PHASE II & III PROJECTS

Strategy
To
Optimize
Resource
Management of
Storm Water

Strategy to Optimize Resource Management of Storm Water

Proposed Project List

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Storm Water Strategy Objective

Brief description of overall objective

- List of Projects

Project Number: Project Title

Priority: Project priority rank based on scored criteria.

Assessment: Explanation of prioritization based on three summary criteria: (1) how important is completing the project for the Storm Water Program to align with the goals, (2) how achievable is the project, and 3) do the Water Boards have the needed authority and resources to complete the project?

Prerequisite: Other project(s) that will inform or must be completed prior to initiation of a project.

Goal(s): The goal(s) each project addresses. The four goals of the Strategy to Optimize Resource Management of Storm Water (Storm Water Strategy) are to:

1. Change the Perspective that Storm Water is a Waste or Hazard, and Treat it as a Valuable Water Resource
2. Manage Storm Water to Preserve Watershed Processes and Achieve Desired Water Quality and Environmental Outcomes
3. Implement Efficient and Effective Regulatory Programs
4. Collaborate in Order to Solve Water Quality and Pollutant Problems with an Array of Regulatory and Non-Regulatory Approaches

Project Objective: A specific action item that supports the identified goal(s).

Scope: A scope of work to accomplish the project objective.

Background: Information, including barriers, regarding the project. Previous and/or current information is also included to assist in developing the project scope.

Product and Timelines: For each major task, the resulting product is identified and estimates of the timeline and required resources are provided. Resource estimates are given in terms of both staff resource allocations and contract funds.

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Phase II Projects	Prerequisites	Target Start	Target Completion
1c. Increase Storm Water Capture and Use through Regulatory Approaches	1a, 1b	2019	2021
1d. Develop and Establish a Monetary Value of Storm Water	None	2019	2023
2a. Increase Stakeholder Collaboration to Promote Storm Water as a Resource	None	2019	2021
3c. Assess Municipal Storm Water Program Monitoring and Effectiveness	None	2019	2022
3d. Establish Statewide Regulatory Framework for Municipal Storm Water Programs	None	2019	2024
3f. Develop Guidance for Implementation of Post-Construction Requirements to Improve Watershed Health	None	2019	2023
4c. Identify Municipal Storm Water Permit Compliance Cost	None	2019	2021
5b. Evaluate and Increase Storm Water Permit Compliance	None	2019	2021
5d. Align Water Quality Statewide Planning Efforts with Storm Water Program Implementation – Pilot Project Using the Biological Integrity Plan	None	2019	2021
6c. Evaluate and Implement Trash Control	None	2019	2022

Phase III Projects	Prerequisites	Target Start	Target Completion
3e. Standardize Minimum Control Measures for Specific Municipal Program Elements	None	2022	2023
3g. Establish Guidance for Storm Water Program Asset Management Planning and Cost Estimation	None	2022	2023
4d. Identify Industrial and Construction Storm Water Permit Compliance Cost	5c	2028	2030
5c. Establish Sector-specific Technology-based Numeric Effluent Limitations for Industrial and Construction Storm Water Permits	None	2022	2028

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Objective 1: Increase Storm Water Capture and Use through Regulatory and Non-Regulatory Approaches

The projects captured in this objective are intended to increase sustainable management of storm water by establishing a technical guidance on capture and use, identifying key market drivers for estimating a monetary value for storm water and providing permit-driven incentives for storm water capture. Furthermore, the projects will examine the technical, legal, and financial barriers to storm water capture, in order to address and resolve them. The projects are the following:

- Project 1a – Promote Storm Water Capture and Use
- Project 1b – Identify and Eliminate Barriers to Storm Water Capture and Use
- **Project 1c – Increase Storm Water Capture and use through Regulatory Approaches**
- **Project 1d – Develop and Establish a Monetary Value of Storm Water**

Project 1c Increase Storm Water Capture and Use through Regulatory Approaches

Priority: Very High, *Assessment: Critically important, readily achievable*

Prerequisite: This project will be informed by Projects 1a and 1b, and should be implemented subsequent to the staff reports developed as outcomes resulting of those projects.

