permittee's program implementation by: 1) providing catchment pollutant loading data to inform adaptive management based on relative loading among catchments; and 2) validating program effectiveness assessments with water quality data.

To support the Permittee's evolving program, this Order provides a pathway for the Permittee to revise the monitoring program to align with future efforts identified through the Pollutant Load Reduction Plan.

5) Compliance Determination

Through this Order, the Central Coast Water Board intends for the Permittee to develop, implement, and achieve a timely, comprehensive, cost-effective stormwater management program. Although this Order expires five years after adoption, this Order acknowledges the necessary planning, implementation, and adaptive management approaches to achieve effective long-term solutions and secure funding sources. So, it specifies a twenty (20)-year horizon for more significant planning and forecasting efforts. The Permittee will have the flexibility to prioritize and address the priority water quality constituents of concern in MS4 stormwater to the Maximum Extent Practicable (MEP) from the permitted areas subject to this Order and maintain or attain compliance with water quality standards over time.

a) Five-year

This Order includes compliance schedules based on the five-year term of this Order. Attachment F to this Order provides a summary of the milestones and deadlines associated with this Order. As previously stated, the Central Coast Water Board acknowledges the challenges of attaining effluent and receiving water limitations. Therefore, during this Order term, developing and implementing the Pollutant Load Reduction Plan, and complying with interim milestones, will constitute compliance with effluent and receiving water limitations.

b) Long-range

This Order establishes long-range timeframes for achieving water quality objectives. Through the Pollutant Load Reduction Plan, this Order provides the Permittee up to twenty (20)-years for achieving volume reduction projects and allows the Permittee to propose longer timeframes for other approaches supported by a reasonable assurance analysis. Additionally, to support the Permittee's long-range planning and funding efforts, this Order requires the Permittee to develop an Asset Improvement Plan, including a financial strategy, covering at least the next twenty (20)-years.

6) End Goal

The Permittee must ultimately comply with receiving water and effluent limitations; however, as discussed above, this Order acknowledges the Permittee may not meet these limitations during the term of this Order.

C. New Requirements Since Order No. R3-2012-0005

The Central Coast Water Board intends for the Permittee to maintain a similar level of effort implementing this Order relative to Order No. R3-2012-0005, with incremental improvements to the Permittee's stormwater management program. This Order includes the following three new provisions:

1. Pollutant Load Reduction Plan (Provision F) – Although the Pollutant Load Reduction Plan is new, this does not represent an entirely new set of requirements, but instead provides a clearer pathway for achieving water quality-based effluent limitations and receiving water limitations. Order No. R3-2012-0005 required the Permittee to develop and implement Wasteload Allocation Attainment Plans to address wasteload allocations assigned to the City in TMDLs and required the Permittee to develop and implement a plan to address receiving water limitation exceedances, without providing an alternative compliance pathway.

2. Information Management and Program Assessment (Provision G) – The information management provision is a new section; however, Order No. R3-2012-0005 included information management requirements throughout individual provisions, so this is essentially an organization shift of moving all the requirements to one provision. Order No. R3-2012-0005 included an effectiveness assessment section. This Order represents a significant decrease in level of effort for effectiveness assessment requirements for individual stormwater management program components; however, this Order includes an increase in level of effort for measuring actual pollutant load reductions through BMP effectiveness assessments and pollutant load reduction quantifications.

3. Asset Management (Provision I) – Although asset management is a new program requirement, Order No. R3-2012-0005 required work to inform some asset management program elements (e.g., asset inventory, level of service). Additionally, asset management is critical to inform and support funding efforts and other, non-stormwater (e.g., flood management), driven Permittee goals and needs.

The Legal Authority and Enforcement (Provision H) requirements represents the same level of effort relative to Order No. R3-2012-0005, with updated requirements to support this Order. The Fiscal Analysis and Cost Reporting (Provision J) requirements represent a minor increase in level of effort by requesting slightly more details, pursuant to State Water Board's Office of Research, Planning, and Performance guidance. The Monitoring (Provision K) requirements are the same as those currently approved under Order No. R3-2012-0005. The Permittee will likely update its monitoring program, pursuant to Pollutant Load Reduction Plan requirements; however, the Permittee will propose these updates. The Trash Management (Provision L) requirements incorporate statewide trash requirements which may represent an increase in effort relative to Order No. R3-2012-0005. The Annual Reporting (Provision S) requirements represent a significant decrease in level of effort for the Permittee.

In general, this Order's minimum control measures (Provisions M through R) represent a similar, or slightly reduced, level of effort for the Permittee, while providing more flexibility to the Permittee for implementation. Throughout most of this Order's provisions, there are slight additions and reductions in requirements, relative to Order No. R3-2012-0005, that are not detailed in this summary. Also, Central Coast Water Board staff incorporated new pesticide management requirements throughout the requirements as well as other requirements to address the water quality stressors identified in the below discussions.

D. Foundation Provided by Order No. R3-2012-0005

Order No. R3-2012-0005 laid the groundwork for this Order, and the Permittee's progress in implementing Order No. R3-2012-0005 will contribute to the effort required by this Order. The Permittee has already completed work required for continued implementation in this Order and established tools, information management platforms, procedures, and processes for carrying out its stormwater management program. Order No. R3-2012-0005 represented a significant shift in level of effort and specificity for the Permittee's stormwater program relative to the requirements in Orders Nos. R3-99-087 and R3-2004-0135. It required: a spatially-explicit, urban catchment (watershed-based) approach to prioritizing stormwater program implementation; a blend of water quality monitoring and BMP assessment for evaluating program effectiveness; compliance with regional Low Impact Development (LID) focused post-construction requirements; trash management; development and implementation of plans to address wasteload allocations assigned in TMDLs; robust programs for overseeing construction, industrial and commercial, and municipal activities; and it introduced pollutant load estimates as a criterion for prioritizing program implementation.

E. Streamlined and Simplified Requirements

This Order aims to build upon the programs and efforts established by Order No. R3-2012-0005, while providing more streamlined, simplified requirements. This Order establishes a balance between sufficient level of detail to ensure protection of water quality and flexibility to allow the Permittee to determine the most efficient and effective approaches to implementing the Order requirements. This Order requires a similar level of effort relative to Order No. R3-2012-0005, while providing greater flexibility to the Permittee and simpler, more straight-forward requirements. This Order promotes a significant decrease in effort for reporting and shifts this effort towards enhancing information management systems to support the Permittee's program implementation and provide the Central Coast Water Board ongoing (rather than only annual) access to assess compliance. The Central Coast Water Board anticipates the Permittee can build upon its existing information management systems to meet this Order's information management system requirements.

In place of requiring the Permittee to develop and maintain a stormwater management plan as in previous orders, this Order requires the Permittee to develop and maintain supporting tools, documents, and procedures (e.g., standard operating procedures, assessment and inspection procedures, checklists, inspection forms, stormwater pollution prevention plans) necessary to effectively implement the requirements of this Order. The Permittee may opt to continue to utilize a stormwater management plan to support program implementation; however, the Permittee is no longer required by this Order to develop and maintain a stormwater management plan. This Order incorporates plan level details in its specific requirements, effectively merging stormwater management plan components into the Order. The Permittee's annual reporting and information management systems provide the basis for the Permittee to demonstrate compliance with this Order. The Watershed Asset Management Program (see Provision I) requires the Permittee to develop and maintain the capacity to organize its hard, soft, and natural assets. Many of the soft assets are items that the Permittee addressed previously in a stormwater management plan. Furthermore, through program assessments and document requests, the Central Coast Water Board has the authority to request and review components of the Permittee's program that were historically part of its stormwater management plan.

F. Requirements to Address Water Quality Stressors

1) Socio-Economically Disadvantaged Communities

Approximately half of the census blocks within the Permittee's jurisdictional area are categorized as disadvantaged communities[1]. These economic factors affect conditions on the ground that in turn affect urban runoff. For example, in areas of lower income, with densely populated residential areas and associated commercial districts, the Permittee has observed high amounts of trash in waterbodies, indicated challenges with

[1] Disadvantaged Community (DAC) is defined as "a community with a median household income (MHI) less than 80% of the Statewide average."

implementing effective street sweeping, and identified effluent and receiving water limitation exceedances in outfall monitoring from representative catchments. The Permittee faces growing challenges related to an increasing homeless population. In addition to posing other environmental challenges, homeless encampments threaten water quality with potential sources of human feces, trash, and other pollutants.

This Order requires the Permittee to refine its understanding of water quality issues presented by socio-economically stressed areas. The Permittee is required to identify areas with reoccurring homeless encampments and areas housing disadvantaged populations within its watershed characterization maps and refine loading estimates based on these landscape-specific conditions. This Order's prioritization of stormwater program management implementation based on high-pollutant generating areas will likely result in focused efforts in socio-economically stressed areas within the City. For example, the Order requires the Permittee to prioritize illicit discharge detection and trash management efforts at designated socio-economically stressed areas and transient camps. This Order requires the Permittee to implement parking restrictions and to conduct higher frequency street sweeping on streets that generate higher volumes of pollutants. This Order incentivizes projects to achieve the effluent and receiving water limitation requirements that provide enhancements targeting socio-economically disadvantaged communities. Additionally, this Order requires targeted education efforts for underserved targeted audiences. The Central Coast Water Board anticipates the Permittee can build upon its current efforts (e.g., pilot projects focused on disadvantaged areas, public education, street sweeping parking restriction assessments) focused on socio-economically stressed areas for implementing many of these requirements.

2) Climate change

In Resolution No. 2017-0012, the State Water Board encourages Regional Boards to take a proactive approach to climate change their actions, with the intent to embed climate change consideration into all programs and activities. The resolution lays the groundwork for a robust response that will support California's ongoing climate leadership providing stormwater capture and use as a climate change mitigation strategy. Additionally, the State Water Board directs State Water Board and Regional Board staff to identify and recommend actions the Water Boards can take for "effective permitting of projects to develop new and underutilized water resources, expand surface water and groundwater storage where appropriate, and add operational flexibility to build and enhance resilience to impacts of climate change."[2]

A recent report by the Pacific Institute and University of Santa Barbara's Bren School of Environmental Science and Management states, "There is broad recognition that adapting to climate change, coupled with the need to address aging infrastructure, population growth, and degraded ecosystems, will require rethinking programs and policies and investing in our natural and built water systems. There are a variety of

[2] "Comprehensive Response to Climate Change," State Water Board Resolution No. 2017-0012, adopted March 7, 2017, pp. 4, 6.

strategies for addressing water challenges, from watershed restoration and efficiency improvements to vegetated swales and green roofs. Because water is deeply linked with economic, environmental, and community well-being, many of these strategies can also provide other benefits, such as reducing energy use and greenhouse gas emissions, providing wildlife habitat, and enhancing community livability."[3]

This Order requires and incentivizes the Permittee to mitigate and adapt to current and forecasted climatic changes that have an urban stormwater runoff nexus. For example, this Order requires the Permittee to improve resiliency to climate change by requiring practices that focus on infiltration to mitigate flooding and reduce pollutant discharges. This Order includes requirements for new development and redevelopment to address discharges and prevent increases in flows from projects by using low impact development. Through the requirement to prepare Pollutant Load Reduction Plans, this Order incentivizes catchment-scale green infrastructure projects and projects that achieve climate change adaptation-related multiple benefits including the following: water supply augmentation with stormwater providing water supply portfolio diversification and drought protection; environmental and habitat protection and improvement supporting plant and habitat biodiversity; increases in urban greening to reduce heat island effects; air quality improvements, energy use reductions, greenhouse gas reductions, and carbon sink opportunities; and flood risk reductions. Additionally, this Order incentivizes multi-benefit projects in socio-economically disadvantaged communities to address the disproportionate vulnerability of these communities to the effects of climate change.

This Order requires the Permittee to prepare for forecasted climatic changes. The Permittee is required to refine its watershed characterization maps to identify flood inundation areas using available information incorporating projections of climate-change induced alterations in storm hydrology. This Order requires the Permittee to forecast relevant needs and costs associated with climate change-related impacts in its asset management program. This Order requires the Permittee to prohibit new development impacts within existing riparian areas, providing climate change resiliency by supporting plant and habitat biodiversity and floodplain protection.

3) Agricultural-Related Pollutants

The Permittee is unique relative to most urban areas in that it is an urban area surrounded by cultivated lands, has cultivated lands within its jurisdictional boundaries, has many agriculture-related industries, and has a significant portion of its population working in agriculture-related jobs. This Order includes requirements to reduce the potential for agriculture-related pollutants within the Permittee's jurisdictional area from reaching receiving waters. This Order carries over the requirement from Order No. R3-2012-0005 to develop and implement effective BMPs to reduce the tracking of dirt and other debris onto streets, regardless of the source, and to prioritize street sweeping

[3] "Executive Summary: Moving Toward a Multi-Benefit Approach for Water Management," Pacific Institute; and Bren School of Environmental Science and Management, University of California, Santa Barbara, April 2019, p. I.

activities to areas with the highest sediment loading. This Order requires the Permittee to ensure agricultural industries, within the Permittee's jurisdictional area, implement effective BMPs for pollutant generating activities through the Permittee's commercial and industrial program.

4) Salinas Pump Station Outfall

Stormwater runoff from approximately thirty percent of the Permittee's jurisdictional area is routed through the Permittee's MS4 to the stormwater pump station (monitoring site no. 309U19). The Permittee owns and operates the underground pipeline routing stormwater runoff from the stormwater pump station to the Permittee's stormwater outfall at the Salinas River (monitoring site no. 309SDR) for approximately a mile under agricultural fields outside the Permittee's jurisdiction. The outfall is a 66-inch diameter pipeline with a flap gate on the end of the pipe that discharges into a ditch about 100 meters east of the Salinas River. The discharge point is approximately 400 meters upstream of the Davis Road river crossing. Figure H-1 depicts the pump station, pipeline and discharge point locations and associated water quality monitoring sites.

Over the past decade, Central Coast Ambient Monitoring Program (CCAMP) staff has collected water quality samples from the discharge pipe of the Salinas River stormwater outfall. CCAMP staff conducted monthly monitoring at the outfall between January 1999 and February 2000, between January 2006 and February 2007, between January and December 2012, and between January and December 2018. Flow from the drain was sampled monthly, except for when no flow was observed from the drain pipe or when access to the sampling location was not possible. Results from CCAMP monitoring at this location demonstrate regular exceedances of water quality criteria (wasteload allocations assigned to the Permittee in TMDLs; Water Quality Control Plan, Central Coast Region (Basin Plan) water quality objectives for the protection of beneficial uses such as MUN, ARG, COLD/WARM, REC1; and numeric targets for pesticides) for nutrients, salts, pathogen indicators, and pesticides. CCAMP has also documented flows from this outfall year-round, as well as high volumes of trash between the outfall pipe and the Salinas River.

The Permittee also collects water quality monitoring data at the pump station and river outfall sites nos. 309U19 and 309SDR, respectively. The Permittee compiled data from 2012 to 2016 from its Monitoring and Reporting Program sampling locations and summarized the percentage of sampling events where the sampled analyte exceeded action levels and water quality goals (see Table H-1 for results for monitoring sites nos. 309U19 and 309SDR).

Table H-1. Percentage of Number of Samples Exceeding Action Levels and Water Quality Goals for Monitoring Sites Nos.: 309U19 (pump station) and 309SDR (river outfall) from 2012 to 2016

Parameters	Monitoring Site No. 309U19	Monitoring Site No. 309SDR
pH	7%	3%
Turbidity	0%	3%
Dissolved Oxygen	13%	3%
Orthophosphate	80%	30%
Nitrate	0%	60%
Fecal Coliform	59%	41%
Copper	27%	27%
Zinc	53%	55%

[1]Action Levels defined in Order No. R3-2012-0005 as, “A pollutant concentration, pollutant load, or set of conditions specified by the Order at which the Permittee must take certain required actions defined by the Order. The Order identifies Action Levels for trash and a limited number of pollutants in MS4 stormwater discharges."

Order No. R3-2012-0005 required the Permittee to develop a plan to decrease pollutant loads discharged from the Salinas River outfall. In this plan, the Permittee indicated it video logged the pipeline from the stormwater pump station to the Salinas River outfall and confirmed groundwater intrusion into the pipe. This Order requires the Permittee to include this pipeline as a ‘hard asset’ in its Watershed Asset Management Program and identify the performance and level of service, accounting for pollutant load reductions. Because the Watershed Asset Management Program will include this pipeline, this Order requires the Permittee to assess and plan for pipeline improvements based on prioritization of MS4 improvements City-wide. Additionally, this Order requires the Permittee to demonstrate, in its Pollutant Load Reduction Plan, how it will achieve effluent and receiving water limitations, at the Salinas River discharge point as well as other Permittee discharge points.

Figure H-1. Location of Monitoring Sites Nos.: 309U19 and 309SDR

II. Regulatory Background

In 1972, the Federal Water Pollution Control Act (also referred to as the Clean Water Act) was amended to provide that the discharge of pollutants to waters of the United States from any point source is unlawful unless the discharge is in compliance with a NPDES permit. The 1987 amendments to the Clean Water Act added section 402(p), which established a framework for regulating stormwater discharges under the NPDES Program. Subsequently, in 1990, the United States Environmental Protection Agency (USEPA) promulgated regulations for permitting stormwater discharges from industrial sites (including construction sites that disturb five acres or more) and from municipal separate storm sewer systems (MS4s) serving a population of 100,000 people or more. (40 Code of Federal Regulations section 122.26.) These regulations, known as the Phase I regulations, require operators of medium and large MS4s to obtain stormwater permits. On December 8, 1999, USEPA promulgated regulations, known as Phase II, requiring permits for stormwater discharges from Small MS4s and from construction

sites disturbing between one and five acres of land. (40 Code of Federal Regulations sections 122.30 - 122.37.) The Phase I regulations provide that States, such as California, with approved NPDES permit programs, may require any discharger who contributes "to a violation of water quality standards or is a significant contributor of pollutants to waters of the United States" to obtain stormwater permits regardless of population size. (40 Code of Federal Regulations section 122.26(a)(v).)

The Porter-Cologne Water Quality Control Act authorizes the State Water Resources Control Board (State Water Board), through the Water Boards, to regulate and control the discharge of pollutants into waters of the State. Under the Clean Water Act, USEPA may authorize a state to administer the NPDES permit program in lieu of the USEPA. The State Water Board entered into a Memorandum of Agreement with the USEPA on May 14, 1973 to administer the NPDES permit program governing discharges to waters of the United States. Accordingly, the State of California administers the NPDES permit program within the State.

The Permittee is currently subject to NPDES Permit No. CA0049981, Order No. R3-2012-0005, which was adopted on May 3, 2012 and expired on May 2, 2017. The terms and conditions of Order R3-2012-0005 were automatically continued and remain in effect until new waste discharge requirements and NPDES permit are effective pursuant to this Order. This Order supersedes Order No. R3-2012-0005. Discharges of stormwater from the Permittee's MS4 were previously regulated by Order No. R3-2012-0005, which was adopted on May 3, 2012; Order No. R3-2004-0135, adopted on February 11, 2005; and Order No. 99-087, adopted on October 22, 1999.

III. Evolution in Municipal NPDES Stormwater Permitting

Water Boards have been issuing Phase I Municipal Separate Storm Sewer Systems (MS4) NPDES permits since the 1990s. In the time since, the permits and the required stormwater programs have continued to evolve. The federal Clean Water Act generally requires NPDES permits to include technology-based effluent limitations and any more stringent limitations necessary to meet water quality standards. However, the Clean Water Act does not explicitly reference requirements to meet water quality standards for MS4 NPDES permits. "MS4 discharges must meet a technology-based standard of prohibiting non-stormwater discharges and reducing pollutants in the discharge to the MEP in all cases, but requiring strict compliance with water quality standards (e.g., by imposing numeric effluent limitations) is at the discretion of the Water Board issuing the permit."[4]

[4] State Water Board Order WQ 2015-0075, p.10 (In the Matter of Review of Order No. R4-2012-0175, NPDES Permit No. CAS004001 Waste Discharge Requirements for Municipal Separate Storm Sewer System (MS4) Discharges Within the Coastal Watersheds of Los Angeles County, except those

Water Board MS4 NPDES permits specify that stormwater and non-stormwater discharges must not cause or contribute to exceedances of water quality standards in the waters of the United States that receive those discharges. Each of the MS4 permits the Central Coast Water Board has issued to the City of Salinas (Permittee) includes these *receiving water limitations*. Water Board MS4 permits have historically provided an *iterative approach* to program implementation whereby compliance with the MEP standard is achieved over time through improving Best Management Practices (BMPs). But, as municipalities' stormwater management programs have matured, an increasing body of monitoring data indicates that many water quality standards are in fact not being met by many MS4s. This is also the case in the City of Salinas. Urban runoff is causing and contributing to receiving water impacts and the impairment of beneficial uses throughout the State. If municipal runoff continues to cause or contribute to exceedances of water quality standards, many of the State's urban waterways may never attain water quality standards and fully support beneficial uses. Further, to effectively achieve water quality standards in watersheds with mixed-land uses, the Water Boards must effectively regulate all types of discharges (e.g., urban and agricultural).

The iterative approach has been ineffective in bringing MS4 discharges into compliance with receiving water limitations. In 2012, the State Water Board evaluated the MS4 permit iterative approach and concluded the implementation of the iterative process does not constitute compliance with receiving water limitations. Subsequently, in issuing precedential order WQ 2015-0075, the State Water Board re-asserted that compliance with water quality standards is and should remain the goal of any MS4 permit and determined that provisions requiring compliance with receiving water limitations are appropriate for the control of pollutants addressed in MS4 permits and consistent with Water Board authority under the Clean Water Act.[5]

The assignment of total maximum daily load (TMDL) wasteload allocations[6] to MS4 permittees has contributed to a shift toward a water quality-based effluent limitations approach in NPDES MS4 permitting. As with other current Water Board Phase I MS4 permits, TMDL wasteload allocations are incorporated in this Order as water quality-based effluent limitations.

The City of Salinas' stormwater program, like most other Phase I MS4 programs in the State, is inherently complex for multiple reasons, including its large geographic area, numerous pollutant sources, a broad mix of stormwater program activities and BMPs, and conveyance of flows above and below ground in natural and manmade systems.

Discharges Originating from the City of Long Beach MS4 Issued by the California Regional Water Quality Control Board, Los Angeles Region).

[5] Ibid., p. 14

[6] A TMDL is the amount of a particular pollutant a waterbody can assimilate on a regular basis and still remain at levels that protect beneficial uses. It establishes an allowable amount of a pollutant; numeric indicators of water quality; proportional responsibility for controlling a pollutant (wasteload allocations for point sources, load allocations for nonpoint sources); and implementation to achieve allowable amounts of pollutant loading. The Clean Water Act requires regional boards to develop TMDLs for waters of the United States that are impaired by a specific pollutant.

The Permittee's stormwater program's ability to carry out stormwater program requirements is often resource-constrained, thus making it increasingly vital to prioritize activities with outcomes that serve the community and environment.[7]

Water Boards acknowledge that receiving water limitation provisions required by MS4 permits may result in many years of permit noncompliance because it may take years of technical efforts to achieve compliance with the receiving water limitations, especially for wet weather discharges. Accordingly, MS4 permits should incorporate a well-defined, transparent, and finite alternative path to permit compliance that allows MS4 dischargers the flexibility to pursue significant actions beyond the iterative process that result in compliance with receiving water limitations. The complexity associated with achieving water quality standards in the context of climate change, diffuse/nonpoint source emissions, and the potentially significant structural measure costs requires that future MS4 permits provide municipalities increased implementation flexibility. MS4 permits can provide this flexibility via alternative compliance pathways.

Alternative compliance pathways are intended to allow MS4 permittees the flexibility to pursue significant actions beyond the iterative process, (e.g., long-range green infrastructure programs, catchment-scale infrastructure projects for stormwater capture and use) over defined planning timescales (e.g., 20 years) expanding beyond the NPDES five-year permit cycle. They should be well-defined and transparent adaptive management strategies applied at watershed scales.

Allowing for alternative compliance pathways represents a newer approach to permitting stormwater programs. Alternative compliance options are now provided in MS4 permits issued by California Regional Water Quality Control Boards for the Los Angeles, Central Valley, and San Diego regions, and in draft orders prepared by the Colorado River Basin Water Board and Santa Ana Water Board.

The State Water Board's precedential Water Quality Order 2015-0075 directly addresses alternative compliance and presents the below listed seven guiding principles for regional water boards to follow in considering a watershed-based approach to receiving water limitations compliance when issuing Phase I MS4 Permits.[8] Each guiding principle in developing this Order is addressed.

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

2. *The Phase I MS4 permits should include a provision stating that, for water body-pollutant combinations with a TMDL, full compliance with the requirements of the*

[7] "Improving Stormwater Program Monitoring, Evaluation, Tracking, and Reporting, Workshop Report and Recommendations," October 12, 2018, p. 1. *Prepared for* USEPA Region 9 *by* PG Environmental.
[8] State Water Board Order WQ 2015-0075, p. 51.

TMDL constitutes compliance with the receiving water limitations for that water body-pollutant combination.

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

4. *The alternative compliance path should encourage watershed-based approaches, address multiple contaminants, and incorporate TMDL requirements.*

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

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

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

IV. Specific Permit Provisions

A. Discharge Prohibitions

Consistent with federal law, Provision A of this Order contains a prohibition on non-stormwater discharges to the MS4, where such discharges are not conditionally authorized. On November 16, 1990, USEPA promulgated regulations to implement the 1987 amendments to the Clean Water Act. (55 Federal Register 47990 (Nov. 16, 1990)). The regulations establish minimum requirements for MS4 permits. The regulations address both stormwater and non-stormwater discharges from MS4s; however, the minimum requirements for each are significantly different. This is evident from USEPA's preamble to the stormwater regulations, which states that "Section 402(p)(B)(3) [of the Clean Water Act] requires that permits for discharges from municipal separate storm sewers require the municipality to 'effectively prohibit' non-stormwater discharges from the municipal storm sewer. Ultimately, such non-stormwater discharges through a MS4 must either be removed from the system or become subject to an NPDES permit." (55 Fed Reg. 47990, 47995). USEPA explained that illicit discharge detection and elimination program requirements were intended to begin to implement the Clean Water Act's provision requiring permits to "effectively prohibit non-storm water discharges." (55 FR 47990, 47995). Specifically, the statutory

mandate is implemented as MS4 permit application requirements to (1) conduct a screening analysis of the MS4 to provide information to develop priorities for a program to detect and remove illicit discharges, and (2) provide a proposed management program that includes a program to detect and remove illicit discharges, or ensure they are covered by a separate NPDES permit, and to control improper disposal into the storm sewer. (40 Code of Federal Regulations section 122.26(d)(1)(iv)(D), (d)(2)(iv)(B)). These non-storm water discharges therefore are not subject to the MEP standard.

"Illicit discharges" defined in the regulations is the most closely applicable definition of "non-storm water" contained in federal law, and the terms are often used interchangeably. In fact, "illicit discharge" is defined by USEPA in its 1990 rulemaking, as "any discharge through a municipal separate storm sewer that is not composed entirely of storm water and that is not covered by an NPDES permit (other than the permit for the discharge from the MS4)." (55 Federal Register 47990, 47995).

Non-stormwater discharges from the MS4 that are not authorized by separate NPDES permits, nor specifically exempted, are subject to requirements under the NPDES program, including discharge prohibitions, technology-based effluent limitations and water quality-based effluent limitations (40 Code of Federal Regulations section 122.44). As discussed above, USEPA's preamble to the storm water regulations also supports the interpretation that regulation of non-storm water discharges through an MS4 is not limited to the MEP standard in Clean Water Act section 402(p)(3)(B)(iii).

Additionally, this Order requires the Permittee to comply with the prohibition on the discharge of trash to waters of the state established in Chapter IV of the Part 1 Trash Provisions of the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California (ISWEBE Plan Trash Provisions).[9]

B. Effluent Limitations

Technology-Based Effluent Limitations –

Clean Water Act section 303(d)(1)(A) and 40 Code of Federal Regulations section 122.44(a) require that NPDES permits include technology-based effluent limitations.[10] In 1987, the Clean Water Act was amended to require that municipal storm water discharges "reduce the discharge of pollutants to the maximum extent practicable." (Clean Water Act Section 402(p)(3)(B)(iii).) The "maximum extent practicable" (MEP)

[9] At this time, the Trash Provisions for the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California Plan (ISWEBE Plan) are found in the Trash Amendments, adopted by the State Water Board on April 7, 2015, at Appendix E of the Final Staff Report to the Amendment to the Water Quality Control Plan for the Ocean Waters of California to Control Trash and Part 1 Trash Provisions of the Water Quality Control Plan for the ISWEBE Plan. The State Water Board plans to incorporate the Part 1 Trash Provisions to the ISWEBE Plan, once it is adopted.

[10] A technology-based effluent limitation is based on the capability of a model treatment method to reduce a pollutant to a certain concentration (USEPA NPDES Permit Writers' Manual, Appendix A). Technology represent the minimum level of control that must be imposed in a permit issued under Clean Water Act Section 402.

standard is the applicable federal technology-based standard that MS4 owners and operators must attain to comply with their NPDES permits.[11] The corresponding regulatory provisions that pertain to the MEP standard can be found in 40 Code of Federal Regulations sections 122.26(d)(2)(iv) and 122.44(k)(2). "EPA has intentionally not provided a precise definition of MEP to allow maximum flexibility in MS4 permitting. MS4s need the flexibility to optimize reductions in storm water pollutants on a location-by-location basis."[12]

Water Quality-Based Effluent Limitations: Incorporation into this Order –

In addition to requiring that MS4 permits include technology based requirements consistent with the MEP standard, Clean Water Act section 402(p)(3)(B)(iii) authorizes the inclusion of "such other provisions as the Administrator or the State determines appropriate for the control of such pollutants."[13] This requirement gives USEPA or the State permitting authority discretion to determine what additional permit conditions are necessary to control pollutants. Generally, permit requirements designed to achieve water quality standards are referred to as water quality-based effluent limitations (WQBELs). A WQBEL is a restriction on the quantity or concentration of a pollutant that may be discharged from a point source into a receiving water that is necessary to achieve an applicable water quality standard in the receiving water.[14] WQBELs may be expressed narratively or numerically.

In the promulgation of its Phase I Stormwater Regulations, Final Rule, USEPA elaborated on these requirements, stating that, "permits for discharges from municipal separate storm sewer systems must require controls to reduce the discharge of pollutants to the maximum extent practicable, and where necessary water quality-based controls" (see 55 Federal Register 47990, 47994). In December 1999, USEPA reiterated in the promulgation of its Phase II Stormwater Regulations, Final Rule that MS4 "permit conditions must provide for attainment of applicable water quality standards (including designated uses), allocations of pollutant loads established by a TMDL, and timing requirements for implementation of a TMDL."[15] The State Water Board has affirmed that MS4 permits must include requirements necessary to achieve compliance with the applicable technology-based standard of MEP and to achieve

[11] The MEP standard only applies to stormwater discharges from the MS4. Non-stormwater discharges are subject to a different standard – specifically, non-stormwater discharges through the MS4 must be effectively prohibited.
[12] Phase II Stormwater Regulations, Final Rule, 66 Federal Register 68722, 68754.
[13] The first, second, and third iterations of the City of Salinas MS4 Permit relied solely upon requirements consistent with the MEP standard to work toward achieving water quality standards. The MEP standard is distinct from a water quality-based standard; each has a different basis. Therefore, while from a practical point of view, the goal of all MS4 permit conditions is to control pollutants in discharges to ultimately achieve certain water quality outcomes, water quality-based standards are directly derived from this desired outcome, while the MEP standard is anticipated to be a way of working toward the desired outcome, but is not directly derived from it.
[14] See 40 Code of Federal Regulations section 122.2; USEPA NPDES Permit Writers' Manual, Appendix A. A WQBEL is distinguished from a technology based effluent limitation (TBEL) in that the basis for the WQBEL is the applicable water quality standard for the receiving water, while the basis for the TBEL is generally the performance of the best available technology.
[15] *See, e.g.*, Phase II Stormwater Regulations, Final Rule, 64 Federal Register 68722, 68737.

water quality standards.[16]

WQBELs are required for point source discharges that have the reasonable potential to cause or contribute to an excursion of water quality standards and technology-based effluent limitations or standards are not sufficient to achieve water quality standards.[17]

The State Water Board has previously concluded that sole reliance in MS4 permits on BMP based requirements is not sufficient to ensure attainment of water quality standards.[18] The Central Coast Water Board concurs with this conclusion, which is amply supported by Central Coast Water Board-established TMDLs for impaired waters in the Central Coast region, indicating that MS4 discharges are a continuing source of pollutants to the impaired receiving waters notwithstanding the implementation of stormwater management programs that have been driven by the MEP standard by MS4 discharges for the last two decades.

In this Order, WQBELs are included where the Central Coast Water Board has determined that discharges from the MS4 have the reasonable potential to cause or contribute to an excursion above water quality standards.[19] Reasonable potential can be demonstrated in several ways, one of which is through the TMDL development process. Where a point source is assigned a wasteload allocation in a TMDL, the analysis conducted in the development of the TMDL may provide the basis for the Central Coast Water Board's determination that the discharge has the reasonable potential to cause or contribute to an exceedance of water quality standards in the receiving water. This approach is affirmed in USEPA's NPDES Permit Writers' Manual, which states, "[w]here there is a pollutant with a WLA from a TMDL, a permit writer must develop WQBELs."[20] Therefore, WQBELs are included in this Order for all pollutants for which a WLA is assigned to the MS4 discharges. A 2014 USEPA Memo, while not binding authority, states "[w]here the TMDL includes WLAs for stormwater sources that provide numeric pollutant loads, the WLA should, where feasible, be translated into effective, measurable WQBELs that will achieve this objective. This could take the form of a numeric limit, or of a measurable, objective BMP-based limit that is projected to achieve the WLA." [21] The 2014 USEPA Memo further acknowledges that the permitting authority should consider the schedules in the TMDL as it decides whether and how to establish enforceable interim requirements and interim dates into the permit.

Federal regulations further require that, "when developing water quality-based effluent limits…the permitting authority shall ensure that effluent limits … are consistent with the assumptions and requirements of any available wasteload allocation for the discharge…" (40 Code of Federal Regulations section 122.44(d)(1)(vii)(B)).

---

[16] *See, e.g.*, State Water Board Orders WQ 99-05 and 2001-15.
[17] 40 Code of Federal Regulations sections 122.44(d)(1)(i); 122.44(d)(1)(iii)
[18] State Water Board Order WQ 2015-0075, p. 14.
[19] 40 Code of Federal Regulations sections 122.44(d)(1)(i)-(iii); 122.44(d)(1)(vii)(B)
[20] *See* USEPA, "NPDES Permit Writers' Manual," September 2010, Chapter 6.3.3
[21] *See* USEPA, "Revision to the November 22, 2002, Memorandum 'Establishing Total Maximum Daily Load (TMDL) Wasteload Allocations (WLAs) for Storm Water Sources and NPDES Permit Requirements Based on Those WLAs,'" November 26, 2014 (hereinafter "2014 USEPA Memo.")

The Central Coast Water Board interprets this to mean that the WQBEL must be expressed consistent with the underlying wasteload allocation. Because the Permittee's MS4 discharges continue to exceed TMDL wasteload allocations assigned to the Permittee, despite the implementation of BMPs, it is appropriate for the Central Coast Water Board to require numeric WQBELs designed such that a Permittee's compliance with the WQBELs should result in attainment of the wasteload allocation by the final compliance date. In Attachment C (Water Quality-Based Effluent Limitations) of this Order, the Central Coast Water Board has devised permit requirements that meet these mandates. For each TMDL, the requirements in Attachment C have been specifically designed to attain compliance with applicable wasteload allocations by the final compliance deadline. Where the applicable TMDL implementation plan includes a final compliance date beyond the permit term, monitoring and other requirements are being included in this Order to monitor progress towards achieving future compliance.

According to the Basin Plan, the Central Coast Water Board will, as necessary, include schedules of compliance in NPDES permits for compliance with water quality-based effluent limits based on the wasteload allocations. The compliance schedules must be consistent with the requirements of federal and State laws and regulations, including USEPA regulations at 40 Code of Federal Regulations section 122.47.

Water Quality-Based Effluent Limitations: TMDLs Applicable to the Permittee –

Clean Water Act section 303(d)(1)(A) requires each State to conduct a biennial assessment of its waters and identify those waters that are not achieving water quality standards after technology-based controls are implemented. The resulting list is referred to as the Clean Water Act section 303(d) list. The Clean Water Act also requires States to establish a priority ranking for waters on the Clean Water Act section 303(d) list of impaired waters and to develop and implement TMDLs for these waters. A TMDL specifies the maximum amount of a pollutant that a waterbody can receive and still meet water quality standards and allocates the acceptable pollutant load to point and nonpoint sources. The elements of a TMDL are described in 40 Code of Federal Regulations sections 130.2 and 130.7. A TMDL is defined as "the sum of the individual waste load allocations for point sources and load allocations for nonpoint sources and natural background" (40 Code of Federal Regulations section 130.2). Regulations further require that TMDLs must be set at "levels necessary to attain and maintain the applicable narrative and numeric water quality standards with seasonal variations and a margin of safety that takes into account any lack of knowledge concerning the relationship between effluent limitations and water quality" (40 Code of Federal Regulations section 130.7(c)(1)). The regulations in 40 Code of Federal Regulations section 130.7 also state that TMDLs shall take into account critical conditions for stream flow, loading, and water quality parameters. The USEPA has circulated guidance for establishing wasteload allocations for stormwater discharges in TMDLs and their incorporation as numerical limitations in MS4 Stormwater Permits.[22]

[22] James A. Hanlon and Denise Keehner. Memorandum: Revisions to the November 22, 2002 Memorandum "Establishing Total Maximum Daily Load (TMDL) Wasteload Allocations (WLAs) for Storm

Stormwater discharges from developed and developing areas in Salinas are significant sources of certain pollutants that cause, may be causing, threatening to cause, or contributing to water quality impairment in Salinas' waters. Furthermore, as delineated in the Clean Water Act section 303(d) list, the Central Coast Water Board has found that there is a reasonable potential that municipal stormwater and non-stormwater discharges from the MS4 cause or may cause or contribute to levels above water quality standards. In accordance with Clean Water Act section 303(d), the Central Coast Water Board is required to establish TMDLs for discharge of these pollutants to these waters to eliminate impairment and attain water quality standards.

The following TMDLs are implemented in this Order, two of which became effective since the adoption of Order No. R3-2012-0005:

Nutrient TMDL for Nitrogen Compounds and Orthophosphate in the Lower Salinas River and Reclamation Canal Basin, and the Moro Cojo Slough Subwatershed, effective May 7, 2014. The Permittee must attain interim wasteload allocations by May 7, 2026 and May 7, 2034, and final wasteload allocations no later than May 7, 2044. This Order incorporates this TMDL's wasteload allocations as TMDL-specific water quality limitations for:

- Nitrate as N
- Orthophosphate as P
- Unionized ammonia as N

Sediment Toxicity TMDL for Sediment Toxicity and Pyrethroid Pesticides in Sediment in the Lower Salinas River Watershed, effective June 28, 2018. The Permittee must attain wasteload allocations no later than June 28, 2023. This Order incorporates this TMDL's wasteload allocations as TMDL-specific water quality limitations for:

- Sediment toxicity and pyrethroid concentration in water
- Pyrethroid sediment concentration toxicity unit

Fecal Coliform TMDL for Fecal Coliform in the Lower Salinas River, effective December 20, 2011. The Permittee must attain wasteload allocations no later than December 20, 2024.
This Order incorporates this TMDL's wasteload allocations as TMDL-specific water quality limitations for:

- Fecal Coliform

Water Quality-Based Effluent Limitations: Interim, Final, and Past-Due Compliance Dates –

In all available TMDLs, where there is a TMDL implementation plan adopted by the

Water Sources and NPDES Permit Requirements Based on Those WLAs". Washington, D.C.: USEPA, 12 November 2010. Web. 28 November 2011.

Central Coast Water Board and approved through the State's basin plan amendment process, interim WQBELs are included in this Order based on interim wasteload allocations assigned to discharges from the Permittee's MS4 and final WQBELs are included in this Order based on final wasteload allocations assigned to discharges from the Permittee's MS4. MS4 permits can include compliance schedules for achieving final WQBELs derived from TMDL wasteload allocations, so long as the compliance schedule is consistent with a TMDL implementation plan adopted by the Central Coast Water Board and approved through the State's basin plan amendment process. If a compliance schedule exceeds one year, it must include interim requirements pursuant to 40 Code of Federal Regulations section 122.47.

This Order implements one TMDL with final attainment dates within the duration of this Order. In precedential Order WQ 2015-0075, the State Water Board held that final TMDL attainment deadlines should not be extended through permitting actions. The State Water Board stated as follows:

> *Final TMDL deadlines are established and incorporated into the Basin Plans during the TMDL development process. That process invites stakeholder participation and the proposed schedule is subject to public review and comment and approval by the relevant regional water board, the State Water Board, and USEPA. The deadlines are established with consideration of the time needed for compliance for all dischargers contributing to an impairment, including industrial and construction storm water dischargers and traditional NPDES dischargers. Although we recognize that it may not always be feasible for municipal storm water dischargers to meet final TMDL deadlines, short of amending the Basin Plan to modify the deadlines (see California Association of Sanitation Agencies v. State Water Resources Control Board (2012) 208 Cal.App.4th 1438), we find it appropriate for the dischargers to request time schedule orders rather than be granted an extension within the provisions of the [regional water board permits].*[23]

If needed, the Permittee may request a Time Schedule Order from the Central Coast Water Board to allow additional time for compliance with the TMDL requirements.

Supplemental Information Regarding Sediment Toxicity TMDL for Sediment Toxicity and Pyrethroid Pesticides in Sediment in the Lower Salinas River Watershed –

Attachment C (Water Quality-Based Effluent Limitations) specifies the Permittee's wasteload allocations for the Sediment Toxicity TMDL for Sediment Toxicity and Pyrethroid Pesticides in Sediment in the Lower Salinas River Watershed. The Permittee has control over pesticide application at Permittee-owned and operated areas. However, the Central Coast Water Board acknowledges the challenges with holding the Permittee accountable for limiting pesticide use and application on privately-owned and operated areas.

[23] State Water Board Order WQ 2015-0075, p. 37.

In the Central Valley Water Board's draft staff report for proposed basin plan amendments for the control of pyrethroid pesticides discharges, Central Valley Water Board staff support a BMP-based approach for pesticide management in urban areas:[24]

> *There are no known physical treatments for storm water systems that can achieve the proposed numeric triggers for pyrethroids. State law does not allow local authorities to ban or limit pesticide sales and use. Therefore holding storm water dischargers to the standard of attaining numeric effluent limitations or receiving water limits could lead to widespread compliance issues. Attainment of the proposed pyrethroid triggers in storm water will likely require continued support through actions of the municipal dischargers working together with the Central Valley Water Board, and state, federal and local agencies responsible for registering pesticides and regulating pesticide use as part of an overall pesticide pollution prevention strategy. This strategy requires significant involvement of the MS4s to ensure success. Therefore a BMP-based approach, built on the MEP standard, and emphasizing pollution protection activities, is proposed for MS4 dischargers to be included as part of the TMDL and conditional prohibition.*
>
> *Implementation of BMPs will serve to reduce pyrethroids in urban water bodies and prevent future impairments. Surveillance and monitoring associated with these implementation measures are also proposed to assess progress in achieving the*
> *pyrethroid triggers.*

This Order requires the Permittee to manage pesticide, herbicide, and fertilizer applications at Permittee-owned and operated areas. This Order also includes requirements for the Permittee to improve its awareness of pesticide application and misuse throughout the Permittee's jurisdiction and report these observations to the Monterey County Agricultural Commissioner and Central Coast Water Board. Additionally, this Order includes requirements for educating the populace and pesticide, herbicide, and fertilizer applicators about proper pesticide, herbicide, and fertilizer application to better protect water quality. This Order also requires the Permittee to support and contribute information to statewide and federal efforts to manage pesticides. Lastly, for catchments utilizing the iterative approach compliance pathway in the Pollutant Load Reduction Plan, the Permittee must evaluate its pesticide management efforts to assess the need for further actions.

The State Water Board's Strategy to Optimize Resource Management of Storm Water (STORMS) is working with stakeholders (e.g., Regional Water Boards, USEPA Region 9, Department of Pesticide Regulation, municipality representatives from California Stormwater Quality Association (CASQA)) to develop a statewide approach to address pesticides in urban waterbodies. If the State Water Board establishes or amends existing statewide water quality control plans that require best management practices

[24] "Draft Staff Report: Proposed Amendments to the Water Quality Control Plan for the Sacramento River and San Joaquin River Basins for the Control of Pyrethroid Pesticides Discharges," Central Valley Regional Water Quality Control Board, January 2017, p. 123.

for the control of urban pesticide discharges, compliance with those requirements may be a means of demonstrating compliance with the Permittee's wasteload allocations for the Sediment Toxicity TMDL for Sediment Toxicity and Pyrethroid Pesticides.

C. Receiving Water Limitations

Consistent with State Water Board Order WQ 2015-0075, this Order requires compliance with water quality standards in receiving waters.[25] The receiving water limitations contained in this Order are imposed under Clean Water Act section 402(p)(3)(B)(iii), which requires MS4 permits to include "controls to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and system, design, and engineering methods, and *such other provisions as the Administrator or the State determines appropriate for the control of such pollutants*." In Order WQ 2015-0075, the State Water Board reiterated that provisions requiring compliance with receiving water limitations are appropriate for the control of pollutants addressed in MS4 permits and are consistent with the State's authority under the Clean Water Act.[26]

The receiving water limitations in this Order consist of all applicable numeric or narrative water quality objectives or criteria, or limitations to implement the applicable water quality objectives or criteria, for receiving waters as contained in Chapters 3 and 4 of the Basin Plan, or in water quality control plans or policies adopted by the State Water Resources Control Board, including Resolution No. 68-16, or in federal regulations, including but not limited to, 40 Code of Federal Regulations sections 131.12 (National Toxics Rule) and 131.38 (Water Quality Standards; Establishment of Numeric Criteria for Priority Toxic Pollutants for the State of California Rule [California Toxics Rule]). The water quality objectives in the Basin Plan and other State Water Board plans and policies have been approved by USEPA and combined with the designated beneficial uses constitute the water quality standards required under federal law.

D. Standard Provisions

Standard Provisions, which apply to all NPDES permits in accordance with 40 Code of Federal Regulations section 122.41, and additional conditions applicable to specified categories of permits in accordance with 40 Code of Federal Regulations section 122.42, are provided in Attachment E (Standard Provisions). The Permittee must comply with all standard provisions and with those additional conditions that are applicable under 40 Code of Federal Regulations section 122.42.