Goal(s): 1 – Change the Perspective that Storm Water is a Waste or Hazard, and Treat it as a Valuable Water Resource

Project Objective: Adopt storm water policies, guidelines, and permits to incentivize storm water capture and use.

Scope: Review current storm water permits, policies, and programs to identify where storm water capture and beneficial use can be required or incentivized for both new and existing development. Focus the analysis on the results of Projects 1a and 1b. Consider requiring or incentivizing multiple-benefit approaches, green infrastructure, flood control, regional storm water retention, infiltration facilities, and direct use. Options for regulatory requirement-based actions and incentives could include: (1) incentivizing multiple-benefit project proponents through alternative compliance pathways consistent with the principles discussed in the adopted order resolving the Los Angeles Municipal Separate Storm Sewer System (MS4) Petition; (2) providing funding and financial tools to encourage retrofits and/or alternative compliance pathways; (3) requiring or incentivizing retrofits of existing infrastructure; and (4) using existing regulatory authority to ensure implementation of multiple benefit projects and retrofits.

Background: Traditional permitting practices mainly focus on storm water capture and use for new development/redevelopment and less on modifying the existing urban landscape. Moreover, few permits provide incentives to increase storm water capture and use but rather create unintended obstacles to implementing storm water capture/use. A concerted effort to retrofit the existing urban landscape to green infrastructure is needed to restore storm water

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infiltration capacity previously lost in developed areas. While large-scale retrofits to urban landscapes appear to be costly, cost-effective options for increasing storm water capture and use while achieving environmental outcomes may include: (1) converting to green infrastructure at the end of existing infrastructure life-cycles; (2) using simple retrofits like standardized parkway curb cuts in public rights of way; and (3) establishing healthy, living soil in landscaped areas. Increasing storm water infiltration in developed areas provides multiple benefits, including improving groundwater recharge, restoring lost watershed processes such as base flow to creeks, and reducing pollutant loads discharged to surface waters.

Products and Timelines:

1.5 Years: Develop a staff report to identify opportunities to require and incentivize storm water capture and use.

6 Months: Prepare a draft Item of proposed regulatory approaches for State Water Board consideration of adoption.

Project 1d Develop and Establish a Monetary Value of Storm Water

Priority: Medium, *Assessment: Critically important, achievable with significant barriers*

Prerequisite: None

Goal(s): 1 – Change the Perspective that Storm Water is a Waste or Hazard, and Treat it as a Valuable Water Resource

Project Objective: Create a Water Boards-supported framework establishing a monetary value of storm water in volumetric terms as an additional source of local water supply as well as its value to water quality. Collaborate with the appropriate agencies and stakeholders to institutionalize values of storm water.

Scope: Develop a storm water value framework that will establish a method for calculating the net unit cost of storm water as a water supply source, as compared to the current and projected cost of imported water. The method will consider: (1) groundwater basin-specific factors that will affect the cost of infiltration and extraction for potable use; (2) the cost offset for water quality protection; (3) the cost for imported water; and (4) other factors that influence the monetary value of storm water.

Upon completion of the value framework, evaluate mechanisms for multi-agency agreements that promote storm water capture and use projects. Identify and evaluate the pros and cons of each mechanism. Identify and evaluate legal hurdles and opportunities. The mechanisms could include Memorandums of Agreement (MOAs) or Joint Power Agreements (JPAs) between municipalities and water agencies that address water rights issues, facilitate cooperative funding of storm water capture projects, and establish a crediting system or dedicated revenue stream for municipalities based on the volume of storm water recharged.

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Background: Many stakeholders commented that in order for storm water capture and use projects to gain traction, there needs to be an established framework for calculating the monetary value of storm water. The City of Los Angeles Department of Water and Power and the Natural Resource Defense Council have both conducted focused studies to quantify the potential for storm water capture and use projects (Los Angeles and the Bay area, respectively); however, the effort to establish a monetary value has proven challenging and is driven in many cases by local conditions and agency needs. UCLA's Luskin Center and the Pacific Institute have completed some preliminary work on the monetary value of storm water and are currently working to broaden the research on the economic value of storm water.