[25] See No. 1 of the seven principles for considering the watershed-based approach to receiving water limitations compliance when issuing Phase I MS4 Permits. State Water Board Order WQ 2015-0075, p. 51.
[26] State Water Board Order WQ 2015-0075, p. 14.

E. General Provisions

In place of requiring the Permittee to develop and maintain a stormwater management plan, this Order requires the Permittee to develop and maintain supporting tools, documents, and procedures (e.g., standard operating procedures, assessment and inspection procedures, checklists, inspection forms, stormwater pollution prevention plans) necessary to effectively implement the requirements of this Order. The Permittee is provided the discretion to determine the necessary tools for development. Historically the stormwater management plan contained updated documentation to identify staff and departments responsible for implementing Order requirements. Because the Permittee is no longer required to maintain a stormwater management plan, this Order specifically requires the Permittee to maintain information identifying staff and departments responsible for implementing the requirements in this Order. This documentation supports the Central Coast Water Board oversight of the Permittee's stormwater management program, when program implementation is spread across several departments and when the Permittee relies on both municipal employees and contractors for program implementation.

The Permittee is required to participate in intra-agency coordination necessary to successfully implement the provisions of this Order. The Permittee's compliance with the Order will not be assessed by the level of cooperation received by other agencies. The Permittee's compliance will be assessed on the Permittee's efforts to coordinate with other agencies and the Permittee's implementation of the provisions of this Order, regardless of the level of cooperation received by other agencies.

This Order requires the training of municipal and contracted staff to ensure that everyone is knowledgeable and proficient in the newest and most effective approaches to minimizing pollutant discharges from municipal facilities and activities.

Permittees often contract out to others (e.g., hire consultants) to implement some of the requirements of stormwater management programs. This Order requires the same level of performance regardless of who performs the work. Since the Permittee is responsible to ensure that work performed by others complies with the requirements of the Order, the City is required to provide oversight of work not performed by municipal staff.

The Permittee is generally required to electronically submit or upload all plans, reports and any other documents required by this Order to the Stormwater Multiple Application and Report Tracking System (SMARTS), and to electronically report applicable data listed in Appendix A of the NPDES Electronic Reporting Rule (eRule), 40 Code of Regulations part 127, as updated by revisions to the eRule, when an approved electronic reporting system becomes available. The Central Coast Water Board is authorized to request such additional data under Water Code Section 13383.

F. Pollutant Load Reduction Plan

This Order more directly addresses receiving water impacts and the impairment of beneficial uses, by requiring the Permittee to develop and implement a comprehensive watershed-based Pollutant Load Reduction Plan (PLRP) describing how the Permittee proposes to address the following:

1. Water Quality-Based Effluent Limitations – All wasteload allocations, assigned to the Permittee in TMDLs, and incorporated into this Order as water quality-based effluent limitations (see Attachment C); and

2. Receiving Water Limitations – All waterbody-pollutant combinations, not addressed by TMDLs, where the Permittee's stormwater runoff is 1) contributing to impairments on the State's Clean Water Act Section 303(d) List, and/or 2) is suspected of causing or contributing to an exceedance of Receiving Water Limitations.

This Order requires the Permittee to choose from the following two compliance pathways for achieving effluent and receiving water limitations: 1) Volume Reduction; and 2) Iterative Approach. The Permittee may choose different compliance pathways for various portions of the City. So long as the Permittee meets applicable requirements of the PLRP, including interim milestones and targets, and dates for achieving them, the Order states this will constitute as compliance with applicable effluent and receiving water limitations.[27]

Order No. R3-2012-0005 laid the groundwork for this effort. It required: a spatially-explicit, urban catchment (watershed-based) approach to prioritizing stormwater program implementation; a blend of water quality monitoring and BMP assessment for evaluating program effectiveness; compliance with regional low impact development focused post-construction requirements; trash management; development and implementation of plans to address wasteload allocations assigned in TMDLs; robust programs for overseeing construction, industrial and commercial, and municipal activities; and it introduced pollutant load estimates as a criterion for prioritizing program implementation. The Information Management and Program Assessment requirements in this Order require the Permittee to build on this foundation to improve tracking of structural BMP conditions and maintenance, enabling the Permittee to use that information to ensure that the BMPs are effective in reducing pollutant loads in each catchment and to measure progress toward attainment of effluent and receiving water limitations. The PLRP requirements clarify that the Permittee may use the Stormwater Information Management System, to the extent feasible, to support PLRP implementation.

[27] See No. 2 of the seven principles for considering the watershed-based approach to receiving water limitations compliance when issuing Phase I MS4 Permits. State Water Board Order WQ 2015-0075, p. 52.

Volume Reduction –

With the Volume Reduction compliance pathway, the Permittee is required to use multi-benefit projects to retain all non-stormwater runoff and stormwater runoff generated by the 85th percentile, 24-hour storm event. This compliance pathway provides the Permittee an option for addressing all water quality-based effluent limitations and receiving water limitations through one solution.[28] In reviewing the Los Angeles Water Board's reliance on Enhanced Watershed Management Plans (EWMPs) as a compliance pathway in the Los Angeles County MS4 Permit,[29] State Water Board precedential order WQO 2015-0075 states, "We are supportive of the EWMP's use of the storm water retention approach [same numeric retention requirement provided in this Order] as a technical requirement. Retention of storm water is likely to be an effective path to water quality improvement. Furthermore, in addition to preventing pollutants from reaching the receiving water except as a result of high precipitation events (which also generally result in significant dilution in the receiving water), the storm water retention approach has additional benefits including recharge of groundwater, increased water supply, reduced hydromodification effects, and creation of more green space to support recreation and habitat."[30]

Because the Central Coast Water Board acknowledges the resources and planning necessary to achieve viable, effective projects, this Order incorporates longer timeframes, up to 20-years, to complete these projects, without the Permittee having to justify the need for this longer timeframe.[31] Because the State Water Board's precedential order WQO 2015-0075 has already recognized the sufficiency of this approach, this Order does not include a requirement to develop a Reasonable Assurance Analysis for the Volume Reduction compliance pathway. This Order requires the Permittee to demonstrate project viability and include details of proposed solutions, quantification of benefits, realistic schedules with interim milestones, and funding plans.

The Central Coast Water Board incentivizes this option by providing flexibility and lightening requirements throughout this Order (e.g., reduced inspection frequencies) for areas of the City that achieve the Volume Reduction criteria. These more flexible requirements are defined as *PLRP Alternative Requirements* throughout this Order. This Order will still require the Permittee to maintain the legal authority to regulate non-allowable non-stormwater discharges and pollutant loading that may impact receiving waters and beneficial uses; however, for catchments with volume reduction measures in

[28] See No. 4 of the seven principles for considering the watershed-based approach to receiving water limitations compliance when issuing Phase I MS4 Permits. State Water Board Order WQ 2015-0075, p. 52.
[29] Los Angeles Regional Water Quality Control Board Order No. R4-2012-0175, Phase I Municipal Stormwater Permit for discharges within the coastal watersheds of Los Angeles County, except discharges originating from the City of Long Beach MS4.
[30] State Water Board Order WQ 2015-0075, p. 42.
[31] See No. 3 of the seven principles for considering the watershed-based approach to receiving water limitations compliance when issuing Phase I MS4 Permits. State Water Board Order WQ 2015-0075, p. 52.

place, the risk to water quality is lessoned, so this Order builds in some relaxation for oversight of these areas.

One of the key principles for Water Boards to consider in providing alternative compliance pathways is integration of multi-benefit regional projects.[32] For the Volume Reduction compliance pathway, this Order specifies projects must achieve and quantify multiple benefits. In a recent report,[33] the Pacific Institute emphasizes that effective urban stormwater capture provides an opportunity for addressing multiple benefits including flood control, water quality impairments, improving water supply reliability, providing habitat, reducing urban temperatures, reducing energy use, creating community recreation spaces, and increasing property values. The Pacific Institute explains that flood control and water quality benefits are commonly incorporated into stormwater management decisions, yet water supply decisions are less common, and the Institute offers recommendations for how municipalities can facilitate community-based efforts in California and inspire further action to harnessing viable local water supply.

The Pacific Institute and the University of Santa Barbara's Bren School of Environmental Science and Management provide an executive summary framing the topic of moving towards multiple benefit approaches for water management. The summary explains the Institute and University's plans to develop a systematic framework for identifying and incorporating the costs and benefits of water management strategies into decision making following these steps: 1) identifying benefits; 2) characterizing benefits; and 3) incorporating benefits. The summary promotes a broader consideration of benefits associated with water management decisions to achieve broader project support, avoid unintended consequences, optimize resources and cost sharing, and increase transparency.[34]

This Order encourages Volume Reduction projects to incorporate green infrastructure and low impact development principles into projects.[35] The list of multiple benefits provided in the Volume Reduction compliance pathway is derived primarily from the following components within the State Water Board's Storm Water Resource Plan Guidelines: 1) definition of multi-benefit and multiple benefit projects;[36] and 2) list of benefit options that each project and program implemented in accordance with the

[32] See No. 6 of the seven principles for considering the watershed-based approach to receiving water limitations compliance when issuing Phase I MS4 Permits. State Water Board Order WQ 2015-0075, p. 52.
[33] "Stormwater Capture in California: Innovative Policies and Funding Opportunities," Morgan Shimabuku, Sarah Diringer, Heather Cooley; Pacific Institute; June 2018; p. 2.
[34] "Executive Summary: Moving Toward a Multi-Benefit Approach for Water Management," Pacific Institute; and Bren School of Environmental Science and Management, University of California, Santa Barbara, April 2019, pp. II-III.
[35] See No. 5 of the seven principles for considering the watershed-based approach to receiving water limitations compliance when issuing Phase I MS4 Permits. State Water Board Order WQ 2015-0075, p. 52.
[36] "Storm Water Resource Plan Guidelines," State Water Resources Control Board, December 15, 2015, p. 9.

Storm Water Resource Plans must incorporate.[37] The Central Coast Water Board added a community benefit example targeting enhancements for socio-economically disadvantaged communities within the Permittee to align with one of this Order's goals to improve and enhance conditions for these stressed communities. This list of multiple benefits incorporates climate change mitigation and adaption. Although some of the listed benefits do not have a direct nexus to water quality, the majority of provided multiple benefits will provide ancillary water quality benefits. For example, transportation investments have important consequences for the environment, including air and water quality, climate change, and open space preservation. How communities develop also affects how convenient and appealing public transportation, bicycling, and walking are for their residents.[38]

This Order ensures rigor and accountability with the Volume Reduction compliance pathway by requiring the Permittee to develop a clear schedule, including interim milestones; provide its financial strategy to support proposed projects; and demonstrate proposed projects will achieve intended design objectives, incorporate quantifiable multiple benefits, and succeed in perpetuity.[39]

Iterative Approach –

The Iterative Approach compliance pathway in this Order offers a modified version of Order No. R3-2012-0005 and Phase II MS4 Permit requirements[40] for Wasteload Allocation Attainment Plans. This Order requires greater rigor, accountability, and long-term planning by requiring the Permittee to conduct a reasonable assurance analysis. With this approach, the Permittee must demonstrate how it will achieve compliance with each water quality-based effluent limitation and receiving water limitation exceedance pursuant to Provision B.2.a (Water Quality-Based Effluent Limitations) and Provision C.1 (Receiving Water Limitations), for all contributing Order coverage areas utilizing the Iterative Approach. The Central Coast Water Board encourages the Permittee to seek pollutant load reduction measures to address multiple pollutants through streamlined solutions.

After 20 years of program implementation, it is critical that the Permittee designs and implements approaches based on its improved knowledge of stormwater and its impacts on local receiving waters, by employing BMPs and other control measures that have been developed and refined over the past two decades. By actively engaging in the iterative approach compliance pathway, there are opportunities for the Permittee to conduct strategic planning and implementation, which will ultimately result in more effective implementation than historically. This Order requires the Permittee to

[37] Ibid. p.30
[38] "Smart Growth and Transportation," USEPA website, visited April 19, 2019.
[39] See No. 7 of the seven principles for considering the watershed-based approach to receiving water limitations compliance when issuing Phase I MS4 Permits. State Water Board Order WQ 2015-0075, p. 52.
[40] State Water Board Water Quality Order No. 2013-0001-DWQ, NPDES General Permit No. Cas000004, Waste Discharge Requirements for Storm Water Discharges from Small Municipal Separate Storm Sewer Systems [amended December 19, 2017], Attachment G.

develop and adhere to water quality improvement-related interim targets and dates, as well as action-oriented interim milestones to measure progress towards achieving applicable effluent and receiving water limitations.

Pursuant to 40 Code of Federal Regulations sections 124.8, 124.9, and 124.18, the Permittee must conduct a reasonable assurance analysis that consists of an assessment (through quantitative analysis or modeling) to demonstrate that the activities and control measures identified in the PLRP will achieve applicable effluent limitations and receiving water limitations with compliance deadlines during the permit term. STORMS[41] defines a reasonable assurance analysis as "a process for communicating, often using models, the effects of future actions (and non-actions) for new stormwater BMPs, as well as the uncertainty associated with those predictions. Specifically, [reasonable assurance analysis] demonstrates that the [PLRP] will achieve [effluent and receiving water limitations] and was crafted based on best available data and verifiable modeling of watershed conditions, including the effects of existing and proposed BMPs." This Order specifies reasonable assurance analysis elements (based on elements recommended in the STORMS Report, Appendix E) to achieve increased assurance, from the regulatory perspective, that PLRP implementation will result in compliance with effluent and receiving water limitations. Through the reasonable assurance process, the PLRP will provide the Permittee with the flexibility to prioritize and customize control measures to address the water quality issues specific to delineated catchment areas, consistent with federal regulations (40 Code of Federal Regulations section122.26(d)(2)(iv)).

Potential Projects Identified by the City –

The Permittee's 2016 Report of Waste Discharge identified the below projects that present opportunities for integration into the Permittee's PLRP. The Permittee's Stormwater Resource Plan[42] also identifies the below projects, as well as additional projects that may support the compliance pathways described in the PLRP.

Pure Water Monterey Diversion Projects – The Pure Water Monterey projects propose to divert urban stormwater from the City to the Monterey One Water regional wastewater and reclamation facility, for treatment and inclusion in the facility's reclaimed water flows. Upon completion, the Pure Water Monterey projects would divert stormwater from the Reclamation Canal, the Salinas Pump Station, and the City's Industrial Wastewater facility south of the City. As a multi-benefit project that captures, treats, infiltrates, and reuses the Permittee's stormwater to support a local sustainable water supply, the Pure Water Monterey projects would achieve quantifiable multiple benefits and provide potential value for climate change adaptation.

[41] "Strategy to Optimize Resource Management of Storm Water (STORMS): Project 3a Develop Guidance for Alternative Compliance Approaches for Municipal Storm Water Permit Receiving Water Limitations and Project 3b Develop Watershed-Based Compliance and Management Guidelines and Tools, Phase I, Product 1 – Draft Final Report: Quantitative Methods that Support Reasonable Assurance Analysis for California's Alternative Compliance Framework," March 30, 2018, p. 2.
[42] "Storm Water Resource Plan for the Greater Salinas Area," Prepared by Kennedy/Jenks Consultants for Monterey Regional Water Pollution Control Agency, February 14, 2017.

Carr Lake Restoration Project – The Permittee is evaluating options for Carr Lake that could allow the Lake to serve as a keystone of a larger green infrastructure watershed-based approach. The Big Sur Land Trust, the Permittee, community partners, and residents are working to establish a long-term plan that will include the outcomes of scientific and engineering studies for floodplain and habitat improvements for portions of the 480-acre seasonally dry, largely cultivated, Carr Lake Basin located in the middle of the City. A goal of the project is to transform the property into an asset for the community that will help address the lack of parks and open space within the City. Restoration of Carr Lake would provide pollutant attenuation and potential infiltration opportunities as well as promote climate change resiliency through wetland and floodplain restoration.

G. Information Management and Program Assessment

Information in the Permittee's annual report has been the main record of permit compliance since the first 1999 Permit. Due to the complexity of the Permittee's program and comprehensive nature of permit reporting requirements, each year the annual report has increased in length and volume. Year 1 of Order No. R3-2012-0005 required 42 document submittals and 52 reporting elements. In Years 2 through 4, Order No. R3-2012-0005 required 26 additional documents submittals, and 140 ongoing and new reporting elements. Central Coast Water Board staff has collaborated with its counterparts at other Regional Boards and with USEPA to identify ways to reduce the effort required for permittees, including the Permittee, to generate this large amount of information and resulting documentation, and the effort by Water Board staff to review it. The advent of information management systems and cloud-based data storage present opportunities for improving efficiencies in stormwater program annual reporting. In a follow-up report recapping a USEPA led workshop covering monitoring, evaluation, and reporting, USEPA supports this type of information management system:[43]

> *A dynamic activity tracking, evaluation, and reporting system enables more coordinated program management and adjustment and clearer permit reporting. Focusing on program elements that are linked directly to quantifiable water quality outcomes (e.g., BMP maintenance) and reporting tools that provide transparent accounting of benefits and are field-verifiable will accelerate progress and provide useful information to decision-makers. Once a program determines what elements need to be monitored, it should seek out a more integrated information and data management system that synthesizes data geographically and supports real-time management decision-making.*

The Permittee has availed itself of these opportunities and is developing robust spatially-based information management systems to help it manage and inform its

[43] "Improving Stormwater Program Monitoring, Evaluation, Tracking, and Reporting, Workshop Report and Recommendations," October 12, 2018, p. 33. *Prepared for* USEPA Region 9 *by* PG Environmental.

stormwater program and improve program efficiencies. In the same USEPA report, USEPA highlights the City's information management system:[44]

> *The City of Salinas, California, started using an ESRI-based geospatial tool called 2NFORM in 2017 to streamline its stormwater program tracking and evaluation process. Rather than spend months compiling hard copy inspection reports, public works staff can now enter data directly into a centralized database synced with information on hydrology and local geographic features. This rich, readily accessible data set is intended to enable better BMP performance assessment and overall decision-making.*

Provision G (Information Management and Program Assessment) requires the Permittee to maintain spatially-based information management systems (SIMS) to support, inform, and track program development and implementation to support the Permittee with implementing its stormwater program and provide a means for Central Coast Water Board staff to monitor compliance on an ongoing basis. Central Coast Water Board staff anticipates the Permittee can build upon its existing information management systems to meet this Order's information management system requirements and support aspects of an asset management program and Pollutant Load Reduction Plan development.

Watershed Characterization and MS4 System Mapping –

This Order incorporates requirements for the Permittee to maintain and update mapping of watershed characteristics, including physical attributes and landscape conditions, as well as its MS4, throughout the City. Much of this mapping was required in Order No. R3-2012-0005. This Order also requires the Permittee to refine and enhance maps to inform stormwater program management decisions based on actual and forecasted conditions.

To help the Permittee conduct more focused efforts related to homelessness and disadvantaged communities, this Order requires the Permittee to map transient camp locations and socio-economically stressed areas.

To adapt and mitigate for climate change, this Order requires the Permittee to map flood inundation areas identified and forecasted, based on projected climate change. The intent of this requirement is to support the Permittee in bridging the gap between flood management and water quality protection and improvement as climate change proceeds. USEPA states, "Heavy downpours have increased in frequency and intensity worldwide in the last 50 years. They are expected to become more frequent and intense as global temperatures continue to rise. As a result, the risk of flooding is likely to increase dramatically across the United States. The average 100-year floodplain is projected to increase 45 percent by the year 2100…"[45] Flood inundation mapping could also inform: objectives for multiple benefit projects implemented pursuant to the

[44] Ibid., p. 33
[45] "Green Infrastructure: Manage Flood Risk," USEPA Web. 20 June 2019

Pollutant Load Reduction Plan (see Provision F), asset management planning (see Provision I), and flood management project designs and opportunities (see Provision M).

This Order requires the Permittee to continue assessments for existing riparian vegetation and habitat required by Order No. R3-2012-0005. Riparian areas potentially play a critical role in attenuating impacts to beneficial uses from urban runoff. This Order requires the Permittee to use these mapped areas to inform riparian area setback requirements for new and redevelopment projects (see Provision Q).

BMP Inventory and Stormwater Pollutant Loading and Volume Quantification –

This Order requires the Permittee to build on the foundation established in Order No. R3-2012-0005 to improve tracking of structural BMP conditions and maintenance, enabling the Permittee to use that information to ensure that the BMPs are effective in reducing pollutant loads in each catchment; and measure progress toward attainment of effluent and receiving water limitations. This Order also aligns with BMP inventory and stormwater volume and pollutant loading estimate requirements for Central Coast Phase II municipalities.[46] This Order requires the Permittee to conduct field assessments of privately-owned and Permittee-owned structural BMPs to evaluate performance and estimate stormwater volume and pollutant load reductions. The assessment frequencies align with Order No. R3-2012-0005: Privately-owned structural BMPs inspected at least once every 5 years; and Permittee-owned structural BMPs inspected at least once each year. This Order requires the Permittee to refine its pollutant loading data based on actual pollutant loading data from the Permittee, instead of the current theoretical-based data. This Order requires the Permittee to account for water quality monitoring results, pollutant accumulation on roadways, socio-economic conditions, and institutional knowledge about relative watershed conditions throughout the Permittee's jurisdictional area. The Permittee's shifted focus to outfall monitoring will provide useful information to inform catchment conditions. Permittee staff have shared some options for road rapid assessment methods to better understand pollutant loading on its roads. This Order requires the Permittee to develop metrics and assessment tools to better understand the water quality stresses and impacts from socio-economically disadvantaged areas within the City.

Order Compliance Demonstration Through SIMS –

In contrast to the 2012 Oder, this Order includes most of the reporting and tracking requirements within Provision G (Information Management and Program Assessment) and Provision S (Annual Reporting), instead of integrating these requirements throughout all the provisions. This Order reduces annual reporting requirements significantly relative to Order No. R3-2012-0005; therefore, the Central Coast Water

[46] "Water Code Section 13267 Technical Report Order, Activities to Determine Stormwater Program Modifications, Phase II Municipal Stormwater Management Program," issued by Central Coast Water Board Executive Officer to Central Coast Phase II MS4s, June 13, 2016.

Board expects a significant decrease in level of effort required to achieve this Order's annual reporting requirements.

In addition to using SIMS to characterize the Permittee's watersheds, track BMPs, and conduct pollutant loading and volume quantification, Provision G (Information Management and Program Assessment) also requires the Permittee to use SIMS to maintain information to demonstrate Order compliance. Provision G explains, via a footnote, that the Permittee may choose to use other applicable tracking systems and/or databases, where spatially-based tools are not applicable. Provision S (Annual Reporting) requires the Permittee to provide an annual summary of information tracked in SIMS.

H. Legal Authority and Enforcement

This Order requires the Permittee to establish sufficient legal authority to control discharges to the MS4. Title 40 Code of Federal Regulations sections 122.26(d)(1)(ii) and 122.26(d)(2)(i) requires the Permittee to have sufficient "legal authority to control discharges to the municipal separate storm sewer system" and be able to demonstrate that it can "operate pursuant to legal authority established by statute, ordinance or series of contracts." Provision H.1 describes the minimum legal authorities the Permittee must establish to control discharges to its MS4. The requirements of Provision H.1 are consistent with the requirements set forth in 40 CFR 122.26(d)(2)(i)(A)-(F).