The SGMA may create a new mechanism for monetizing storm water through the implementation of groundwater sustainability plans. Restrictions on extractions implemented through sustainability plans may cause local groundwater markets to mature without impacting surface water rights. As markets develop, storm water use will be increasingly incentivized. A monetary framework developed within the next five years could support leveraging storm water as a resource when sustainability plans are adopted five to seven years from now.

Products and Timelines:

2 Years: Prepare staff report outlining methods and results of economic value of storm water (or incorporate the results of other studies into Staff Guidance). Compile case studies (if available) and prepare and approve template MOA/JPA legal documents for municipality and water agency water crediting partnerships.

2 Years: Propose a framework for storm water capture and recharge crediting systems to be incorporated into institutional mechanisms. Prepare an item for State Water Board consideration of adoption.

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Objective 2: Increase Stakeholder Collaboration on a Watershed Scale

Watershed and waterbody scaled partnerships increase the efficacy of water quality improvement actions and ensure that regional projects receive adequate support and funding. The project captured in this objective promotes collaboration between flood control agencies, water conservation agencies, groundwater sustainability agencies, municipalities, and other key partners, to work toward sustainable management and use of storm water. The project is the following:

- **Project 2a – Increase Stakeholder Collaboration to Promote Storm Water as a Resource**

Project 2a Increase Stakeholder Collaboration to Promote Storm Water as a Resource

Priority: Medium, *Assessment: Critically important, achievable with significant barriers*

Prerequisite: None

Goal(s): 1 – Change the Perspective that Storm Water is a Waste or Hazard, and Treat it as a Valuable Water Resource, 4 – Collaborate in Order to Solve Water Quality and Pollutant Problems with an Array of Regulatory and Non-Regulatory Approaches

Project Objective: Partner with flood control agencies, water conservation efforts, groundwater sustainability agencies, water agencies, land use planning departments, and other municipal departments to promote projects that provide multiple benefits.

Scope: Identify opportunities and barriers to collaborating with other agencies to promote the treatment of storm water as a resource and promote water use efficiency. Develop templates for formal or informal partnership agreements to take advantage of opportunities and remove barriers to multiple benefit projects. Identify ways to incentivize multiple benefit projects (e.g. water supply offset or other non-permitting incentives).

Background: Many agencies, especially the Department of Water Resources and other water supply agencies, can potentially benefit from projects that use storm water as a resource. These beneficiaries can be important partners; however, some water supply agencies are cautious of linking their projects to storm water retention projects related to MS4 permits, particularly because of compliance deadlines. Other agencies, such as school districts, that have land that could be used for multiple benefit projects may have concerns about environmental liability. The Water Boards acknowledge that in order for successful completion of this project, other agencies will need to participate and implement their own authorities and mandates in order to increase the use of storm water as a resource. The SGMA may also be one of the catalysts the Water Boards can rely on to encourage treating storm water as a resource, because it provides an opportunity for storm water projects to be leveraged through agency collaboration to help achieve groundwater sustainability.

Products and Timelines:

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6 Months: Identify opportunities and any barriers to collaborate with other agencies.

9 Months: Meet with a select but limited number of water agencies to discuss collaboration opportunities.

1 Year: Propose a template for a Memorandum of Agreement (MOA) or other agreement mechanism with water agencies to form sustainable relationships and communication avenues.

Ongoing: Participate in work groups or meetings to facilitate collaboration.

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Objective 3: Establish Permit Pathways to Assess Storm Water Programs and Meet Water Quality Requirements

The projects captured in this objective aim to evaluate current storm water programs, with particular emphasis on the municipal program, and identify alternative compliance pathways, as well as the appropriate tools and methods applied to asses compliance with these compliance pathways. The projects are:

- Project 3a – Develop Guidance for Alternative Compliance Approaches for Municipal Storm Water Permit Receiving Water Limitations
- Project 3b – Develop Watershed-Based Compliance and Management Guidelines and Tools
- **Project 3c – Assess Municipal Storm Water Program Monitoring and Effectiveness**
- **Project 3d – Establish Statewide Regulatory Framework for Municipal Storm Water Programs**
- **Project 3e – Standardize Minimum Control Measures for Specific Municipal Program Elements**
- **Project 3f – Develop Guidance for Implementation of Post-Construction Requirements to Improve Watershed Health**
- **Project 3g – Establish Guidance for Storm Water Program Asset Management Planning and Cost Estimation**

Project 3c Assess Municipal Storm Water Program Monitoring and Effectiveness

Priority: High, *Assessment: Important, readily achievable*

Prerequisite: None

Goal(s): 3 – Implement Efficient and Effective Regulatory Programs

Project Objective: Identify monitoring and effectiveness assessment approaches that efficiently generate information used for adaptive management and improvement of the local municipal storm water programs regulated by Water Board requirements.

Scope: The result of the project is a data and information management approach that will inform Water Board Storm Water Program management decisions, improve program effectiveness, and maximize water quality-based outcomes. After first identifying data and information needs, explore traditional water quality monitoring and new measures of program effectiveness, such as surrogate measures for discharge and receiving water quality (leveraged with efforts already undertaken by stakeholders). Develop methodologies and tools for answering high-priority monitoring and effectiveness assessment questions, such as: (1) how and where compliance with receiving water limitations should be assessed; (2) how to estimate baseline pollutant loads; (3) how to determine relative spatial risks to receiving water quality; and (4) how to quantify the expected load reduction associated with water quality

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improvement projects. Develop training materials and statewide workgroups to set up implementation, training, and troubleshooting.

Background: Significant funds are spent annually on storm water monitoring and effectiveness assessment; however, the work to date has in some cases been limited in guiding program implementation. Accordingly, reduced costs and increased utility of monitoring and effectiveness assessment is needed. As opposed to past complex techniques, simple models can yield valuable information to support short-term and long-term storm water program decisions and priorities. Use of simple, spatially-based pollutant load and reduction information will support identification and prioritization of water quality actions. For example, the Central Coast Regional Board is developing a spatial approach to estimate pollutant loads and load reductions to provide a simple visual way to identify and prioritize areas for water quality improvements. This work builds from earlier Lahontan Regional Board staff efforts to provide a useable, transparent, and scientifically-credible tool to estimate baseline pollutant loads, determine relative spatial risks to receiving water quality, and quantify the expected load reduction associated with water quality improvement actions. Rather than attempting to model multiple pollutant types, this methodology uses credible and effective representative parameters (i.e., total suspended solids and volume) to create a ranking of municipal catchments in terms of relative risk to the receiving water. The result is information that serves as an effective communication tool between Water Board staff and municipal representatives.

Products and Timelines:

3 Years: Develop technical guidance document that identifies useful data to collect for storm water program effectiveness analysis, and how to report the water data and information on water quality program effectiveness to drive the best responses and management actions. Develop tools, including guidance on: (1) assessing receiving water limitations; (2) estimating baseline pollutant loads; (3) determining relative spatial risks to receiving water quality; and (4) quantifying the expected load reduction associated with water quality improvement actions. Develop Item for State Water Board consideration of adoption.

Project 3d Establish Statewide Regulatory Framework for Municipal Storm Water Programs

Priority: High, *Assessment: Critically important, achievable with moderate barriers*

Prerequisite: None

Goal(s): 3 – Implement Efficient and Effective Regulatory Programs

Project Objective: Develop a framework that compliments federal and state regulations, incorporates adaptive management, provides a sustainable pathway to water quality protection, and promotes green infrastructure.

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Scope: Develop a framework that will provide guidance in the development and application of technology and water quality based effluent limits, the incorporation of TMDLs into permits, and addressing impacts to beneficial uses during wet weather conditions. The framework may ultimately be incorporated into the State Implementation Plan for Inland Waters, Enclosed Bays, and Estuaries of California, or equivalent document. This project has a nexus with many of the other projects, particularly Projects 3a, 3b, 3c, 4e, and 5b.