The Permittee must implement ordinances, permits, contracts, and orders to hold discharges to its MS4 accountable for their contributions of pollutants. For the ordinances to be effective, the Permittee must be able to require compliance with the ordinances. Lack of ordinance enforcement by the Permittee allows third parties to violate a municipality's ordinances with little fear of retribution, leading to receiving water quality degradation. USEPA recommends that a municipality in its urban runoff management program "identify the administrative and legal procedures available to mandate compliance with appropriate ordinances, and therefore, with permit conditions. [Programs] should contain descriptions of how ordinances are implemented and appealed. In particular, a municipality should indicate if it can issue administrative orders and injunctions or if it must go through the court system for enforcement actions."[47]

The Permittee's ability to determine compliance and noncompliance with Order conditions is critical to control pollutant discharges to and from its MS4. Determination of compliance and noncompliance allows for significant sources of pollutants to be identified and addressed, thereby minimizing the discharge of pollutants from the MS4 and the resulting receiving water quality degradation.

[47] USEPA. Guidance Manual for the Preparation of Part II of the NPDES Permit Applications for Discharges from Municipal Separate Storm Sewer Systems, EPA 833-B-92-002, November 1992. Web. 10 August 2011, pp. 3-3.

The Order requires the Permittee to have an established, escalating enforcement procedure that clearly describes the actions the Permittee will take for common violations. The Enforcement Response Plan must describe the procedures to ensure compliance with local ordinances and standards, including the sanctions and enforcement mechanisms that will be used to ensure compliance. It is critical that the Permittee have the authority to initiate a range of enforcement actions to address the variability and severity of noncompliance. Enforcement responses to individual violations must consider criteria such as magnitude and duration of the violation, effect of the violation on the receiving water, compliance history of the operator, and good faith of the operator in compliance efforts.

The certification statement required in Provision H.4 is included to provide the Central Coast Water Board additional documentation that the Permittee has established the legal authorities consistent with Provisions H.1 and H.2 and 40 Code of Federal regulations 122.26(d)(2)(i)(A)-(F), and the Permittee can "operate pursuant to legal authority established by statute, ordinance or series of contracts."

I. Asset Management

Asset management has been defined as an integrated optimization process of "managing infrastructure assets to minimize the total cost of owning and operating them, while continuously delivering the service levels customers desire, at an acceptable level of risk."[48]

Federal Regulations Supporting Asset Management Requirements

Federal regulations[49] support asset management planning. USEPA has specifically referenced 40 Code of Federal Regulations section 122.41(e) regarding "proper operation and maintenance" (discussed further below) as the regulatory basis for incorporating asset management planning provisions into NPDES permits, including MS4 permits.[50] 40 Code of Federal Regulations sections 122.26(d)(2)(iv) and 122.26(d)(2)(iv)(A)(2) require large and medium MS4 dischargers to include comprehensive plans to reduce the discharge of pollutants in their permit applications. Under previous Orders, the Permittee developed and implemented stormwater management plans consistent with these application requirements. Because this Order does not include a stormwater management plan requirement, the Central Coast Water Board must integrate requirements to maintain and update planning programs where applicable throughout the Order. The Order includes specific requirements that meet 40 Code of Federal Regulations section 122.26 application requirements by requiring the Permittee to update and maintain its stormwater management plan by replacing it with a

[48] Association of Metropolitan Sewerage Agencies (AMSA), et al. 2002.
[49] The regulations in 40 Code of Federal Regulations section 122.26(d) are framed as application requirements for MS4s. The permit application requirements are expected to and have formed the basis for MS4 permits and remain applicable as elements in a stormwater management program. See 55 Federal Register 47990, 48043-48047.
[50] "Asset Management: Incorporating Asset Management Planning Provisions into NPDES Permits," December 2014, USEPA, Region 9.

Watershed Asset Management Program (Provision I). The Watershed Asset Management Program requirement includes many of the components required in a stormwater management plan to develop and maintain the capacity to characterize, organize, and prioritize its hard, soft, and natural assets to reduce pollutants in discharges from the MS4.

40 Code of Federal Regulations section 122.41(e) requires NPDES permittees to "properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar systems which are installed by a permittee only when the operation is necessary to achieve compliance with the conditions of the permit." An MS4 permittee must establish appropriate quality assurance procedures to ensure that its discharge meets MEP and water-quality based requirements. Asset management plans provide a framework for setting and operating these quality assurance procedures and ensure that the MS4 permittee has sufficient financial and technical resources to continually maintain a targeted level of service in compliance with 40 Code of Federal Regulation section 122.41(e).

The following sections of the Code of Federal Regulations support the asset inventory requirements specified in Provision I.1.a of the Order:

Storm drain system (Provision I.1.a.i.1) –
40 Code of Federal Regulations section 122.26(d)(1)(iii)(B)(1) requires permittees to provide the location of known outfalls discharging to waters of the United States. 40 Code of Federal Regulations section 122.26(d)(1)(iv)(D) requires permittees to conduct field screening analysis for illicit discharges, necessitating characterization of the storm sewer system to inform screening. 40 Code of Federal Regulations section 122.26(d)(2)(iv)(A)(3) requires permittees describe operation and maintenance of public streets and roads. These regulations support the inclusion of MS4 system components and roads in the asset inventory.

Structural controls (Provision I.1.a.i.2) –
40 Code of Federal Regulations section 122.26(d)(1)(iii)(B)(5) requires permittees to provide, "the location of major structural controls for stormwater discharge (retention basins, detention basins, major infiltration devices, etc.)." 40 Code of Federal Regulations section 122.26(d)(1)(v) requires permittees to provide floodplain management control information in the context of management measures to control pollutants from the MS4. Additionally, 40 Code of Federal Regulations section 122.26(d)(2)(iv) requires permittees to provide, "a description of structural control measures to reduce pollutants in runoff from commercial and residential areas." These regulations support the inclusion of structural controls in the asset inventory.

Equipment (Provision I.1.a.i.3) –

40 Code of Federal Regulations section 122.26(d)(2)(iv) requires permittees to include, "a description of…equipment available to implement the program," supporting the inclusion of equipment used to maintain and improve the MS4 in the asset inventory.

Soft Assets (Provision I.1.a.ii) –
40 Code of Federal Regulations section 122.26(d)(2)(iv) requires permittees to include, "a description of staff…available to implement the program," supporting the asset management requirements to inventory and assess the personnel services applicable to implementing the Order. Additionally, many of the soft assets are items that the Permittee addressed previously in a stormwater management plan, pursuant to 40 Code of Federal Regulations section 122.26(d)(2)(iv).

The following sections of the Code of Federal Regulations support the level of service and valuation requirements specified in Provisions I.1.b and I.1.c of the Order:

40 Code of Federal Regulations section 122.41(e) requires NPDES permittees to properly operate and maintain their facility to ensure compliance with other conditions of the permit. The watershed asset management planning requirements in this Order ensure compliance with 40 Code of Federal Regulations 122.41(e). 40 Code of Federal Regulations section 122.26(d)(1)(v) requires permittees to supply information on implementation and operation and maintenance measures for structural controls. The Central Coast Water Board finds that to effectively provide this information the Permittee must understand the level of service and valuations for these assets.

40 Code of Federal Regulations section 122.26(d)(2)(iv) requires permittees to, "describe priorities for implementing controls," supporting the asset management program requirements to assess asset level of service to inform prioritization for managing and implementing controls.

40 Code of Federal Regulations section 122.26(d)(2)(iv)(A)(4) requires permittees to ensure, "existing structural flood control devices have been evaluated to determine if retrofitting the device to provide additional pollutant removal from storm water is feasible." This regulation supports the asset management requirement to assess structural control device performance levels, with respect to providing stormwater volume and pollutant load reductions, to inform rehabilitation efforts specified for the Asset Improvement Plan.

40 Code of Federal Regulations section 122.26(d)(2)(v) requires permittees to assess controls to estimate pollutant load reductions based on the stormwater management program. This supports the asset management program requirements to assess the level of service, because pollutant load reduction is a key metric of the level of service provided by stormwater management program control components.

The following sections of the Code of Federal Regulations support the asset improvement planning requirements specified in Provision I.2 of the Order:

40 Code of Federal Regulations section 122.26(d)(1)(vi) requires permittees to provide, "A description of the municipality's budget for existing storm water programs, including an overview of the municipality's financial resources and budget, including overall indebtedness and assets, and sources of funds for storm water programs." This regulation supports the overall concept of the asset management program to identify assets and describe the financial plan to manage those assets.

40 Code of Federal Regulations section 122.26(d)(2)(iv) requires permittees to include, "a proposed schedule for implementing such controls [structural and source control measures]." 40 Code of Federal Regulations section 122.26(d)(2)(iv)(1) requires permittees to include, "a description of maintenance activities and a maintenance schedule for structural controls." These regulations support the scheduling of maintenance and installation requirements for inventoried assets in the asset management plan.

40 Code of Federal Regulations section 122.26(d)(2)(vi) annually requires a fiscal analysis of the necessary capital and operation and maintenance expenditures necessary to accomplish the activities of the programs under 40 Code of Federal Regulations sections 122.26(d)(2)(iii) and (iv). These regulations are an integral component of the Asset Improvement Plan.

USPEA Support for Asset Management and Available Guidance and Examples

USEPA has been emphasizing the development of asset management programs in recent years as a useful tool for ensuring consistent performance of water infrastructure systems while minimizing the costs associated with the operation of these systems. The USEPA has required stormwater utilities to develop and implement asset management plans to provide the tracking and planning framework needed to meet these requirements in their permitting.[51] The growing concern for aging infrastructure among entities responsible for operating, maintaining, and improving stormwater, wastewater, and drinking water systems has led to development and implementation of formal asset management programs to reduce unexpected and expensive repairs and increase overall system performance. The Clean Water Act specifies that NPDES permits must include requirements for discharging facilities to develop and implement operation and maintenance procedures and financial plans sufficient to ensure their future operational integrity and help them comply with permit discharge conditions. USEPA has encouraged stormwater utilities to develop and implement asset management planning tools to provide the tracking and planning framework needed to meet these requirements. USEPA has also encouraged water utilities to use modern analytical planning tools to support deployment of greener, more sustainable, better integrated water infrastructure improvements to help implement NPDES permit requirements.

[51] USEPA issued NPDES Permit No. GUS040001, authorizing the Guam Department of Public Works to discharge under the National Pollutant Discharge Elimination System, issuance date: December 20, 2018. Provisions requiring an Asset Management Plan are found on page 38 of the Guam Permit.

USEPA anticipates formal asset management requirements in NPDES permits increasing in the future, as the benefits of asset management plans are realized. [52]

The City of San Diego provides an example of asset management planning encompassing stormwater. The City of San Diego developed an integrated Watershed Asset Management Plan for its stormwater management system in order to anticipate and justify current and projected costs of complying with federal, state, and local stormwater regulations.[53] The City of San Diego took approximately five years to complete its Watershed Asset Management Plan. The City of San Diego developed a strategic business plan to frame higher level policy issues (e.g., mission, goals, service levels) prior to writing its Watershed Asset Management Plan. The City of San Diego's Watershed Asset Management Plan identifies and prioritizes potential water quality and flood risk management. The City of San Diego is currently developing the database capabilities to support its plan.

USEPA's Water Finance Clearinghouse and the California State University Sacramento Office of Water Program's Environmental Finance Center (Region 9 USEPA Environmental Finance Center) are conducting work to support stormwater asset management. For example, Region 9 USEPA Environmental Finance Center has developed draft stormwater finance and asset management guidance and toolkits, including resources for estimating stormwater costs, and is supporting a few California municipal stormwater programs to test out and refine the toolkit with the intent of using the asset management results to support the development of stormwater utilities to fund stormwater programs. Additionally, Region 9 USEPA Environmental Finance Center is disseminating information through asset management forums, developing an asset management mobile assistance app, has supported the State Water Board's Strategy to Optimize Resource Management of Storm Water (STORMS) Stormwater Funding Report,[54] and is supporting other asset management-related tools and resources.[55]

This Order requires the Permittee to develop and implement a Watershed Asset Management Program to continue improving its understanding of its stormwater infrastructure condition and performance, to account for additional stressors related to climate change, and to identify cost factors to support more accurate forecasting and budget development. The following resources inform this Order's asset management requirements: USEPA's asset management plan requirements in Guam's municipal stormwater Permit;[56] 2014 USEPA, Region 9's guidance for incorporating asset

[52] "Asset Management Programs for Stormwater and Wastewater Systems: Overcoming Barriers to Development and Implementation," March 6, 2017, p. ii. *Prepared for* USEPA *by* PG Environmental.
[53] "Case Study: City of San Diego Watershed Asset Management Planning," p. 1, USEPA, Region 9.
[54] "Strategy to Optimize Resource Management of Storm Water (STORMS): Project 4b: Eliminate Barriers to Funding Stormwater Programs and Identify Funding for Stormwater Capture and Use Projects," May 31, 2018.
[55] "Asset Management Storm Water Roundtable Presentation," by Bola Odusoga, USEPA Region 9, March 28, 2019, slide 28.
[56] USEPA issued NPDES Permit No. GUS040001, authorizing the Guam Department of Public Works to discharge under the National Pollutant Discharge Elimination System, issuance date: December 20, 2018.

management planning requirements into NPDES permits;[57] and the City of San Diego's Watershed Asset Management Plan.[58]

Foundation Provided by Order No. R3-2012-0005

The Permittee has implemented measures to support an asset management program and plan development. The Permittee has already mapped many of its hard assets (e.g., MS4 components, structural stormwater control measures) and conducted condition assessments. The Permittee's use of modernized data collection tools has improved information collection and tracking efficiencies and improved its understanding of the condition and performance of its stormwater assets. Under previous orders, the Permittee tracked and organized many of its soft assets in its stormwater management plan. The Permittee tracks stormwater program implementation costs incurred by municipal staff. The Permittee is currently assessing sustainable funding sources for its stormwater program.

Order No. R3-2012-0005 required the Permittee to implement measures to support an asset management program and plan development.

The following provision in Order No. R3-2012-0005 required the Permittee to implement measures to support the asset inventory requirements specified in Provision I.1.a of the Order:

Most of the provisions in Order No. R3-2012-0005 required the Permittee to develop and maintain effective information management systems to track soft and hard assets required by the Order.

Storm drain system (Provision I.1.a.i.1) – Provision E.1 in Order No. R3-2012-0005 required the Permittee to develop a comprehensive inventory of MS4 catch basins, existing Permittee owned or operated structural BMPs, municipal facilities (e.g., roads), municipal maintenance operations (e.g., road maintenance, flood channel maintenance). Provisions H.2 and Q in Order No. R3-2012-0005 required the Permittee to develop an up-to-date and accurate MS4 system map.

Structural controls (Provision I.1.a.i.2) – Provision E.7 in Order No. R3-2012-0005 required the Permittee to develop and maintain an information management system to track structural BMPs. Provision O in Order No. R3-2012-0005 required the Permittee to identify and implement hard assets, in Wasteload Allocation Attainment Plans, to achieve wasteload allocations assigned to the Permittee in TMDLs.

Equipment (Provision I.1.a.i.3) – Provision E.6 in Order No. R3-2012-0005 required the Permittee to track street sweeping equipment selection and operation.

[57] "Asset Management: Incorporating Asset Management Planning Provisions into NPDES Permits," December 2014, USEPA, Region 9.
[58] "Transportation and Storm Water Department Storm Water Division: Watershed Asset Management Plan," July 19, 2013, *Prepared for* City of San Diego *by* URS Corporation.

Soft Assets (Provision I.1.a.ii) – Provision O in Order No. R3-2012-0005 required the Permittee to identify and implement soft assets, in Wasteload Allocation Attainment Plans, to achieve wasteload allocations assigned to the Permittee in TMDLs.

Natural Assets (Provision I.1.a.iii) – Provision Q in Order No. R3-2012-0005 required the Permittee to assess the condition and potential opportunities for streams and riparian vegetation and habitat.

The following provision in Order No. R3-2012-0005 required the Permittee to implement measures to support the level of service and valuation requirements specified in Provisions I.1.b and I.1.c of the Order:

Provision E.6 in the 2012 Order required the Permittee to map areas where street sweeping is technically infeasible (e.g., streets without curbs), which will help inform level of service of street sweeping activities and the Permittee's roads.

Provision E.4 in Order No. R3-2012-0005 required the Permittee to develop, update, and implement standard operating procedures for high priority maintenance operations, which provide guidance for performance level evaluations for Permittee maintenance operations.

Provision E.7 in Order No. R3-2012-0005 required the Permittee to track and assess structural BMP maintenance needs to achieve intended function, which supports performance level evaluations.

Provision P in Order No. R3-2012-0005 required the Permittee to conduct effectiveness assessments for many of its soft and hard asset BMPs and pollutant load and volume quantifications, providing the foundation for the asset management effectiveness evaluations.

The following provision in Order No. R3-2012-0005 required the Permittee to implement measures to support the asset improvement planning requirements specified in Provision I.2 of the Order:

Provision E.5 in Order No. R3-2012-0005 required the Permittee to properly operate and maintain the MS4 system to reduce the discharge of pollutants to the MEP which includes identifying modifications to maintenance procedures, informing the Asset Improvement Plan maintenance component.

Provision L.2 in Order No. R3-2012-0005 required the Permittee to develop and implement procedures to retrofit existing development with the purpose of restoring degraded watershed processes affected by urban stormwater discharges, indicating the Permittee may coordinate retrofit procedures with flood control projects. The 2012 Order required the Permittee to implement pilot retrofit projects and develop a long-term retrofit plan that addresses the retrofit objectives, candidate land uses/features, types of

modifications, and performance goals. Provision L.3 in the 2012 Order required the Permittee to align stormwater management with related planning goals and requirements (e.g., Integrated Regional Water Management, Salt and Nutrient Management, Flood Management). These requirements support the next iteration of this process in the Pollutant Load Reduction Plan and Adaptation component of the Asset Improvement Plan.

Provision P in Order No. R3-2012-0005 required the Permittee to identify program improvement needs, including establishing measurable goals and targets for improving watershed processes.

Provision R in Order No. R3-2012-0005 required the Permittee to secure the resources necessary to meet the Order requirements and identify future expenditures and funding sources.

Other Order Components Supporting the Asset Management Program

This Order includes requirements in other provisions supporting components of the Watershed Asset Management Program. For example, Provision G (Information Management and Program Assessment) requires the Permittee to maintain a MS4 system map, supporting the Permittee's storm drain system components of its Watershed Asset Management Program asset inventory. Provision G requires the Permittee to maintain information about stream condition and riparian vegetation and habitat, providing useful information for the natural assets component of the Watershed Asset Management Program asset inventory. Provision G requires the Permittee to maintain a structural BMP database and conduct structural and non-structural BMP condition and effectiveness assessments. This BMP information is critical to informing the Watershed Asset Management Program structural controls asset inventory as well as informing the level of service evaluations required for the Watershed Asset Management Program. Provision G also requires the Permittee to refine loading estimates of pollutant accumulation on roadways and conduct performance assessments of street sweeping (if that option is chosen) which will inform road conditions and level of service for the asset management. Provision J (Fiscal Analysis) requires the Permittee to conduct a fiscal analysis of many of the soft assets and some hard asset costs, including equipment costs, required by the asset management program.

Additionally, the Central Coast Water Board incorporates flexibilities into the Order requirements to allow the Permittee to identify the most effective platforms and programs for managing various aspects of its program elements. For example, Provision F (Pollutant Load Reduction Plan) requires the Permittee to document a long-term assurance approach to identify how the Permittee will ensure projects implemented pursuant to the PLRP continue to function in perpetuity. Provision F specifies the Permittee shall assess opportunities for using the Watershed Asset Management Program to manage this long-term assurance approach.

J. Fiscal Analysis and Cost Reporting

The Permittee is required to secure the resources necessary to meet the requirements of this Order, including identifying the expenditures necessary to achieve the milestones, strategies, and activities of its Storm Water Management Program. Federal NPDES regulation 40 Code of Federal Regulations section 122.26(d)(2)(vi) provides that "[The Permittee must submit] for each fiscal year to be covered by the permit, a fiscal analysis of the necessary capital and operation and maintenance expenditures necessary to accomplish the activities of the programs under paragraphs (d)(2)(iii) and (iv) of this Section. Such analysis shall include a description of the source of funds that are proposed to meet the necessary expenditures, including legal restrictions on the use of such funds."

A fiscal analysis can be an important planning tool. The USEPA finds that "examining the levels of proposed spending and funding allows the permitting authority to gauge the ability of the applicant to implement the program and predict its effectiveness. The fiscal analysis also will help the [Central Coast Water Board] determine whether the applicant has met the statutory requirement of reducing the discharge of pollutants to the MS4 to the maximum extent practicable. Finally, the estimates help the applicant evaluate the feasibility and cost-effectiveness of its program".[59] Consistency and clarification of fiscal information are valuable for assessing program effectiveness and adapting programs to help ensure that they are efficient and effective, which is one important purpose of the fiscal analysis.

Section J (Fiscal Analysis and Cost Reporting) requires the Permittee to clarify which expenditures are attributable to each stormwater management program component. Section J continues the requirements of the previous permit unchanged in substance, but with increased detail in cost reporting by the Permittee. The development and implementation of new standardized cost-reporting will likely result in short-term costs as the Permittee transitions cost-accounting practices and data systems. However, consistent and reliable cost information is critical for the Permittee to manage its assets, programs, funding strategies, and potential future credit programs and stormwater utility fees.

Additionally, the Water Boards stand to benefit from greater detail and more standardization in cost reporting because stormwater issues vary from system to system and region to region, often making it difficult to compare compliance costs for individual MS4 permits. Collecting standardized data on what permittees spend to comply with their MS4 permits will allow the Water Boards and stakeholders to broadly compare across regions and systems and to identify trends over time. Reliable and

[59] USEPA. Guidance Manual for the Preparation of Part II of the NPDES Permit Applications for Discharges from Municipal Separate Storm Sewer Systems, EPA 833-B-92-002, November 1992. Web. 10 August 2011. p. 8-1.

robust data will allow the Water Boards to confidently draw on reported costs when developing cost estimates for new TMDLs that may involve similar activities.[60]

Standardization and comparison of fiscal analysis reporting is supported by the State Water Board funded NPDES Stormwater Cost Survey, which finds that "standards for reporting costs and stormwater activities are needed to allow accurate cost comparisons to be made between stormwater activities."[61] The State Water Board's Office of Research, Planning, and Performance (ORPP) has also developed guidance[62] for Water Board staff on obtaining MS4 Permit implementation costs from permittees. The reporting cost categories in Provision J (Fiscal Analysis and Cost Reporting) were identified using ORPP's guidance.

K. Monitoring

This section of the Fact Sheet addresses Provision K (Monitoring) and Attachment D (Monitoring and Reporting Program). For water quality monitoring, this Order includes the same Monitoring and Reporting Program (MRP) as most recently implemented under Order No. R3-2012-0005. However, unlike traditional point source programs, currently, the Central Coast Water Board does not intend for the MRP to provide the basis to determine compliance with water quality objectives. Instead, the MRP focuses on providing water quality data to inform the Permittee's program implementation. The MRP provides pollutant loading data from representative catchments to inform adaptive management based on relative loading among catchments. This relative loading will be reflected in the Permittee's Stormwater Information Management System. Additionally, this Order requires the Permittee to validate the program effectiveness pollutant loading analysis with water quality data. This Order provides a pathway for the Permittee to revise the MRP to align with future efforts identified in the Pollutant Load Reduction Plan to support the Permittee's evolving program.

Stormwater Monitoring Program –

As required by Order R3-2004-0135, the City of Salinas Stormwater Monitoring Program initiated receiving water sampling and stormwater discharge monitoring in 2006 and continued with an expanded parameter suite under Order No. R3-2012-0005. Monitoring efforts were designed to include four elements:

1. Urban Catchment Action Level Pilot Projects Monitoring

[60] State Water Board, Office of Research Planning and Performance (ORPP), 2019. Guidance for Staff on Obtaining MS4 Permit Implementation Costs from Permittees and Factors Permittees Could Consider When Reporting to the Water Boards. Version 4/16/2019, p. 1.
[61] Currier, Brian K., et al. 2005. *NPDES Storm Water Cost Survey Final Report.* Office of Water Programs, California State University, Sacramento. p. 63.
[62] State Water Board Office of Research, Planning, and Performance (ORPP). Guidance for Staff on Obtaining MS4 Permit Implementation Costs from Permittees and Factors Permittees Could Consider When Reporting to the Water Boards. Version April 16, 2019.

Purpose: to assess the water quality of discharges from representative urban catchments, assess municipal stormwater program effectiveness, and provide triggers for specific actions by the Permittee in response to exceedances.

2. Stormwater Discharge Trend Monitoring
   Purpose: to discern statistically detectable changes in stormwater discharge quality from urban drainages over time (five years or longer).

3. Receiving Water Monitoring

4. Background Receiving Water Monitoring
   Purpose of both: to understand the current condition and changes to receiving waters over long term. Over short term, receiving water has limited value for stormwater management decisions, but over long term the trend information is crucial to understanding linkage between stormwater management and receiving water conditions.

The Permittee's review of monitoring data and operational factors relating to implementation of the 2012 MRP lead it to propose modifications in its Annual Reports for Permit years 2013-2014 and 2014-2015. Central Coast Water Board staff evaluated monitoring data and Annual Reports and found modifications to the MRP were appropriate. On July 18, 2017, after a 30-day public comment period, the Central Coast Water Board Executive Officer approved limited revisions to the MRP as authorized by Order No. R3-2012-0005 (Provisions T.2, P.4.a, and P.5). The Permittee has been conducting monitoring per those changes since that time.

The Central Coast Water Board Executive Officer approved the following specific revisions to the 2012 MRP:

1. Implement high precision urban catchment monitoring of hydrology and pollutant loading in urban catchments

2. Commence grab sampling in place of automated sampling at Salinas Pump Station (urban drainage outfall location 309U19)

3. Coordinate background receiving water monitoring with Cooperative Monitoring Program for Agriculture

4. Add specific parameters and remove others to address emerging contaminants and improve characterization of urban runoff and receiving water quality

5. Conduct specific analysis of stormwater outfall trend monitoring data

The 2017 MRP revisions were intended to serve as an interim approach and to provide the basis for the MRP developed and approved through Permit re-issuance (this Order). Therefore, this Order maintains the 2017 MRP for the first two years of Permit implementation, then requires the Permittee to address monitoring and reporting in the

Pollutant Load Reduction Plan (Provision F) at the end of Year 2, at a minimum for all catchments using the Pollutant Load Reduction Plan Option 2. This Order requires the 2017 MRP and any subsequent monitoring program to:

1. Assess the chemical, physical, and biological impacts of discharges from the MS4 on receiving waters

2. Assess compliance with Provision B.2 (Effluent Limitations) and Provision C.1 (Receiving Water Limitations)

3. Characterize pollutant loads in MS4 discharges

4. Identify sources of pollutants in MS4 discharges

5. Measure and improve the effectiveness of pollutant controls implemented under this Order

The stormwater monitoring program implemented from 2017 through Year 2 will leverage the lessons learned from previous monitoring and continue to build upon and improve the stormwater data collected. This will provide the Permittee with the link between stormwater management actions and stormwater discharge and receiving water quality.

Urban Catchment Monitoring –

Three urban outfalls provide measured data to evaluate the effectiveness of the stormwater program over time. Under this Order, the Permittee will implement urban drainage improvement activities that may include BMP improvements, new development and re-development, and source control. Infrastructure improvements such at these will reduce the volume of stormwater entering the waterways, reduce the generation and transport of pollutants in the stormwater, and, in turn, improve water quality. The urban catchment monitoring approach will provide high resolution data from three selected outfalls to quantify the volume and pollutant loads generated from urban drainage areas.

In addition, Stormwater Discharge Trend Monitoring will occur at the Salinas River stormwater Pump Station. The purpose of the Stormwater Discharge Trend Monitoring requirements is to discern changes in stormwater discharge quality over time. Trends are expected to be statistically detectable over a five-year (or longer) timeframe. To obtain sufficient samples for statistical trend analysis while controlling overall costs of monitoring, the monitoring is limited to a single outfall at the pump station. The pump station is located at the downstream end of a 1,660-acre catchment draining approximately 13 percent of the Order coverage area.

Receiving Water Monitoring –

The Permittee's receiving water sampling has provided a ten-year dataset characterizing water conditions at the time of sample collection, and compliments data sets from other monitoring programs describing conditions around the City including CCAMP, SWAMP, and the Cooperative Monitoring Program for Agriculture. A continuation of receiving water data collection will provide an assessment of the receiving water at the time of the sample, extend the receiving water dataset that was initiated more than a decade ago, and enable the trend analysis to discern changes in receiving water quality over time.

Data Analysis and Reporting –

Continuous discharge time series data will allow quantification of annual, seasonal and select event runoff volumes discharged from three selected urban catchments. The discharge time series will be adjusted for precipitation variability using the Salinas meteorological station to report precipitation-adjusted runoff volumes and evaluate trends.

First Flush: Event runoff volumes and associated event pollutant mass loading rates will be quantified for all constituents sampled for first flush events. Total rainfall depth that drives first flush events will be quantified using the Salinas meteorological station data. Trends over time will be detected with statistical testing that incorporates factors to account for variations in rainfall and flow such as event discharge, event rainfall totals, antecedent rainfall totals, and hydrograph position. This will increase the Permittee's capacity for isolating the signal of loading changes that are due to management actions rather than these other sources of variability.

Annual Load: Urban catchment monitoring constituent data will be used to determine the event mean concentration (EMC) for each runoff discharge interval for each catchment. EMCs will be used to assign a constituent concentration to all un-sampled flows that occur throughout the water year allowing a precise computation of event and annual loads for the relevant constituents. Precipitation data from the Salinas meteorological station will be used to quantify annual and select event rainfall. These data are necessary to calculate precipitation-adjusted loading rates and evaluate trends discharged to the receiving water from each catchment over time.

Parameter-Specific Analyses: The Order requires the Permittee to perform analyses of the results of pesticide, toxicity, and bioassessment monitoring. Evaluating the results of pesticide and toxicity analyses is necessary to integrate, to the extent possible, the multiple lines of data from urban catchment and receiving water monitoring, including data from: pyrethroid pesticides, fipronil, and imidacloprid in water; pyrethroid pesticides in sediment; and water and sediment toxicity.

The Permittee will conduct water column toxicity monitoring concurrent with pesticides and heavy metals monitoring, providing the opportunity to identify potential causes of

toxicity. Similarly, the Permittee will conduct bioassessment concurrently with sediment toxicity and pyrethroid pesticides in sediment sampling. Evaluation of the analytical results for these specific parameters is intended to provide the Permittee and the Central Coast Water Board with information regarding the possible correlation among benthic biotic condition, toxicity, and concentrations of toxicants in the Permittee's discharges.

L. Trash Management

Trash Discharge Prohibition and Water Quality Objective –

This Order requires the Permittee to comply with the State Water Board's ISWEBE Plan Trash Provisions,[63] which address the impacts of trash to the surface waters of California through the establishment of a statewide narrative water quality objective, implementation requirements to control trash, and a prohibition against the discharge of trash.[64] Chapter IV.A.5 of the Trash Provisions requires stormwater NPDES permits to contain provisions to prohibit the discharge of trash to waters of the State within ten (10) years of the implementing permit, or no "later than fifteen (15) years from the effective date" of the Trash Provisions, or December 3, 2030. This Order is the implementing permit for the Permittee; therefore, the Permittee must obtain full compliance with the Trash Provisions by October 1, 2029.

Trash Management Implementation Plan and Jurisdictional Map –

On June 1, 2017, the Central Coast Water Board Executive Officer issued a Water Code Section 13383 Order requiring the Permittee to choose a compliance track for adhering to the Trash Provisions and to submit related documents (e.g., jurisdictional map(s), trash general map, implementation plan) by dates specified in the order. On June 1, 2017, the Permittee submitted a preliminary jurisdictional map and initial trash generation map. On September 1, 2017, via email, the Permittee notified Central Coast Water Board staff of the following, "The City intends to implement Track 2 as defined in our 13383 Order, reserving the right to change to Track 1 in the future." On January 1, 2019, the Permittee submitted the *Trash Reduction Implementation Plan, Phase I (2019-2022) for the City of Salinas* (Trash Reduction Implementation Plan). In the Trash Reduction Implementation Plan, the Permittee outlines the following primary trash control strategies for Phase I: continue implementation of successful controls from previous efforts; explore the feasibility of retrofitting existing structural BMPs to meet the definition of Full Capture Systems*;[65] evaluate controls at the Salinas Pump Station;

[63] At this time, the Trash Provisions for the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California Plan (ISWEBE Plan) are found in the Trash Amendments, adopted by the State Water Board on April 7, 2015, at Appendix E of the Final Staff Report to the Amendment to the Water Quality Control Plan for the Ocean Waters of California to Control Trash and Part 1 Trash Provisions of the Water Quality Control Plan for the ISWEBE Plan. The State Water Board plans to incorporate the Part 1 Trash Provisions to the ISWEBE Plan, once it is adopted.
[64] State Water Board Resolution 2015-0019: Amendment to the Water Quality Control Plan for Ocean Waters of California to control Trash and Part 1 Trash Provisions of the ISWEBE Plan, p. 2.
[65] All terminology marked with an asterisk is defined in the Trash Amendments glossary.

evaluate the feasibility of installing new Full Capture Systems; coordinate with State of California Department of Transportation; and continue multi-stakeholder collaboration with a focus on pilot urban drainages that are known litter hot spots. [66]

In accordance with State Water Board's Trash Amendments, this Order requires the Permittee to implement its Trash Reduction Implementation Plan. In the Trash Reduction Implementation Plan the Permittee presents findings related to trash generation within the City and proposes actions it will take to meet the State Water Board's Trash Amendments.

This Order includes interim compliance milestones which are consistent with the dates the Permittee has committed to in its Trash Reduction Implementation Plan. The Permittee indicates it has already treated 28 percent of Priority Land Uses.[67]

Designated Land Use areas –

Chapter IV.A.3.d of the Trash Provisions specify that the Permitting Authority* [Central Coast Water Board] can designate land uses, in addition to Priority Land Uses*, for permittees to address in trash implementation plans:

> *A Permitting Authority may determine that specific land uses or locations (e.g., parks, stadia, schools, campuses, or roads leading to landfills) generate substantial amounts of Trash. In the event that the Permitting Authority makes that determination, the Permitting Authority may require the MS4 to comply with Chapter IV.A.3.a.1 [Track 1] or Chapter IV.A.3.a.2 [Track 2], as determined by the Permitting Authority, with respect to such land uses or locations.*

As identified by the Permittee in its Trash Reduction Implementation Plan, there are non-Priority Land Use areas within the City that generate significant levels of trash and fall outside of the Priority Land Uses. The Central Coast Water Board designates the areas identified by the Permittee in the Trash Reduction Implementation Plan as, *"schools, areas with 'High' or 'Very High' trash results during baseline trash visual assessments, and any other areas known to be susceptible to trash generation,"*[68] as designated land use areas. Some of these areas designated by the Permittee do not meet the Priority Land Use criteria outlined in the Trash Amendments, but are high trash generating areas according to the Permittee. Therefore, Central Coast Water Board has determined through this Order that these areas are designated land use areas. The Permittee must include these areas in its Trash Management Implementation Plan and identify them on jurisdictional maps required by this Order. This Order also designates transient camps (pursuant to mapped areas in Provision G – Information Management

[66] "*Trash Reduction Implementation Plan, Phase I (2019-2022) for the City of Salinas,"* (January 2019 Trash Reduction Implementation Plan), submitted on January 1, 2019, pp. 2-3.
[67] "*Trash Reduction Implementation Plan, Phase I (2019-2022) for the City of Salinas,"* (January 2019 Trash Reduction Implementation Plan), submitted on January 1, 2019, p. 42.
[68] "Trash Reduction Implementation Plan, Phase I (2019-2022) for the City of Salinas," (January 2019 Trash Reduction Implementation Plan), submitted on January 1, 2019, p. 4.

and Program Assessment) as a designated land use. During site visits of the City, Central Coast Water Board staff have observed significant trash loading within and near transient camps.

Interim Trash Reduction BMPs –

Prior to final compliance with the Trash Amendments, the Permittee must continue implementing some general trash reduction BMPs, carried over from Order No. R3-2012-0005, to provide litter and trash control throughout the Order coverage area. Trash Monitoring Plan –

Because the Permittee has elected to comply with Track 2 (Chapter IV.A.3.a.2 of the Trash Provisions), the Permittee must consider questions specified in Chapter IV.A.6.b of the Trash Provisions when developing its monitoring reports. This Order requires the Permittee to develop and implement monitoring to demonstrate progress and attainment of interim milestones and targets, and effectiveness of implemented controls, and to answer the questions identified by the Trash Provisions. This Order also requires the Permittee to identify and incorporate confidence levels to ensure accurate monitoring and assessment results. In order to have an effective monitoring program, the Permittee must establish a monitoring approach that will provide meaningful results. This Order specifies the Permittee shall use SIMS to track this information. The Permittee has already developed and implemented a spatially-based information system for tracking its progress with trash management.

Trash Management Under Previous Orders –

Order No. R3-2012-0005 required the Permittee to develop a trash reduction plan and implement several programs to reduce littering rates and to remove trash from the MS4 and receiving waters, including public education and outreach programs, municipal ordinances,[69] trash clean-up events at priority locations, signage, street sweeping, and removing trash from downstream waterbodies. As mentioned previously, the Permittee has also developed a robust information management system for tracking trash implementation. Additionally, the Permittee has conducted field-based assessments and load reduction modeling. Results of these assessment efforts indicate the Permittee's actions to reduce trash have been effective. With this comprehensive approach to managing trash, the Permittee has established a strong foundation for implementing the Trash Amendments incorporated into this Order.

Despite the effort expended in the previous permit terms, trash continues to be a persistent and noticeable problem in the MS4 and receiving waters, supporting the need to continue to actively manage trash loading within the Order coverage area. The Permittee continues to document large volumes of trash removed from the MS4 and

[69] The Permittee adopted a municipal ordinance that became effective on April 1, 2015 that bans certain types of retail establishments from using thin-film plastic single-use carryout bags. During the 2005 Permit term, the Permittee also enacted a polystyrene ban for food takeout containers by all food service vendors that became effective February 19, 2012.

receiving waters. According to the Permittee's Annual Reports, during creek cleanups throughout the City, *Return of the Natives*, a community and school based environmental education program, removed a total of 1.54 tons in 2012-2013, 1.13 tons in 2013-2014, 4.69 tons in 2014-2015, 3.13 tons in 2015-2016, 3.93 tons in 2016-2017, and 2.99 tons in 2017-2018.

M. Municipal Maintenance

Inventory –

This Order continues the requirement from Order R3-2012-0005 to maintain an inventory of Permittee-owned facilities and operations. A comprehensive list of municipal facilities and operations helps the Permittee's staff improve its awareness of their locations within the MS4 service area and their potential to contribute stormwater pollutants. The municipal facilities inventory also serves as a basis for setting up minimum BMPs, assessing priorities, inspections, and developing standard operating procedures where applicable.

USEPA recommends a comprehensive assessment to identify which of the Permittee's facilities, operations, and events are most likely to contribute stormwater pollutants, and which need stormwater controls.[70] The assessments performed by the Permittee will involve a detailed evaluation and prioritization of municipal facilities, operations and events. Each municipal facility, operation, and event will require a different set of control measures depending on the nature of activities that occur there and the types of materials that are stored and used. Developing and maintaining site-specific standard operating procedures and/or Stormwater Pollution Prevention Plans (SWPPPs) for those City-owned or operated facilities and activities posing the highest potential risk for discharging significant sources of pollution in stormwater will help to ensure that employees responsible for facility operation are aware of the stormwater controls required for the site. Order No. R3-2012-0005 specified inspection and assessment frequencies for municipal facilities, operations, and events and included requirements for developing standard operating procedures and SWPPPs for high priority facilities. This Order provides the Permittee more flexibility in determining how best to oversee municipal facilities and activities to ensure appropriate BMPs are installed and effective.

Facility and Activity Management –

Many storage areas and activities that are common at municipal facilities pose a high potential for polluting stormwater. Fueling and vehicle maintenance and storage areas are prone to spills and drips of various automotive fluids. Equipment and vehicle washing areas are designed to mix water with dirt and hydrocarbons, requiring special treatment of the wastewater (including pretreatment and diversion to the sanitary sewer, if allowed) and protection of wash areas from rainfall and runoff. USEPA recommends the best way to avoid pollutant discharges from sources of pollution is to keep precipitation and runoff from contacting stored chemicals and activity areas that use

[70] USEPA. *MS4 Permit Improvement Guide. EPA 833-R-10-001*, 14 April 2010. Web. 20 June 2019

chemicals and materials, which can become sources of stormwater pollutants.[71] Graffiti eradication is performed on a regular basis by the City. Through the Graffiti Abatement Program, the Permittee works with residents and businesses to abate graffiti from public property and spaces that have public frontage such as sound walls and fences. The requirements of this Order will ensure graffiti is removed in a manner that will prevent non-stormwater and wash water discharges that may contain pollutants such as debris, cleaning compound waste, paint waste, wash water, or other pollutants from discharging into storm drains. Bridge and structural maintenance activities performed over water or near storm drains have the potential to discharge pollutants into storm drains or waterbodies. The requirements of this Order will ensure the prevention of debris such as structural materials and coating debris, or other debris and pollutants generated in bridge and structure maintenance, from entering storm drains or waterbodies. Pavement washing, mobile cleaning and pressure washing generate wastewater containing pollutants that if not managed properly, will likely enter storm drains. The requirements of this Order will ensure BMPs are implemented to prevent discharge of polluted wash water and non-stormwater from these activities to storm drains.

Pesticides, Herbicides, and Fertilizer Management –

Federal NPDES regulation 40 Code of Federal Regulations section 122.26(d)(2)(iv)(A)(6) requires a program to reduce to the maximum extent practicable, pollutants in discharges from MS4s associated with the application of pesticides, herbicides, and fertilizer. USEPA recommends a focus on requiring source controls to reduce the amount of chemicals used.[72] This Order specifies the use of integrated pest management; selection of native vegetation that is naturally adapted to local conditions and therefore requires fewer chemical and water inputs; reducing exposure of the chemicals to water by scheduling application according to weather forecasts and plant needs; and ensuring that municipal employees who are responsible for storing and handling these materials are educated about their use, disposal, and possible impacts. The pesticide, herbicide, and fertilizer application, storage, and disposal requirements for City owned and operated areas are very similar to those requirements in Order No. R3-2012-0005. This Order includes requirements for the Permittee to further support the reduction of pesticide, herbicide, and fertilizer loading to receiving waters by tracking, participating, and supporting regional and statewide efforts and providing information and sharing monitoring data to support collaboration efforts.

MS4 Conveyance System Operation and Maintenance –

This Order incorporates similar MS4 conveyance component and catch basin prioritization, inspection, and cleaning efforts required by Order No. R3-2012-0005; however, this Order provides the Permittee more flexibility in achieving these efforts.

[71] Ibid.
[72] Ibid.

Traditional MS4s were designed to quickly collect and convey runoff to receiving waters. The purpose of catch basin, inlet, and storm drain cleanouts is to prevent the accumulation of pollutants that are later released during rain events, as well as blockages, backups, and flooding. Fine particles and pollutants from run-on, atmospheric deposition, vehicle emissions, breakup of street surface materials, littering, and sanding can accumulate along the curbs of roads in between rainfall events. This results in the accumulation of pollutants such as sediment, nutrients, metals, hydrocarbons, bacteria, pesticides, trash and other toxic chemicals. Storm drain maintenance is often the last opportunity to remove pollutants before they enter the MS4. Because they effectively trap solids, they need to be cleaned out periodically to prevent those materials from being transported by high stormwater flows. By doing so the MS4 will prevent trash and litter from ultimately becoming sources of marine debris.

USEPA recommends establishing a tiered maintenance schedule for the entire MS4 system area, with the highest priority areas being maintained at the greatest frequency so that municipal resources are directed to the areas and structures that generate the most pollutants.[73] A priority ranking system is required in this Order, because some catch basins will accumulate pollutants faster than others based on the nature of the drainage area and whether controls are present upstream of the catch basin.

Proper MS4 cleanout includes vacuuming or manually removing debris from catch basins; vacuuming or flushing pipes to increase capacity and remove clogs; removing sediment, debris, and overgrown vegetation from open channels; and repairing structures to ensure the integrity of the MS4. It is important to conduct regular inspections of all MS4 infrastructures and perform maintenance as applicable to ensure they are functioning properly and collected debris is removed before discharged to receiving waters. Though these activities are intended to ensure that the MS4 is properly maintained and that any accumulated pollutants are removed prior to discharge, if not properly executed, cleanout activities can result in pollutant discharges. In selecting maintenance practices, the Permittee must carefully evaluate each with an eye towards stormwater pollution potential to minimize unintended pollutant discharges, such as the use of flushing storm drain pipes to remove debris without recapturing the debris further down the pipe.

Street Sweeping and Cleaning –

This Order incorporates similar street and parking lot sweeping prioritization, inspection, and cleaning efforts required by Order No. R3-2012-0005; however, this Order provides the Permittee more flexibility in achieving these efforts.

Street and parking lot sweeping is a practice that some municipalities initially conducted for aesthetic purposes. However, the water quality benefits are now widely recognized. Street sweeping prevents particulate matter associated with road dust from accumulating on public streets and washing into storm drains. This Order requires the

[73] Ibid.

Permittee to prioritize efforts based on pollutant loading information (see Provision G (Information Management and Program Assessment)).

This Order addresses a number of important factors recognized by USEPA[74] and impacting the effectiveness of a street sweeping program. The first factor is the type of equipment used. This Order language stipulates that when equipment needs to be replaced, high-performance sweepers are purchased preferentially. Street sweeping has traditionally been more effective at removing large-sized particles, but new equipment has been developed to remove smaller, fine-grained particles. Mechanical sweepers (broom-type) are usually the least expensive and are better suited to pick up large-grained sediment. Vacuum and regenerative air sweepers are better at removing fine grained sediment particles, but they are more expensive. Removal efficiency can be improved through tandem sweeping (i.e., two sweepers sweeping the same route, with one following the other to pick up missed material), or if the street sweeper makes multiple passes on a street.

The second factor influencing street sweeping effectiveness is the way in which the equipment is operated. This Order specifies that equipment be operated according to the manufacturers' operating instructions by operators who have been trained to sweep in accordance with this Order requirements to protect water quality.

The third determining factor is the degree to which parked cars block sweeper access to the curb. One of the best ways to ensure access to the curb is to establish parking restrictions based on sweeping schedules and to inform residents of the schedule so they move their cars. The Order requires that the Permittee institute parking restrictions to accommodate sweeping schedules. Order No. R3-2012-0005 required the Permittee to develop and implement a strategy designed to increase over time the percentage of curb miles covered by sweeping routes that are actually swept during sweeping operations. This Order requires the Permittee to refine its parking restriction strategy by Year 2 and implement specified parking restriction requirements by Year 4.