Background: The NPDES permitting program for municipalities has evolved from the incorporating technology-based standards of reducing pollutants to the maximum extent practicable (MEP) and general compliance with receiving water limitations; to incorporating more targeted water quality based requirements based on TMDL limitations. The approach taken by Regional Boards in locally issued permits varies; accordingly, stakeholders requested that the State Water Board provide better guidance and consistency in the form of a Statewide Storm Water Policy. Furthermore, both stakeholders and regulators seek opportunities to create an adaptable storm water program that will provide for long-term, sustainable water quality protection. This project will provide consistency and guidance for permit writers in their efforts to craft permits that provide for adaptive management and sustainable water quality protection.

Products and Timelines:

1 Year: Initiate stakeholder process to receive input on framework.

4 Years: Develop guidelines to implement the framework for both the Water Boards and regulated community. Draft either a stand-alone storm water document for State Water Board consideration of adoption, or incorporate guidelines into the State Implementation Plan for Inland Waters, Enclosed Bays, and Estuaries of California, or equivalent document.

Ongoing: As necessary or required, update the document(s) or guideline(s) to reflect changes or additions.

Project 3e Standardize Minimum Control Measures for Specific Municipal Program Elements

Priority: Medium, *Assessment: Somewhat important, achievable with moderate barriers*

Prerequisite: None

Goal(s): 3 – Implement Efficient and Effective Regulatory Programs

Project Objective: Develop permitting and policy-making guidance tools to implement consistent and applicable minimum control measures statewide.

Scope: Review previous efforts and current permits to identify sections or issues where standardized approaches for storm water permits could improve program efficiency and water

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quality outcomes. Such focus areas could include minimum control measures for mature program tasks, such as illicit connections/illicit discharges, and establishment of adequate authority for municipalities. Products will consist of minimum control measures for municipal permits.

Background: Significant time and effort is spent preparing and reissuing municipal storm water permits. The time and resources could be reduced if the Water Boards developed a template for issues that do not have region-specific requirements, or will benefit from a conceptual framework that provides regions flexibility to address unique topographic, climatic, hydrologic, geologic, and land use differences. There were several past efforts to develop either draft statewide municipal permit language or statewide permit template for municipal storm water permits, and though some success was achieved in terms of agreements, these efforts were terminated before any products were finalized.

Products and Timelines:

6 Months: Create a work group and identify permitting issues that could be addressed through development of standardized language and water quality outcomes.

1 Year: Produce permit writing tools and sample permit language for the minimum control measures identified for standardization.

Project 3f Develop Guidance for Implementation of Post-Construction Requirements to Improve Watershed Health

Priority: High, *Assessment: Critically important, achievable with moderate barriers*

Prerequisite: None

Goal(s): 2 – Manage Storm Water to Preserve Watershed Processes and Achieve Desired Water Quality Outcomes

Project Objective: Develop technical guidance and permitting tools to promote statewide implementation of post-construction requirements based on watershed processes.

Scope: Develop a methodology to identify watershed-specific processes that are critical to watershed health, to be applied to all watersheds at the statewide scale. Conduct analysis to identify dominant watershed processes and sensitivity of receiving water bodies to degradation of those processes, for each watershed throughout the state. Determine post-construction management strategies necessary to protect watershed health for each dominant watershed process/receiving water type combination, and whether those strategies are best applied at the regional or site scale. Develop tools, guidance, permitting approaches, permit language, and/or policies to implement the post-construction management strategies. Identify and prioritize options such as the development of technical resource centers, dedicated web site, or workshops for promoting the implementation of post construction requirements.

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Background: Many regions are expected to experience significant growth over the next two decades. Much of this growth is planned for the existing urban margins or undeveloped foothills where the potential for hydromodification could severely harm already stressed riparian habitats and natural hydrogeology. Anticipating potential impacts, the Central Coast Regional Board developed several post-construction requirements tailored to protecting watershed processes that are critical to watershed health. Post-construction requirements vary between watersheds, ensuring that sensitive watersheds receive adequate protection, while also allowing development projects to avoid implementing unnecessary storm water management strategies.