Because not all streets are suitable for sweeping (e.g., those that don't have a curb and gutter), increased implementation of other trash/litter and source control BMPs are needed in those areas.

With agricultural fields adjacent to the Permittee’s MS4 and City residents with jobs in agricultural fields driving to- and from- the City regularly, the Permittee is faced with tracking of dirt from agricultural fields onto the City’s streets. The City also has other regularly occurring activities for urban areas, such as construction and landscaping operations that pose sources of dirt and debris tracking onto City streets.

The materials removed from the MS4 may not reenter the MS4. The material must be dewatered in a contained area and the water treated with an appropriate and approved control measure or discharged to the sanitary sewer. The solid material will need to be stored and disposed of properly to avoid discharge during a storm event. Some

[74] USEPA. *MS4 Permit Improvement Guide. EPA 833-R-10-001*, 14 April 2010. Web. 20 June 2019.

materials removed from storm drains and open channels may require special handling and landfill disposal may not be authorized.

Structural BMP Inspections and Maintenance –

Provision G (Information Management and Program Assessment) includes inventory and assessment requirements that will help inform the Permittee's structural BMP inspection and maintenance efforts. The USEPA recognizes appropriate operation and maintenance are critical aspects to the function of structural BMPs. The effectiveness of structural BMPs depends on regular inspections. Inspection and maintenance help prevent potential nuisances (e.g., odors, mosquitoes, weeds), reduces the need for repairs and reduces the chance of polluting stormwater runoff by finding and fixing problems before the next rain.[75,76]

Flood Management Projects –

The Order requires that water quality be considered when designing new and upgraded flood management projects. Historically, the focus of stormwater management was primarily to control flooding and mitigate property damage, with less emphasis on water quality protection. These structures may handle a significant amount of stormwater and therefore offer an opportunity to modify their design to include water quality features for less than the cost of building new controls. This requirement applies to new and upgraded flood control projects.

Monterey County Water Resources Agency Coordination –

The Reclamation Ditch is owned and operated by the Monterey County Water Resource Agency and is therefore not part of the Permittee's MS4. The Permittee also has limited access to the Reclamation Ditch and must coordinate this access with Monterey County Water Resource Agency.

N. Illicit Discharge Detection and Elimination

USEPA stormwater regulations define "illicit discharge" as "any discharge to a municipal separate storm sewer that is not composed entirely of stormwater" except discharges resulting from firefighting activities and discharges from NPDES permitted sources (see 40 Code of Federal Regulations section 122.26(b)(2)). Although illicit discharges can enter the MS4 in various ways, they generally result from either direct connection (e.g., wastewater piping either mistakenly or deliberately connected to the storm drains) or indirect connections (e.g., infiltration into the MS4, spills, or "midnight dumping"). Illicit discharges can be further divided into those discharging continuously and those discharging intermittently. Provision N implements, in part, the statutory requirement that MS4 permits effectively prohibit non-stormwater discharges. Spills, leaks, sanitary sewer overflows, and illicit dumping or discharges can introduce a range of stormwater

[75] Ibid.
[76] USEPA. *National Menu of Stormwater Best Management Practices*. Web. 20 June 2019

pollutants into the MS4. Prompt response to these occurrences is the best way to prevent or reduce negative impacts to waterbodies.

Prioritization –

Prioritization of the Order coverage area into areas more likely to have illicit discharges or illicit connections allows the Permittee to use resources and staff time most effectively. This Order requires an evaluation of the City's neighborhoods and land uses to identify areas that are more likely to have illicit discharges. This Order amends some of the prioritization categories specified in Order No. R3-2012-0005. For example, this Order requires the Permittee to include areas frequented by recreational vehicles or mobile businesses because these are common sources of illicit discharges in urban areas and increasing with the influx of mobile businesses. This Order requires prioritization based on specified land uses. Provision P (Construction Site Management) includes construction site inspection requirements during the Rainy Season and after rain events. To address oversight of construction sites during the Dry Season, when non-stormwater discharges are the primary concern, Central Coast Water Board staff added requirements to assess construction sites (during the Dry Season) during the prioritization of illicit discharge detection efforts. Because City staff and Central Coast Water Board staff have identified more frequent illicit discharge issues from transient camps and socio-economically stressed areas within the City, these areas have also been added for consideration in the prioritization process.

The Permittee must also consider areas with a history and/or likely potential of heavy pesticide, herbicide, and fertilizer application areas, in order to better address the common misuse of these pollutants throughout urban areas. Under the requirements of Order No. R3-2012-0005, the Permittee was required to identify high priority residential areas, based on home and garden care activities and product use (e.g., pesticides, herbicides, and fertilizers). Because the Permittee lacks the legal authority to regulate aspects of pesticide application and use on private lands, this Order requires the Permittee to provide a summary of its investigations of pesticide, herbicide, and fertilizer application areas to the Monterey County Agricultural Commissioner and Central Coast Water Board staff, to inform the commissioner of areas of misuse.

Illicit Discharge Detection and Source Investigation and Elimination –

USEPA recommends that permittees refer to the Center for Watershed Protection's guide on Illicit Discharge Detection and Elimination (IDDE): A Guidance Manual for Program Development and Technical Assistance[77] (Center for Watershed Protection IDDE Manual) when developing an illicit discharge detection and elimination program.[78] This Order requires the Permittee to use the Center for Watershed Protection IDDE

[77] Brown, Edward, Deb Caraco, and Robert Pitt. *Illicit Discharge Detection and Elimination: A Guidance Manual for Program Development and Technical Assessment*. Ellicott City, MD: The Center for Watershed Protection; University of Alabama, October 2009. Web. 20 June 2019

[78] USEPA. *MS4 Permit Improvement Guide. EPA 833-R-10-001,* 14 April 2010. Web. 20 June 2019. p. 24.

Manual or equivalent, to develop and implement effective ongoing activities to detect, investigate, and eliminate illicit connections and illicit discharges into the MS4.

Drive-by inspections are an inexpensive way to identify illicit discharges. For them to be effective, the drive-by inspections must be conducted at times that are likely to have illicit discharges. Focusing drive-by inspections to high priority areas that are the most likely sources of illicit discharges provides an efficient use of limited resources and staff time. For example, areas with Commercial Food Facilities and Operations should be a priority due to the likelihood of illicit discharges from these operations.

The Order requires dry weather field screening, which is another way of locating dry weather discharges. If no rain has occurred prior to the screening, then it is likely that any flow observed at an outfall is either groundwater or an illicit discharge. It is important to utilize resources effectively and to target field screening activities in priority areas that are the most common sources of illicit discharges. This could include visually screening outfalls during dry weather and conducting field tests, where flow is occurring, of selected chemical parameters as indicators of the discharge source will assist the Permittee in determining the source of illicit discharges. For example, the presence of surfactants is an indicator that sewage could be present in the discharge (e.g., soaps being discharged into the MS4 as an indicator that wastewater is being discharged). Specific conductivity, fluoride and/or hardness concentration, ammonia and/or potassium concentration, surfactant and/or fluorescence concentration, chlorine concentration, pH, and other constituents may similarly be indicative of industrial sources.

This Order also requires the Permittee to develop and implement a program to investigate portions of the MS4 identified in the IDDE prioritization process for illicit connections and sanitary sewer cross-connections. The Permittee should coordinate these efforts with source analysis requirements in Provision F (Pollutant Load Reduction Plan), for catchments utilizing the Iterative Approach compliance pathway, for achieving wasteload allocations pursuant to the Lower Salinas River Watershed Fecal Coliform Total Maximum Daily Load. Notifications of sewage spills will allow the Permittee to respond to the spills and reduce the volume of pollutants discharged to the MS4. Tracking where sewage spills occur will enable the Permittee to notice any trends and adjust priorities if needed.

Physical observations and field testing can help narrow the identification of potential sources of a non-stormwater discharge; however, it is unlikely that either will pinpoint the exact source. Therefore, the Permittee will need to perform investigations “upstream” to identify illicit discharges or connections to systems with identified problem outfalls.

No Dumping Messaging –

USEPA recommends catch basin labeling as an effective mechanism for educating residents, since it involves a direct reminder that that water or other materials which flow

into storm drains are not treated in any way, but instead drain directly to nearby waterways[79]. Under the requirements of Order No. R3-2012-0005, the Permittee was required to label all MS4 system inlets in areas with foot traffic. This Order requires the Permittee to label all unlabeled public storm drain inlets and re-label inlets that have illegible inlets. Because this simple messaging is important for deterring illicit discharges directly into MS4 system inlets, Central Coast Water Board staff found it appropriate to ensure inlets are labeled throughout the entire Order coverage area. There are many methods for labeling catch basins and the Order provides the Permittee with the flexibility to determine the most feasible and cost-effective method of delivering the stormwater awareness message.

Similarly, the Order requires signs discouraging illegal dumping in areas where the public may have access to dump in or near waterbodies. This Order requires messaging in English and Spanish because based on the 2012 census, 75 percent of the City population is Hispanic or Latino.

Incidental Runoff and Excessive Water Application –

Excessive water application provides a common mechanism to transport pollutants such as pesticides and fertilizers into the MS4. The Order requires the Permittee to prohibit over-watering at its facilities such that water does not run off the site.

O. Commercial and Industrial

Inventory –

This Order requires the Permittee to develop an inventory of commercial and industrial facilities and operations that could likely contribute pollutants to the MS4. Under the requirements of Order No. R3-2012-0005, the Permittee was required to identify a minimum number of facilities and operations in the inventory. Instead of quantifying the number of facilities and operations for the list, this Order specifies the facilities and operation types for coverage, which aligns with other current Phase I municipal permits in California. By not limiting the number of facilities and operations for the inventory, this Order enables the Permittee to identify and prioritize a larger number, and wider variety, of facilities and operations as potential threats to water quality and enables the Permittee to inspect the facilities and operations most likely to present the greatest threat to water quality.

Source Control BMPs –

USEPA recommends commercial and industrial inventory development to provide the Permittee with information on potential pollutant sources that contribute pollutants to its MS4, and the MS4 locations into which they discharge. [80] This information will also allow the Permittee to prioritize inspections and tailor education and outreach efforts, which

[79] Ibid, p. 80.
[80] USEPA. *MS4 Permit Improvement Guide. EPA 833-R-10-001,* 14 April 2010. Web 20 June 2019. p. 87.

will best assist the facility or operation in implementing appropriate source control practices or other on-site stormwater controls. The information contained in the inventory will enable the Permittee to characterize these facilities and operations and prioritize them based on their potential impact on stormwater quality. By prioritizing facilities in such a manner, the Permittee may then establish a targeted approach towards conducting inspections. This allows for inspection resources to be most effective.

Inspections and Prioritization –

The Permittee must develop a process for prioritizing all commercial and industrial facilities and operations for inspections. The prioritization for individual facilities may be adjusted after the first or subsequent inspections, based on the results of the inspection. The Permittee must design an inspection program that facilitates more frequent inspections of the highest priority facilities. This will help maximize use of the Permittee's existing inspection resources and ensure that the City inspectors are the most visible and the most familiar with the facilities with the highest potential for water quality impact.

This Order requires the Permittee to inspect 20 percent of the facilities and/or operations annually, or up to 250 facilities and/or operations, which will result in equal to or less than the number of inspections required by Order No. R3-2012-0005. This more flexible approach is based on the Permittee's experience implementing the requirements in Order No. R3-2012-0005. The Permittee has refined its commercial and industrial facility oversight program. For example, the City clearly tracks inspections and inspection findings, has outlined clear escalating enforcement protocols for instances of non-compliance, has detailed inspection and facility checklists, and strategically plans inspections (e.g., evening inspections for facilities likely to have discharges after regular work hours). Because this Order requires the City to inspect high priority sites, even if this Order results in a slight reduction to the number of facility inspections, the Permittee will still be required to provide effective oversight of all the larger facilities that pose a higher threat to water quality.

Compared to requirements of Order No. R3-2012-0005, this Order provides the Permittee more flexibility in developing and implementing an inspection rating system to inform re-inspections and implementation of the Permittee's Enforcement Response Plan. The intent of using an inspection rating system is to measure the effectiveness of the Permittee's efforts at reducing pollutants in stormwater discharges and protecting water quality at such facilities and operations.

This Order also requires the Permittee to perform repeat inspections of low-performing commercial and industrial facilities and operations. The Permittee is required to continue re-inspecting low-performing facilities and operations at 30-day intervals until there is a demonstrable improvement in the inspection rating of the facility or operation (e.g., an increase in inspection rating through improved BMP selection, implementation, installation, and/or maintenance). Thirty days is a reasonable amount of time for

achieving BMP improvements capable of resulting in a demonstrable improvement in inspection rating.

Commercial Pesticide Applicator Inventory –

This Order requires the Permittee to develop and maintain an inventory of commercial pesticide applicators that conduct business within the Permittee and associated pesticide use data. In order to gain a better understanding of the magnitude and potential water quality threat posed by this industry, it is essential for the Permittee to become more informed about pesticide application and use within the City's jurisdictional area. This inventory will help inform and prioritize targeted education efforts for licensed commercial pesticide applicators (see Provision R – Public Education and Involvement)

P. Construction Site Management

Inventory –

To effectively conduct a construction site management program, the Permittee must know where construction activity is occurring and have information that allows the Permittee to track and target its inspections and follow-up actions. The inventory does not need to contain construction projects the Permittee lacks jurisdictional authority over (e.g., federal facilities and public schools).

BMPs –

Construction land disturbance exposes soil to erosion processes and increases the potential for sediment mobilization, runoff, and deposition in receiving waters. Construction sites without adequate BMP implementation result in sediment runoff rates that greatly exceed natural erosion rates of undisturbed lands, causing siltation and impairment of receiving waters. In addition to sediment, stormwater discharges from construction sites generally include other pollutants such as phosphorus and nitrogen, petroleum derivatives, and other construction-related pollutants and solid wastes. This Order requires the Permittee to require construction site operators to meet certain minimum stormwater requirements relating to erosion and sediment control and source control. These minimum requirements specify the expectations for addressing erosion control, sediment control, and source control measures at construction sites.

Prioritization –

Prioritization of construction sites in terms of risk allows the Permittee to use resources and staff time most effectively. The Permittee is required to identify priority sites based on the projects threat to water quality. The State Water Board has identified that larger construction sites tend to be at increased risk for discharge of sediment and other pollutants and therefore requires larger sites to be enrolled in the General Construction Permit. The State Water Board allows some lower risk sites to qualify for an erosivity

waiver. This Order uses this State Water Board established priority ranking for construction sites and has the Permittee designate as high priority sites that are required to enroll in the General Construction Permit and that do not qualify for an erosivity waiver.

Plan Review and Approval Procedures –

The Order requires the review and prior approval of source control and erosion and sediment control plans for priority sites as well as review and approval of plans for non-priority sites to ensure that construction activities adhere to the Permittee's minimum stormwater control requirements. Review of source control and erosion and sediment control plans is necessary to verify the adequacy of proposed stormwater controls and to verify compliance with all applicable requirements in the Permittee's ordinance or other regulatory mechanisms, as well as compliance with control measure standards and specifications. A formal review procedure ensures consistent review of plans by specifying the requirements for plans being submitted, the schedule for review, and general conditions for approval. The site plan review process also provides a way to track construction activities and enforce standards.

A good site plan review process provides the Permittee with the opportunity to comment – early and often – on a project's proposed number, type, location, and sizing of BMPs that will be in place prior to, during, and at the conclusion of active construction. It is important to keep in mind that a site plan is a "living document" that may change during the life of the project; however, it is critical that the site plan be adequately reviewed and initially based on established policy, guidelines, and standards. The plan is the framework for BMP implementation and can serve as the basis for enforcement action on a project site. This Order requires the Permittee to review plans before construction activity begins to ensure that the plans are consistent with the standards specified in Provision P. This Order includes very similar plan review requirements to the requirements in Order No. R3-2012-0005. Finally, plan reviewers must be trained and must document their review. Documentation of review can be done by using a checklist or similar process.

Notifications and Inspections –

The Order requires inspections of construction sites based on a prioritized ranking of sites (see 40 Code of Federal Regulations section 122.26(d)(2)(iv)(D)(3)). Larger construction sites and sites that discharge to a sediment impaired waterbody are inspected more frequently than small sites. In addition to inspections at a regular interval, inspections are required within a certain timeframe after a rain event.

This Order includes similar frequencies as the requirements in Order No. R3-2012-0005 for rainy season inspections and requires inspections during active construction and after the site has been stabilized. This Order no longer requires construction site inspections during the dry season because the risk of stormwater discharges from construction sites is significantly decreased when there is no rain to mobilize pollutants.

However, because non-stormwater discharges are a potential risk year-round, this Order now requires the Permittee to assess construction sites, during the dry season, in the Permittee's High Priority Illicit Discharge Detection and Elimination prioritization (see Provision N).

The Order also contains requirements on what the inspection must include (such as a comparison of control measures in the approved plan to control measures installed in the field). Without adequate implementation and maintenance, BMPs will not function as designed. In order to ensure proper implementation and maintenance by site operators, a rigorous inspection protocol is necessary. This protocol must include written procedures for site inspections and enforcement to ensure inspections and enforcement actions are conducted in a consistent manner. Documentation of inspections is critical to track noncompliance and enforcement. Regularly scheduled inspections, as well as post-storm event inspections, are necessary to be sure that regular maintenance occurs as well as repairs after storm events.

For the purposes of Provision P, this Order defines a rain event as one which results in at least 0.5 inch of rainfall as an approximation of an event likely to produce significant runoff.

While much is currently known about effective measures for controlling erosion and sediment discharges at construction sites, variations in site and storm conditions and the variety of BMPs available can make effective erosion and sediment control an iterative process at any construction site. Therefore, this Order requires the Permittee to inspect High Priority Construction Sites within 48 hours after a 0.5-inch rain event. The purpose of this requirement is to assess the effectiveness of construction site BMPs. This information is also useful to the Permittee as feedback about the proficiency of Permittee municipal staff at assessing the adequacy of BMP selection, implementation, installation, and maintenance.

This Order requires the Permittee to develop and implement an inspection rating system. Relative to requirements of Order No. R3-2012-0005, this Order provides the Permittee more flexibility in developing and implementing an inspection rating system to inform re-inspections and implementation of the Permittee's Enforcement Response Plan. The intent of using an inspection rating system is to measure the effectiveness of the Permittee's efforts at reducing pollutants in stormwater discharges and protecting water quality at such sites. This Order also requires the Permittee to increase inspection frequencies of low-performing construction sites until there is a demonstrable improvement in the inspection rating of the site (e.g., an increase in inspection rating through improved BMP selection, implementation, installation, and/or maintenance).

A strong enforcement program to back up the Order's requirements is a critical ingredient in creating the deterrence needed to encourage construction site operators to maintain compliance with this Order. Appropriate penalties and other consequences for violations offer some assurance of equity between those who choose to comply with requirements and those who violate them. It also provides incentive for prompt

correction of violations. See Provision H (Legal Authority and Enforcement) for requirements regarding the Enforcement Response Plan.

This Order includes minimum certification requirements for construction project plan reviewers and inspectors. This Order includes a slight reduction from the credential requirements in Order No. R3-2012-0005, in that construction inspectors can be a Qualified Storm Water Pollution Prevention Plan (SWPPP) Developer (QSD) or Qualified SWPPP Practitioner (QSP) instead of just a QSD. This modification aligns with the General Construction Permit, which only requires construction site inspectors to be QSP-certified.

Q. Post-Construction Management

This Order includes requirements for the Permittee to require new development and redevelopment projects to manage stormwater to maintain, protect and, where necessary, restore watershed processes impacted by stormwater management to protect water quality and beneficial uses at the parcel-scale by having post-construction hydrology mimic the natural hydrology of the area.

Many traditional stormwater management practices, and the permit language that drives them, fail to address modifications to watershed processes (such as increases in the quantity of stormwater discharges, decreases in groundwater recharge, alteration of sediment transport, decreases in pollutant attenuation, and decreases in evapotranspiration) that are caused by altered stormwater conditions resulting from development. Frequently these modifications to watershed processes cause degradation to receiving waters. Protecting and restoring the physical, chemical, and biological integrity of receiving waters must be a central issue in stormwater permits. The National Research Council recommends that the NPDES stormwater program examine the impacts of stormwater flow, treat flow as a surrogate for other pollutants, and include the necessary control requirements in stormwater permits.[81] Specifically, the National Research Council's report recommends that the volume retention practices of infiltration, evapotranspiration, and rainwater harvesting be used as primary stormwater management mechanisms. With similar reasoning, USEPA recommends use of a permit condition that is based on maintaining or restoring predevelopment hydrology. Additional information on the development of a post-construction program for Phase II permittees can be found at the Center for Watershed Protection website.[82] Also, USEPA's green infrastructure website includes information on post-construction controls and programs[83].

[81] *Urban Stormwater Management in the United States*. Washington, D.C.: National Research Council, National Academies Press, 2008. Web. 20 June 2019. p. 23.
[82] Managing Stormwater in Your Community: A Guide for Building an Effective Post-Construction Program, EPA Publication No: 833-R-08-001. Ellicott City, MD: Center for Watershed Protection, July 2008. Web. 20 June 2019
[83] "Managing Wet Weather with Green Infrastructure." *National Pollutant Discharge Elimination System (NPDES).* USEPA. Web. 20 June 2019

Without the appropriate measures in place, land development causes higher discharge volumes and higher pollutant loads than pre-development landscapes, leading to modifications to watershed processes. These changes can occur even at the parcel-scale. When development occurs in previously undeveloped areas, the resulting alterations to the land can dramatically change how water is transported and stored. Development creates impervious surfaces and compacted soils, which increases surface runoff and decreases groundwater infiltration. These changes can increase the volume and velocity of runoff, the frequency and severity of flooding, and the magnitude of peak storm flows, as well as the type, concentration, and quantity of pollutants in discharges.

USEPA recommends a simpler, but reasonably approximate 'mimicking the natural hydrograph' approach that can typically be accomplished by retaining (as opposed to detaining for later discharge) on a developed site the volume of water that was retained prior to development through the mechanisms of infiltration, evapotranspiration, and capture and use. By significantly reducing the volume of stormwater discharges, these mechanisms significantly reduce the discharge of pollutants in stormwater and maintain watershed processes, making discharge volumes the ideal all-around focus and metric for stormwater management. These provisions must be clear about the retention requirement (e.g., a rain garden with an under drain likely functions more as a detention and filtration system than an infiltration system).[84] The best way to mitigate stormwater impacts from new developments is to use practices to treat, store, and infiltrate runoff on-site to mimic more natural runoff patterns. Innovative site designs that reduce imperviousness and disperse smaller-scale LID practices throughout a site are effective ways to achieve the goals of reducing flows and improving water quality.

Inventory and Post-Construction Requirements –

To achieve these watershed protections and where appropriate restorations, this Order requires the Permittee to adhere to Resolution No. R3-2013-0032: Post-Construction Stormwater Management Requirements for Development Projects in the Central Coast Region (Central Coast Post-Construction Requirements), approved by the Central Coast Water Board on July 12, 2013. Central Coast Phase II Stormwater permittees are also subject to these requirements.

Pursuant to requirements in Order No. R3-2012-0005, the Permittee was required to adhere to the Central Coast Post-Construction Requirements when they became available. Additionally, Central Coast Water Board Resolution No. R3-2013-0032, identified the Central Coast Post-Construction Requirements as the minimum post-construction criteria that the Permittee must apply to applicable new development and redevelopment projects in order to protect water quality and comply with the MEP standard and Order No. R3-2012-0005. Pursuant to the Central Coast Post-Construction Requirements, the Permittee was required to apply the requirements to applicable projects by March 6, 2014.

[84] USEPA. *MS4 Permit Improvement Guide. EPA 833-R-10-001,* 14 April 2010. Web. 20 June 2019. p. 54.

Central Coast Water Board staff recognizes the amount of resources invested in the development of the Permittee's existing Storm Water Development Standards. This Order does not specify or eliminate the option to use the Storm Water Development Standards for applying the requirements outlined in Provision Q to applicable projects. However, the Permittee must ensure the Storm Water Development Standards are updated to fully incorporate the Central Coast Post-Construction Requirements, and other applicable Provision Q requirements, if it plans to rely on these standards for meeting Provision Q.

This Order requires the Permittee to maintain an inventory to track basic information for all projects, meeting a minimum project threshold of 2,500 square feet of new and/or replaced impervious surface, that received applicable approvals after March 6, 2014. The purpose of this inventory is to help the Permittee track application of the Central Coast Post-Construction Requirements to all applicable projects and help the Central Coast Water Board staff oversee this implementation. By tracking all projects that exceed the 2,500 square feet of new and/or replaced impervious surface threshold, Central Coast Water Board staff can verify the Permittee is applying the requirements to applicable projects. Some of these projects may qualify for exemptions (e.g., some road and parking lot maintenance projects, some sidewalk and bicycle path and lane projects) pursuant to the Central Coast Post-Construction Requirements and the Permittee can identify these exemptions in the inventory.

For Regulated Projects located in catchments that have fully met the Volume Reduction compliance pathway requirements, there are Pollutant Load Reduction Plan Alternative Requirements which specify the Permittee is no longer required to apply the Coast Post-Construction Requirements to replaced impervious surfaces. The management strategies implemented pursuant to the Volume Reduction compliance pathway requirements must address the current landscape conditions (i.e., current impervious surfaces); therefore, because the Permittee is already implementing projects to mitigate for existing impervious surfaces, the Permittee is not required to require Regulated Projects conduct further mitigation of replaced impervious areas.

Source Control –

In addition to implementing the Central Coast Post-Construction Requirements, this Order requires all Regulated Projects to implement applicable source control measures that are recognized nationwide as basic, effective techniques to minimize the introduction of pollutants into stormwater runoff. Order No. R3-2012-0005 also required the Permittee to apply source control requirements to small projects. Additionally, Central Coast Phase II Permittees, required to apply the Central Coast Post-Construction Requirements, also have requirements to apply basic source control requirements to applicable projects.

Field Verification Inspections of Structural SCMs –

The Clean Water Act section 402(p)(3)(B)(iii) requires, in part, that pollutants in stormwater be reduced to the MEP. The USEPA's definition is intentionally broad to provide maximum flexibility in MS4 permitting and to give municipalities the opportunity to optimize pollutant reductions on a program-to-program basis. The State Water Board's Office of Chief Counsel has stated that to achieve the MEP standard, municipalities must employ whatever BMPs are technically feasible (i.e., are likely to be effective) and are not cost prohibitive with the major emphasis on technical feasibility.[85] Because runoff rates can vary from storm to storm, the statistical probabilities of rainfall or runoff events become significant and are central to the control of pollutants through cost effective BMPs. Further, it is recommended that BMPs be designed to manage both flows and water quality for best performance.[86] The stormwater regulations require that an MS4 develop and implement a program to address post-construction discharges from all new development and redevelopment projects and ensure the long-term operation and maintenance of these controls (see 40 Code of Federal Regulations section 122.34(b)(5)).

This Order requires the Permittee to ensure that all Regulated Projects effectively construct and maintain stormwater control measures installed pursuant to the Central Coast Post-Construction Requirements. Appropriate operation and maintenance are critical aspects to the function of any suite of BMPs. In many cases, controls may be located on private property, and it is necessary to establish provisions to assure responsibility and accountability for the operation and maintenance of these controls. A National Research Council report discusses the importance of long-term maintenance and municipal oversight of stormwater BMPs.[87]

> *Almost all structural BMPs require active long-term maintenance in order to continue to provide volume and water quality benefits (Hoyt and Brown, 2005; Hunt and Lord, 2006b). Furthermore, a typical municipality may contain hundreds or thousands of individual structural BMPs within its jurisdiction. Thus, the long-term obligations for maintenance are considerable. For example, the annual maintenance cost of 100 medium-sized wet ponds (one-half acre to 2 acres) is estimated to be a quarter of a million dollars (Hunt and Lord, 2006c). Currently, the majority of municipal stormwater programs do not have adequate plans or resources in place for the long-term maintenance of structural BMPs (GAO, 2007) …An effective maintenance program also requires a system to inventory and track structural BMPs, inspection/monitoring, and enforcement against noncompliance. The large number of structural BMPs to track and manage creates management challenges. Municipal stormwater programs must*

[85] Jennings, Elizabeth. *Memo Entitled Definition of Maximum Extent Practicable*. State Water Resources Control Board, 11 February 1993.
[86] Roesner, L.A. "Urban Runoff Pollution – Summary Thoughts – The State of Practice Today and for the 21st Century." *Water Science and Technology*. 39.12 (1999): 353-360.
[87] *Urban Stormwater Management in the United States*. Washington, D.C.: National Research Council, National Academies Press, 2008. Web. 20 June 2019. p. 368.

> *administer their regulatory programs, perform inspection and enforcement activities, and maintain structural BMPs in public lands/rights-of-way and sometimes in residential areas. Municipal programs often do not have adequate staff to ensure that these maintenance responsibilities are adequately carried out. The lack of adequate staff for inspection and an inadequate system for prioritizing inspections have been repeatedly pointed out (Duke and Beswick, 1997; Duke, 2007; GAO, 2007).*

Consistent with Order No. R3-2012-0005, this Order requires inspection of all structural stormwater control measures both during and after construction. Inspections during and just after construction are important to ensure BMPs are installed correctly. If structural stormwater control measures are not installed correctly, they may not function as intended. This inspection shall also ensure appropriate safeguards are in place to prevent construction site pollutants and flows from compromising structural stormwater control measure's long-term performance. The Permittee is required to do post-construction inspections of structural stormwater control measures prior to issuing final approval for the site. This will ensure the inspection occurs and any corrective actions are performed before the construction project is closed out.

In addition to relying on the structural stormwater control measure verification program (allows self-inspection program) required by the Central Coast Post-Construction Requirements, this Order requires the Permittee to conduct inspections of structural stormwater control measures at least every five years. This field verification is necessary to ensure Regulated Projects are adequately maintaining structural stormwater control measures, validate self-inspection programs, and provide accurate performance assessments information for the stormwater pollutant loading and volume quantification efforts outlined in Provision G.

Riparian Area Setback Requirements –

From Order No. R3-2012-0005, this Order carries over riparian area setback and protection requirements for development projects, requiring the Permittee to require developers to adhere to waterway setback requirements. These requirements also align with the City's General Plan Policy COS-17. Additionally, the Water Quality Control Plan, Central Coast Region (Basin Plan) mandates that "specific actions can be taken to control water quality." The following specific actions are included: "A filter strip of appropriate width, and consisting of undisturbed soil and riparian vegetation or its equivalent, shall be maintained, wherever possible, between significant land disturbance activities and watercourses, lakes, bays, estuaries, marshes, and other waterbodies. For construction activities, minimum width of the filter strip shall be thirty feet, wherever possible as measured along the ground surface to the highest anticipated water line."[88] The Basin Plan describes the importance of functioning filter strips between waterbodies and areas with significant ground disturbance. Also, the

[88] *Water Quality Control Plan for the Central Coast Basin*. Regional Water Quality Control Board, Central Coast Region; State Water Resources Control Board; California Environmental Protection Agency. September 2017 edition. Web. 20 June 2019. Chapter 5.5.6.

Basin Plan indicates a 30-foot waterbody setback for construction activities; therefore, new development and redevelopment, which involve construction activities, cannot occur within 30-feet of a waterbody.

Ecologically functioning riparian environments provide aquatic and terrestrial habitat for fish, amphibians, reptiles, mammals, and birds, and recreational and open space opportunities for the public. Riparian areas also provide water quality treatment functions. They improve water quality by removing nutrients and degrading pollutants through chemical processes; improving dissolved oxygen; storing sediment; and regulating temperatures among other benefits. These benefits can be achieved by protecting existing healthy riparian environments. Also, ecologically sensitive areas can protect water quality by acting both as filters that reduce pollutants in stormwater discharges and as sponges to reduce the impact on the ecosystem's hydrology. Thermal pollution is also a concern that can impact biota in waterways. Stormwater discharges from impervious surfaces are often characterized by higher temperatures than natural, pervious surfaces. Reducing the chances of further increasing this temperature by preserving and protecting natural features that provide shading for the waterway can help prevent further thermal pollution. Whenever possible natural waterways must be protected and not disturbed by stormwater from developed sites. Protecting vegetation, native soils, and conserving water can also help ensure the hydrologic qualities of the site remain intact.

R. Public Education and Involvement

Implementation of effective comprehensive stormwater public education is necessary to support the implementation of this Order. The State Water Board Technical Advisory Committee "recognizes that education with an emphasis on pollution prevention is the fundamental basis for solving nonpoint source pollution problems."[89] The USEPA Phase II Fact Sheet 2.3 finds that "An informed and knowledgeable community is critical to the success of a stormwater management program since it helps insure the following: (i) greater support for the program as the public gains a greater understanding of the reasons why it is necessary and important, and (ii) greater compliance with the program as the public becomes aware of the personal responsibilities expected of them and others in the community, including the individual actions they can take to protect or improve the quality of area waters."[90]

Collaboration –

The Permittee is encouraged to collaborate with other entities on public education and involvement. Collaboration provides the opportunity for decreasing costs as well as sharing of ideas and resources.

[89] State Water Resources Control Board. Nonpoint Source Pollution Control Program. *Urban Runoff Technical Advisory Committee Report,* November 1994. Web. 11 August 2011.
[90] USEPA. Stormwater Phase II Final Rule Fact Sheet Series, Public Education and Outreach Minimum Control Measure – Fact Sheet 2.3, EPA 833-F00-005, January 2000. Web. 20 June 2019

Water Quality Complaints –

This Order requires the Permittee to maintain and publicize a reporting system for the public to report suspected illicit discharges, poor construction site management, and other water quality concerns associated with discharges into or from the MS4. Pursuant to requirements in Order No. R3-2012-0005, using 2010 census data, the Permittee assessed the need for a bilingual reporting system in order to be effective. Based on this assessment, the Permittee determined a bilingual reporting system in English and Spanish was necessary because 75 percent of the population is Hispanic or Latino. The Permittee will use the water quality complaint reporting system (sometimes called a stormwater hotline) to help it become aware of water quality concerns associated with discharges into or from the MS4. This can include everything from an overturned gasoline tanker to sediment leaving a construction site to a sanitary sewer overflow entering a storm drain. The Permittee must use SIMIS to track reports made to the system to ensure that appropriate follow up actions are completed. This data can also be used to identify areas where frequent illicit discharges occur which will provide the Permittee with information to inform their future actions (e.g. data showing illicit discharges occur frequently in particular areas can focus future Permittee inspections, investigations and educational outreach in those areas). For complaints associated with other components of this Order (e.g., construction site management, illicit discharge detection and elimination, commercial and industrial), when applicable depending on prioritizations, the Permittee should address the complaints pursuant to protocols outlined in the relevant program.

Priority Stormwater Issues, Target Audiences, and Education Strategies –

The public education and involvement must be tailored and targeted to specific water quality issues of concern in the relevant community. These community-wide and targeted issues must then guide the development of the comprehensive outreach program, including the creation of appropriate education strategy. Prioritization will provide for the most efficient use of resources. The Permittee will determine the highest priority issues to be addressed by public education; however, this Order specifies the following issues be incorporated: trash, agricultural-related pollutants, and stormwater program funding challenges. Through the Permittee's trash assessment efforts pursuant to requirements in Order No. R3-2012-0005, the Permittee has identified significant trash issues throughout the City. The City is unique relative to most urban areas, in that it is an urban area surrounded by cultivated lands, has cultivated lands within City boundaries, has many agriculture-related industries, and a significant portion of the populace has agriculture-related jobs.

Lastly, the Permittee has acknowledged its challenges with funding its stormwater program; therefore, this Order integrates requirements to address funding challenges. According to the recap from a USEPA-led workshop discussion regarding the need for improved messaging strategies and tools to improve public support for stormwater program initiatives and funding, "Workshop participants expressed the strong view that public outreach approaches need significant improvement in how they communicate the

need for and costs of implementing sound urban stormwater management. Investing in public education and outreach to change polluting behaviors and highlight the value of water has not yielded commensurate understanding of how stormwater systems work and how local programs deliver services and benefits that the public values (e.g., improved water quality, reduced flooding risk, urban greening, water supply augmentation). In most communities, there is little understanding of the costs of these services or the need for sufficient, stable funding. As a result, most local programs face severe difficulties in building sustainable program capacity."[91]

This Order requires outreach to ethnically and socioeconomically diverse communities as well to as children. The USEPA, Tailoring Outreach Programs to Minority and Disadvantaged Communities and Children Fact Sheet finds that, "many residents of ethnically and culturally diverse communities don't speak English"[92]. English messages contained in public education outreach materials may not be effectively reaching a significant portion of some communities. The intent of this provision is to encourage behavior changes that reduce pollutants in stormwater to a portion of the population who might otherwise be overlooked.

This Order requires the Permittee to incorporate the use of Community-Based Social Marketing or equivalent strategies/methods into its educational program to effectively change the waste disposal and runoff pollution generation behavior of the identified target audiences. Community-Based Social Marketing is a systematic way to change the behavior of communities to reduce their impact on the environment. Simply providing information is usually insufficient to initiate behavior change. Community-Based Social Marketing uses tools and findings from social psychology to discover the perceived barriers to behavior change and ways of overcoming these barriers. The Permittee's implementation of pilot projects pursuant to requirements in Order No. R3-2012-0005 has been effective; therefore, this Order requires the Permittee to implement a new pilot project and expand effective components of the project throughout the City. The Permittee will perform assessments during the term of this Order to determine if knowledge has increased and if behavior has changed in target audiences for the identified Priority Stormwater Issue.

Facilitate Disposal of Used Oil and Toxic Materials –

Used oil, vehicle fluids, toxic materials, and other household hazardous wastes are common sources of illicit discharges. Public education and providing a mechanism for proper disposal will reduce the potential for these pollutants to reach the MS4.

[91] "Evolution of Stormwater Permitting and Program Implementation Approaches: Workshop Report and Recommendations for Program Improvement," prepared for USEPA, by PG Environmental, May 17, 2018, p. 34.
[92] "Tailoring Outreach Programs to Minority and Disadvantaged Communities and Children." *National Pollutant Discharge Elimination System (NPDES)*. USEPA. Web. 20 June 2019

Pesticide Use Education –

Federal NPDES regulation 40 Code of Federal Regulations section 122.26(d)(2)(iv)(A)(6) provides that the proposed management program include "A description of a program to reduce to the maximum extent practicable, pollutants in discharges from municipal separate storm sewers associated with the application of pesticides, herbicides, and fertilizer which will include, as appropriate, controls such as educational activities, permits, certifications, and other measures for commercial applicators and distributors, and controls for application in public right-of-ways and at municipal facilities." This Order requires the Permittee to conduct pesticide education at the point-of-purchase and education targeting residents and businesses hiring pest control professionals as well as pest control professionals. Because we acknowledge the Permittee's limited authority with regulating pesticide application on private lands, it is critical for the Permittee to have a robust education and outreach program to heighten the awareness of proper pesticide application, storage, and disposal.

Events and Activities –

This Order requires the involvement of the public and opportunities for citizens to participate in implementation of the stormwater management activities. Involving the public benefits both the City itself as well as the community. Public participation in implementation of the stormwater program can include many different activities such as stream clean-ups, storm drain markings, and volunteer monitoring.

Website –

This Order requires the City's stormwater website include information on public education and involvement. This will be a resource for the public on stormwater topics, provide the public with direct information on aspects of the stormwater program, as well as provide the public with the information it needs to get involved with the stormwater program.

S. Annual Reporting

Order Compliance Demonstration Through SIMS and Annual Reporting –

In contrast to Order No. R3-2012-0005, this Order includes most of the reporting and tracking requirements in Provision G (Information Management and Program Assessment) and Provision S (Annual Reporting), instead of integrating these requirements throughout all the provisions. This Order reduces annual reporting requirements significantly relative to Order No. R3-2012-0005; therefore, a significant decrease in level of effort required to achieve this Order's annual reporting requirements is expected.

In addition to using SIMS to characterize the Permittee's watersheds, track BMPs, and conduct pollutant loading and volume quantification, Provision G (Information

Management and Program Assessment) also requires the Permittee to use SIMS to maintain information to demonstrate Order compliance. Provision S (Annual Reporting) requires the Permittee to provide an annual summary of information tracked in SIMS as well as information regarding Pollutant Load Reduction Plan progress, trash management, pesticide management, and an explanation for shortfalls of compliance with any of the Order requirements. Instead of requiring the Permittee to report compliance status for every Order requirement, this Order requires the Permittee to report when it has failed to comply with any requirement of this Order. This will help Central Coast Water Board staff oversee compliance with this Order, while reducing the burden to the Permittee.

Some of the provisions specify additional deliverables (see Attachment F to this Order for a Summary of Milestones and Deadlines).

V. Applicable Statutes, Regulations, Plans, and Policies

Legal Authorities – Federal Clean Water Act and California Water Code

This Order is issued pursuant to section 402 of the Clean Water Act and implementing regulations adopted by the USEPA and chapter 5.5, division 7 of the California Water Code (commencing with section 13370). This Order serves as an NPDES permit for point source discharges to surface waters. This Order also serves as waste discharge requirements pursuant to article 4, chapter 4, division 7 of the California Water Code (commencing with section 13260) to the extent those provisions implement the federal NPDES permitting program in California.

The objective of the Clean Water Act is "*to restore and maintain the chemical, physical, and biological integrity of the Nation's waters*." To carry out this objective, the Clean Water Act requires the implementation of permit programs to regulate the discharge of pollutants and dredged or fill material to the navigable waters of the United States and to regulate the use and disposal of sewage sludge. Clean Water Act section 402 provides the legal authority to issue a permit for the discharge of pollutants to waters of the United States under the NPDES program. The Clean Water Act provides that NPDES permits may be issued by states which are authorized to implement the provisions of that act. California became authorized to implement the NPDES permit program on May 14, 1973.

The Porter-Cologne Water Quality Control Act (California Water Code Division 7, commencing with section 13000) established the State Water Board and nine Regional Water Quality Control Boards (Regional Water Boards) as the principal state agencies with primary responsibility for the coordination and control of water quality. California Water Code section 13200(c) established the Central Coast Water Board, which has the primary responsibility for the coordination and control of water quality in the Central Coast region. The Central Coast Water Board implements the Clean Water Act through Chapter 5.5 of the California Water Code, commencing with section 13370. California Water Code section 13377 provides the Central Coast Water Board the legal authority

to issue waste discharge requirements to ensure compliance with all applicable provisions of the Clean Water Act and acts amendatory thereof or supplementary, thereto, to implement water quality control plans, or for the protection of beneficial uses, or to prevent nuisance.

Clean Water Act section 402(p) requires the USEPA or authorized state to issue NPDES permits for stormwater discharges from MS4s to waters of the United States. Clean Water Act section 402(p)(3)(B)(ii) requires that NPDES permits for storm water discharges from MS4s "*effectively prohibit non-storm water discharges*" into the MS4s. Clean Water Act section 402(p)(3)(B)(iii) requires that NPDES permits for stormwater discharges from MS4s to "*require controls to reduce the discharge of pollutants to the maximum extent practicable* [MEP], *including management practices, control techniques and system, design and engineering methods, and such other provisions as the Administrator or the State determines appropriate for the control of such pollutants*."

The USEPA promulgated implementing regulations (40 Code of Federal Regulations section 122.26), which prescribe permit application requirements for stormwater discharges from MS4s on November 16, 1990. The USEPA published an Interpretive Policy Memorandum on *Reapplication Requirements for Municipal Separate Storm Sewer Systems* on May 17, 1996. These federal regulations and related guidance serve as the foundation for the provisions of this Order.

Federal and California Endangered Species Acts –

This Order does not authorize any act that results in the taking of a threatened or endangered species or any act that is now prohibited, or becomes prohibited in the future, under either the California Endangered Species Act (Fish and Game Code sections 2050 to 2115.5) or the Federal Endangered Species Act (16 United States Code sections 1531 to 1544). This Order requires compliance with requirements to protect the designated beneficial uses of waters of the United States. The Permittee is responsible for meeting all applicable requirements of the California and Federal Endangered Species Acts.

California Environmental Quality Act –

The action to adopt an NPDES Permit is exempt from the provisions of Chapter 3 of the California Environmental Quality Act (Public Resources Code [PRC] section 21100, et seq.) pursuant to California Water Code section 13389 (*County of Los Angeles v. Cal. Water Boards* [2006] 143 Cal.App.4th 985).

State and Federal Regulations, Plans and Policies –

The Clean Water Act requires the Central Coast Water Board to establish water quality standards for each waterbody in its region. Water quality standards include beneficial uses, and water quality objectives and criteria that are established at levels sufficient to protect beneficial uses. The program of implementation includes the State's

antidegradation policy. The Central Coast Water Board has adopted the Water Quality Control Plan, Central Coast Region (Basin Plan). The Basin Plan designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters in the Central Coast Region. Pursuant to California Water Code sections 13263 and 13377, the requirements of this Order implement the Basin Plan, as applicable.

Antidegradation Policy –

Federal regulations at 40 Code of Federal Regulations section 131.12 require that the State develop and adopt a statewide antidegradation policy consistent with the federal policy. The State Water Board established California's antidegradation policy in State Water Board Resolution No. 68-16 ("Statement of Policy with Respect to Maintaining the Quality of the Waters of the State").[93] Resolution No. 68-16 incorporates the federal antidegradation policy where the federal policy applies under federal law. The Basin Plan implements, and incorporates by reference, both the State and federal antidegradation policies.

Resolution No. 68-16 and 40 Code of Federal Regulations section 131.12 require the Regional Water Board to maintain high quality waters of the State unless degradation is justified based on specific findings. First, the Board must ensure that "existing instream uses and the level of water quality necessary to protect the existing uses" are maintained and protected. Second, if the baseline quality of a waterbody for a given constituent exceeds levels necessary to support propagation of fish, shellfish, and wildlife and recreation in and on the water, that quality shall be maintained and protected through the requirements of the Order unless the Board makes findings that (1) any lowering of the water quality is necessary to accommodate important economic or social development in the area in which the waters are located; (2) water quality adequate to protect existing uses fully is assured; and (3) the highest statutory and regulatory requirements for all new and existing point sources and all cost-effective and reasonable best management practices for nonpoint source control are achieved. The Board must also comply with any requirements of State Water Board Resolution No. 68-16 beyond those imposed through incorporation of the federal antidegradation policy. In particular, the Board must find that not only present, but also anticipated future uses of water are protected, and must ensure best practicable treatment or control of the discharges. The baseline quality considered in making the appropriate findings is the best quality of the water since 1968, the year of the adoption of Resolution No. 68-16, or a lower level if that lower level was allowed through a permitting action that was consistent with the federal and state antidegradation policies.

The permitted discharge is consistent with the antidegradation provision of section 131.12 and Resolution No. 68-16 as follows:

1. Some of the waters within the area covered by this Order are impaired for multiple pollutants discharged through the MS4 and are not high quality waters regarding

[93] State Water Board Resolution No. 68-16, State Water Board website. Web. 20 June 2019

these pollutants. Many such waterbodies are listed on the State's CWA Section 303(d) List (See finding no. 10, Table 1, of the Order) and for three classes of pollutants, the Central Coast Water Board has established TMDLs to address the impairments (see Attachment C). This Order ensures that existing instream (beneficial) water uses and the level of water quality necessary to protect the existing uses is maintained and protected. This Order requires the Permittees to comply with WQBELS and other permit provisions to implement the wasteload allocations set forth in the TMDLs in order to restore the beneficial uses of the impaired waterbodies consistent with the assumptions and requirements of the TMDLs. This Order further requires compliance with receiving water limitations to meet water quality standards in the receiving water. Permittees may meet these requirements by implementing a Pollutant Load Reduction Plan in accordance with a compliance schedule. This Order also includes requirements to develop and implement stormwater management control measures and to effectively prohibit non-stormwater discharges through the MS4.

2. Some of the waterbodies within the area covered by this Order are high quality waters with regard to some constituents. In March 2017 Central Coast Water Board staff completed a water quality assessment to determine the baseline for high quality waters in agricultural areas of the Central Coast Region, including the area around the City of Salinas. The baseline is the best water quality that has existed since 1968, the year in which the Antidegradation Policy was promulgated. Substantial water quality data are available to determine this baseline, which enabled staff to conduct general hydrologic sub-area constituent of concern specific analysis. The primary urban stormwater constituents of concern for surface water included nutrients (e.g., nitrate, ammonia), toxicity, pesticides (e.g. aldicarb, chlorpyrifos, diazinon, imidacloprid, permethrin, glyphosate), and turbidity. Staff evaluated water quality using all available data (water-quality parameters and sampling locations) from multiple data sources maintained in the following state-wide and regional data management systems:

   - California Environmental Data Exchange Network (CEDEN)
   - Surface Water Ambient Monitoring Program (SWAMP)
   - Central Coast Ambient Monitoring Program (CCAMP)
   - GeoTracker Groundwater Ambient Monitoring and Assessment (GAMA) Program

The area covered by this Order is included in two hydrologic sub-areas, Chualar 30920 and Neponset 30911. Central Coast Water Board staff determined the waterbodies in both hydrologic sub-areas were high quality for one or more constituents of concern per the Antidegradation Policy.[94] For nitrate, the hydrologic sub-areas were determined to be high quality per the Antidegradation Policy. For toxicity and pesticides, monitoring data is only available after approximately 1997, therefore there was insufficient data to conduct assessments for some hydrologic sub-areas. Historical surface water data is

[94] Proposed Order No. R3-2017-0002, Summary of Antidegradation Policy Analysis, Table 2 Baseline Water Quality Assessment Summary: Surface Water. March 7-9, 2017, p. 11. Web. 20 June 2019

generally lacking for total dissolved solids, chlorpyrifos, diazinon, and toxicity. Therefore, water quality data was insufficient to complete a baseline water quality assessment for these constituents of concern in some hydrologic sub-areas.

With respect to these high quality waters, this Order finds as follows:

1. Allowing limited degradation of high quality waterbodies through MS4 discharges is necessary to accommodate important economic or social development in the area and is consistent with the maximum benefit to the people of the state. The discharge of stormwater in certain circumstances is to the maximum benefit to the people of the state because it can assist with maintaining instream flows that support beneficial uses, may spur the development of multiple-benefit projects, and may be necessary for flood control, and public safety as well as to accommodate development in the area. The alternative – capturing all stormwater from all storm events – would be an enormous cost that would preclude the permittee from spending substantial funds on other important social needs. The Order ensures that any limited degradation does not affect existing and anticipated future uses of the water and does not result in water quality less than established standards. The Order requires compliance with receiving water limitations that act as a floor to any limited degradation.

2. The Order requires the highest statutory and regulatory requirements and requires that the Permittees meet best practicable treatment or control. The Order prohibits all non-stormwater discharges, with a few enumerated exceptions, through the MS4 to the receiving waters. As required by 40 CFR section 122.44(a), the Permittee must comply with the “maximum extent practicable” technology-based standard set forth in CWA section 402(p) and implement extensive minimum control measures in a stormwater management program. The Order incorporates a Pollutant Load Reduction Plan (PLRP) that must propose concrete and detailed structural and non-structural stormwater controls to be implemented in accordance with an approved time schedule. The PLRP encourages, wherever feasible, retention of the stormwater from the 85th percentile 24-hour storm event.

Anti-backsliding Requirements –

As in Order R3-2012-0005, this Order requires the Permittee to continue to control discharges to the MEP and to continue to comply with the receiving water limitations. This Order also requires the Permittee to comply with water quality-based effluent limitations (WQBELs) expressed as structural and non-structural controls, including for water body-pollutant combinations subject to the three TMDLs. The compliance pathways for achieving WQBELs and receiving water limitations, provided in Provision F (Pollutant Load Reduction Plan), are not contrary to anti-backsliding requirements of federal and state law. The Pollutant Load Reduction Plan (PLRP) compliance pathways for achievement of water quality-based effluent requirements does not constitute backsliding from the receiving water limitations in Order No. R3-2012-0005.

Sections 402(o)(2) and 303(d)(4) of the Clean Water Act and federal regulations at 40 Code of Federal Regulations section 122.44(l) prohibit backsliding in NPDES permits. These anti-backsliding provisions require effluent limitations in a reissued permit to be as stringent as those in the previous permit, with some exceptions where limitations may be relaxed.

All effluent limitations and other conditions in this Order are at least as stringent as the effluent limitations in Order R3-2012-0005. This Order contains new effluent limitations based on wasteload allocations for a Nutrient TMDL and a Sediment Toxicity and Pyrethroid Pesticide in Sediment TMDL approved after Order R3-2012-0005 was adopted. These effluent limitations are new to this Order and accordingly do not backslide from any prior effluent limitations. The option to meet the effluent limitations through Option 1 (Volume Reduction) or Option 2 (Iterative Approach) similarly cannot constitute backsliding from any prior effluent limitations. These options require the permittee to meet the effluent limitations in accordance with the TMDL schedule.

The Permittee may also comply with the receiving water limitations of this Order through implementation of PLRP Option 1 or Option 2. Through the PLRP, the Permittee may have additional time to comply with the receiving water limitations compared to Order R3-2012-0005. Compliance with the receiving water limitations through the PLRP nevertheless does not constitute backsliding because the receiving water limitations are not "effluent limitations" in the context of an anti-backsliding analysis for this permit, as they are not "restriction[s] . . . on quantities, rates, and concentrations of chemical, physical, biological, and other constituents which are *discharged from* point sources . . ." (33 United States Code section 1362(11), emphasis added.) This position has been affirmed by the Court of Appeal for the Second Appellate District in an unpublished decision. (*Natural Resources Defense Council v. State Water Resources Control Board* (Dec. 24, 2018, B282016 [nonpub. opn.].) The decision considered an alternative compliance pathway similar to the PLRP adopted by the Los Angeles Water Board and concluded that it did not constitute backsliding from receiving water limitations. In doing so, the court affirmed the State Water Board's finding in Order WQ 2015-0075.[95]

The regulatory anti-backsliding provision at 40 Code of Federal Regulations section 122.44(l) states in relevant part that "when a permit is renewed or reissued, interim effluent limitations, standards or conditions must be at least as stringent as the final effluent limitations, standards, or conditions in the previous permit . . ." (40 Code of Federal Regulations section 122.44(l)(1).) The EPA Appeals Board has explicitly stated that 40 Code of Federal Regulations section 122, 44(l) does not apply to "water quality-based permits" and that states "must apply the statute itself, instead of these regulations, when questions arise regarding backsliding from limitations based on . . . water quality standards." (*In the Matter of: City & County of San Francisco,* 4 E.A.D. 559, 580, fn. 49 (NPDES Appeal No. 91-1809), 1993 WL 118290.) Because 40 Code of Federal Regulations section 122.44(l) does not apply to water quality-based limitations, standards, and conditions, this Order's effluent limitations, receiving water limitations, and other water quality-based standards and conditions do not backslide from Order

[95] State Water Board Order WQ 2015-0075, pp. 18-20.

R3-2012-0005. (See *Natural Resources Defense Council v. State Water Resources Control Board* (Dec. 24, 2018, B282016 [nonpub. opn.]; see also State Water Board Order WQ 2015-0075, pp. 20-23, reaching the same holding through an alternative analysis).

Section 131.12 of 40 Code of Federal Regulations requires that the State water quality standards include an antidegradation policy consistent with the federal policy. The State Water Board established California's antidegradation policy in State Water Board Resolution No. 68-16. Resolution No. 68-16 incorporates the federal antidegradation policy where the federal policy applies under federal law. Resolution No. 68-16 requires that existing quality of waters be maintained unless degradation is justified based on specific findings. The Central Coast Water Board's Basin Plan implements, and incorporates by reference, both the State and federal antidegradation policies.

Unfunded State Mandates –

Article XIII B, section 6(a) of the California Constitution provides that whenever "*any state agency mandates a new program or higher level of service on any local government, the state shall provide a subvention of funds to reimburse that local government for the costs of the program or increased level of service*." The requirements of this Order do not constitute state mandates that are subject to a subvention of funds for several reasons:

1. The Permit Renewal is not a New Program or Higher Level of Service – As a threshold matter, MS4 permitting is not a "program" as that term is used in Article XIIIB, Section (6). The California Supreme Court has defined a "program" for purposes of Article XIIIB, section 6, as: (1) programs that carry out the governmental function of providing services to the public, or (2) laws which, to implement a state policy, impose unique requirements on local governments and do not apply generally to all residents and entities in the state. (San Diego Unified School Dist. v. Commission on State Mandates (2004) 33 Cal.4th 859, 874 (reaffirming the test set forth in County of Los Angeles v. State of California (1987) 43 Cal.3d 46, 56); Lucia Mar Unified School District v. Honig (1988) 44 Cal.3d 830, 835.) A NPDES permit for MS4 discharges arises from the Clean Water Act, which forbids everyone – individuals, businesses, state governments, tribal governments, local governments, etc. – from discharging pollutants from point sources to waters of the United States without an NPDES permit. (33 United States Code sections 1311(a), 402, 502(5); see also 40 Code of Federal Regulations sections 122.21, 122.22, 123.25.) With regard to pollutants in stormwater, the Clean Water Act requires permitting of private and governmental (federal, state, and local) sources of stormwater alike. (33 United States Code section 1342(p); 40 Code of Federal Regulations section 122.26.) The fact that the specific permit here is issued to a local government does not render the permit a program that carries out a "governmental function" particular to that local government or a permit that imposes unique requirements on that local government.

Even if an MS4 permit could be considered a "program," the requirements of this Order do not constitute a *new* program or a *higher level* of service as compared to the requirements contained in the previous permit issued by the Central Coast Water Board. The overarching requirement to impose controls to reduce the pollutants in discharges from MS4s is dictated by the Clean Water Act (33 United States Code section 1342(p)(3)(B)) and is not new to this permit cycle. The inclusion of new and advanced measures as the MS4 programs evolve and mature over time is specifically anticipated under the Clean Water Act (55 Federal Regulations 47990, 48052 (Nov. 16, 1990)) because the experience gained in implementation of existing permits and ongoing technological developments help direct appropriate adaptation of the programs to better address pollution. Such new and advanced measures refine existing measures to improve the effectiveness of the ongoing program and do not constitute a new program or higher level of service.

2. The Permit Requirements Fall under Several Exceptions to Mandates Rules – Even if some of the requirements imposed on the permittees with this renewal could be considered a new program or higher level of service, the following exceptions to a finding of unfunded mandates preclude subvention here:

    a. The permit provisions are required by the Clean Water Act and implementing regulations:

    One of the exceptions to the subvention requirements is if the mandate imposes a requirement that is mandated by a federal law or regulation and results in costs mandated by the federal government, unless the statute or executive order mandates costs that exceed the mandate in that federal law or regulation. (Gov. Code, section 17556, subdivision (c).) This Order implements federally mandated requirements under the Clean Water Act and implementing regulations and its requirements are therefore not subject to subvention of funds. This includes federal requirements to effectively prohibit non-storm water discharges, to attain applicable TMDL wasteload allocations, to include monitoring and reporting requirements, to reduce the discharge of pollutants to the MEP, and to include such other provisions as the Administrator or the State determines appropriate for the control of such pollutants.

    Non-stormwater discharge prohibition: Federal law requires that an MS4 permit effectively prohibit non-storm water discharges. (33 United States Code section 1342(p)(3)(B)(ii).) This Order's requirements to achieve the effective prohibition of non-stormwater discharges are thus compelled by federal law.

    TMDL requirements: The Clean Water Act requires TMDLs to be developed for waterbodies that do not meet federal water quality standards. (33 United States Code section 1313(d).) Once USEPA or a state develops a TMDL, federal law requires that NPDES permits must contain effluent limitations consistent with the assumptions and requirements of any applicable wasteload allocation. (40 Code of Federal Regulations section 122.44(d)(1)(vii)(B).) The Order's requirements for

attainment of TMDL wasteload allocations are therefore compelled by federal law. Additionally, TMDLs are developed for the purpose of specifying requirements for the achievement of water quality standards in impaired waterbodies. (33 United States Code section 1313(d); 40 Code of Federal Regulations section 130.7.) Several generations of the MS4 permits issued in California have prohibited discharges that cause or contribute to exceedances of water quality standards in the receiving water. TMDL provisions simply add a process for meeting this requirement based on a compliance schedule.

Monitoring and reporting requirements: Federal law requires that NPDES permits incorporate monitoring and reporting provisions. (33 United States Code sections 1318(a); 1342(a)(2); 40 Code of Federal Regulations sections 122.26(d)(2)(i)(F); 122.41(h), (j)-(l); 122.42(c); 122.44(i); 122.48.) This Order's monitoring and reporting requirements are thus imposed pursuant to federal law.

Maximum Extent Practicable (MEP) standard: The Clean Water Act mandates that this Order "require controls to reduce the discharge of pollutants to the maximum extent practicable." (33 United States Code section 1342(p)(3)(B)(iii).) *Department of Finance v. Commission on State Mandates* (2016) 1 Cal.5th 749, as modified on denial of rehearing (Nov. 16, 2016) (*Department of Finance*) analyzed whether the Clean Water Act's MEP standard required four particular provisions concerning trash receptacles and inspections in a 2001 Los Angeles County MS4 permit were mandated by federal law. In concluding that the provisions were not required by federal law, the Supreme Court stated that, "[h]ad the Regional Board found when imposing the disputed permit conditions, that those conditions were the only means by which the maximum extent practicable standard could be implemented, deference to the board's expertise in reaching that finding would be appropriate." (*Department of Finance, supra*, 1 Cal.5th at p. 768.) The Supreme Court further stated that "[s]uch findings are "case specific, based among other things on factual circumstances." (*Id.,* fn. 15.)

To be entitled to deference, regional water boards must make an express finding that the particular set of permit conditions finally embodied in a given permit is required to meet that federal standard and must support that finding with evidence. The Central Coast Water Board expressly finds that this Order specifies requirements necessary for the Permittee to reduce the discharge of pollutants in MS4 discharges to the MEP. Provisions L through R establish program requirements for Trash Management, Municipal Maintenance, Illicit Discharge Detection and Elimination, Commercial and Industrial Site Management, Construction Site Management, Post-Construction Requirements, and Public Education and Involvement. The requirements of these programs represent structural and non-structural water quality control measures that are effective, technically feasible, and generally accepted as appropriate as outlined in Attachment H (Fact Sheet). This Order further incorporates an alternative compliance path through the preparation of a Pollutant Load Reduction Plan (PLRP) that allows the Permittee to prioritize water quality issues and propose

the specific control measures to address the prioritized issues and achieve the receiving water limitations and numeric WQBELs in accordance with a time schedule. The Central Coast Water Board finds that the programmatic requirements of this Order, including the requirement for preparation of a PLRP, are necessary to meet the MEP standard. The mix of program elements reflects the necessary pollutant reduction expected by the demanding federal MEP standard, but also represents a balancing of competing interests such as effectiveness, ease of implementation, and practicability. To the extent there may be multiple means of achieving pollutant reductions and that there could be trade-offs between program areas with potentially higher costs and greater pollutant reductions, the permit programs are structured to provide the optimum reduction of pollutants necessary to reduce pollutants to the maximum extent practicable. This finding is the expert conclusion of the principal state agency charged with implementing the NPDES program in California and therefore entitled to deference under *Department of Finance.*

Finally, the Supreme Court in *Department of Finance* suggested that the inclusion of equivalent or substantially similar provisions by the USEPA in other permits may support a finding that the provisions are necessary to achieve MEP. (*Dept. of Finance, supra*, 1 Cal.5th at p. 772.) The Central Coast Water Board has examined the following USEPA issued permits, among others, and concluded that they contain equivalent and/or substantially similar provisions: Massachusetts MS4 General Permit, Washington D.C. MS4 Permit, Albuquerque MS4 Watershed Permit, Boise/Garden City MS4 Permit, and Guam MS4 Permit.

b. Permittees have authority to fund the costs through service charges, fees, or assessments:

Even if any of the permit provisions could be considered unfunded state mandates, under Government Code section 17556, subdivision (d), a state mandate is not subject to reimbursement if the local agency has the authority to charge a fee. (*Connell v. Superior Court* (1997) 59 Cal. App.4th 382, 398.) The Permittee has the authority to levy service charges, fees, or assessments sufficient to pay for compliance with this Order subject to certain voting requirements contained in the California Constitution. (*See* Cal. Const. Art. XIII D, section 6, subdivision (c); *see also Howard Jarvis Taxpayers Association v. City of Salinas* (2002) 98 Cal. App. 4th 1351, 1358-1359.). This Fact Sheet demonstrates that numerous activities contribute to the pollutant loading from the MS4. Local agencies can levy service charges, fees, or assessments on these activities, independent of real property ownership. [See, e.g., *Apartment Ass'n of Los Angeles County, Inc. v. City of Los Angeles* (2001) 24 Cal.4th 830, 842 (upholding inspection fees associated with renting property).] The authority and ability of a local agency to defray the cost of a program without raising taxes indicates that a program does not entail a cost subject to subvention. [*Clovis Unified School Dist. v. Chiang* (2010) 188 Cal. App.4th 794, 812, quoting *Connell v. Superior Court* (1997) 59 Cal.App.4th 382, 401; *County of Fresno v. State of California* (1991) 53 Cal.3d 482, 487-488.]

Proposition 218 is not an impediment to this fee authority. The Constitution has an exception to the voter approval requirements of Proposition 218, "for fees or charges for sewer, water, and refuse collection services." (Cal. Const. Article XIII D, section 6, subdivision (c).) In recent years, the Legislature enacted two important pieces of legislation confirming fee authority without the need for voter approval. In Assembly Bill 2043 (2014), effective January 1, 2015, the Legislature amended the definition of "water" for purposes of articles XIII C and XIII D to mean "water from any source." (Government Code, section 53750, subdivision (n), amended by Assembly Bill 2043 (Stats. 2014, chapter 78, section 2.) In doing so, the Legislature stated that its act "is declaratory of existing law." (Stats. 2014, chapter 78, section 1(c).) With Senate Bill 231 (2017), effective January 1, 2018, the Legislature "reaffirm[ed] and reiterate[d]" that the definition of "sewer" for purposes of article XIII D includes:

> *systems, all real estate, fixtures, and personal property owned, controlled, operated, or managed in connection with or to facilitate sewage collection, treatment, or disposition for sanitary or drainage purposes, including lateral and connecting sewers, interceptors, trunk and outfall lines, sanitary sewage treatment or disposal plants or works, drains, conduits, outlets for surface or storm waters, and any and all other works, property, or structures necessary or convenient for the collection or disposal of sewage, industrial waste, or surface or storm waters.*

(Government Code, section 53750, subdivision (f), and § 53751, subdivision (i), added by Senate Bill 231, Stats. 2017, chapter 536, section 2 (emphases added).)

In addition, Health and Safety Code section 5471, subdivision (a), gives dischargers fee authority for "services and facilities furnished…in connection with its water, sanitation, *storm drainage*, or sewerage system." (Health & Safety Code, § 5471, subdivision (a) (emphasis added).)

VI. Public Process

Throughout the process to develop this Order, Central Coast Water Board staff dialogued with the Permittee in a collaborative process to discuss the City's stormwater management program and necessary improvements to Order No. R3-2012-0005. In addition, Central Coast Water Board staff also conducted formal stakeholder meetings to develop this Order, which included Water Board staff, the Permittee, and other agencies and organizations (see list below).

Central Coast Water Board staff conducted telephone meetings with City staff on September 11, 2018; September 13, 2018; September 20, 2018; September 25, 2018; September 27, 2018; and October 2, 2018 to discuss the City's stormwater management program and potential modifications to Order No. R3-2012-0005.

On November 8, 2018, Central Coast Water Board staff met with City staff to discuss the City's stormwater management program and potential modifications to Order No. R3-2012-0005.

On February 26, 2019, Central Coast Water Board staff hosted a public workshop at the City to discuss potential modifications to Order No. R3-2012-0005 with stakeholders.

On March 22, 2019, Central Coast Water Board staff presented an information item to the Central Coast Water Board to summarize staff's current work to revise and reissue Order No. R3-2012-0005. City staff also presented.

From January to June 2019, Central Coast Water Board staff provided drafts of most of the Order provisions to seek early feedback from the Permittee on draft requirements.

Prior to the June 5, 2019 draft permit release, Central Coast Water Board staff distributed the draft permit to USEPA, Monterey Bay National Marine Sanctuary, and Department of Finance to solicit early input and provide an extended review time to these stakeholders.

Prior to the June 10, 2019 draft permit release, Central Coast Water Board staff distributed the draft permit to USEPA, Monterey Bay National Marine Sanctuary, and Department of Finance to solicit early input and provide an extended review time to these stakeholders.

On June 10, 2019, Central Coast Water Board staff released the draft Order and notified all known interested parties, via the Central Coast Water Board's website and e-mail subscription service, of the opportunity to review and submit comments on the draft Order over a 39-day period.

On June 10, 2019, Central Coast Water Board staff hosted a public workshop at the City to discuss the draft permit released on June 10, 2019 and offer the opportunity for public feedback. The Permittee's stormwater program implementation costs were a focus topic to solicit public comment at the workshop. Central Coast Water Board staff conducted targeted outreach to groups representing disadvantaged communities to inform and encourage participation at the public workshop.

Prior to the Central Coast Water Board's consideration of this Order, Central Coast Water Board staff notified all known interested parties of its intent to hold a hearing to issue this Order and provided responses to written public comments submitted on the draft Order. The Central Coast Water Board held a public hearing on the draft Order during its regular Board meeting on September 20, 2019. All known interested parties were invited to attend. At the public hearing, the Central Coast Water Board heard testimony and comments pertinent to the discharge and this Order.

VII. Contact Information

Central Coast Water Board Staff Contact: Tamara Anderson, 895 Aerovista Place, Suite 101, San Luis Obispo, CA 93401, 805-549-3334, tamara.anderson@waterboards.ca.gov

This Order and other related documents can be downloaded from the Central Coast Water Board website.

To receive notifications regarding this Order, sign up for the "Municipal Storm Water – Salinas" e-mail list.

All documents referenced in this Fact Sheet and in this Order are available for public review at the Central Coast Water Board office, located at the address listed above. Public records are available for inspection during regular business hours, from 9:00 am to 4:00 pm, Monday through Friday, 12:00 pm – 1:00 pm excluded.