Products and Timelines:

1 Year: Produce a staff report outlining a methodology for conducting the watershed analysis at the statewide level (Region 3's efforts could serve as a foundation), results of the analysis using available data, validation using ground truthing, and recommendations for post-construction management strategies. The report will also identify options for promoting implementation of the post-construction requirements.

3 Years: Using a stakeholder process, develop tools, guidance, permitting approaches, permit language, and/or policies to implement recommended post-construction management strategies at the appropriate regional or local scale. Develop Item for State Water Board consideration of adoption.

Project 3g Establish Guidance for Storm Water Program Asset Management Planning and Cost Estimation

Priority: Low, *Assessment: Somewhat important, achievable with moderate barriers*

Prerequisite: None

Goal(s): 3 – Implement Efficient and Effective Regulatory Programs

Project Objective: Create a guidance document for local storm water permittees to develop asset management plans that assist municipalities to accurately estimate program assets.

Scope: Evaluate existing storm water asset management methods and prepare a California-specific method for developing asset management plans.

Background: The concept of an asset management plan for a watershed is a relatively new concept. An asset management plan is a long-range planning document used to provide a rational framework for understanding and planning the asset portfolio. In California, the City of San Diego has taken the lead on the concept of asset management by developing a Watershed Asset Management Plan (WAMP). The WAMP documents the current state of assets (e.g., asset inventory, valuation, condition, risk) and projects the long-range asset renewal (rehabilitation and replacement) requirements for the City's Storm Water Division.

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The City has developed a WAMP for each of the six watersheds in the City's jurisdiction; each WAMP identifies the assets owned and managed by the City provides an understanding of critical assets required to deliver the services, records the strategies that will be used to manage the assets, and documents the future investments required to deliver the committed services. This information is used by the City to develop more accurate and transparent cost information that can be provided to the public, which can also be used to demonstrate the need for more stable funding sources.

Products and Timelines:

1 Year: Review existing plans from City of San Diego, U.S. EPA Environmental Finance Center, and others. Develop statewide guidance document for State Water Board consideration of adoption, for storm water permittees to develop a storm water asset management plan.

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Objective 4: Establish Financially Sustainable Storm Water Programs

The cost of compliance is a major issue for many storm water permittees and a significant source of contention among the regulated community, environmental advocacy groups and Water Boards. The projects captured in this objective aim to identify the costs of compliance with the municipal, industrial, and construction permitting programs. Additionally, projects within this objective will focus on making funding accessible to storm water projects. The projects are the following:

- Project 4a – Implement Senate Bill 985 – Incorporate Principles of Storm Water Resource Plan Guidelines into Storm Water Programs
- Project 4b – Eliminate Barriers to Funding Storm Water Programs and Identify Funding for Storm Water Capture and Use Projects
- **Project 4c – Identify Municipal Storm Water Permit Compliance Cost**
- **Project 4d – Identify Industrial and Construction Storm Water Permit Compliance Cost**

Project 4c Identify Municipal Storm Water Permit Compliance Costs

Priority: Medium, *Assessment: Critically important, achievable with significant barriers*

Prerequisite: None

Goal(s): 3 – Implement Efficient and Effective Regulatory Programs

Project Objective: Develop a framework to identify cost of compliance with storm water permit requirements.

Scope: Develop a standard accounting and allocation method to estimate the Storm Water Program costs including costs for personnel, operation and maintenance, and capital improvements. The method will differentiate cost of compliance from unrelated costs of infrastructure construction and maintenance.

Background: Previous studies have shown that municipalities are not consistent in their approaches in estimating the cost of a storm water program. Different accounting and allocation methods (e.g., allocation of street sweeping to which public works program – storm water or street maintenance) are used to assign cost to a program. This creates a range in calculated program costs that varies from municipality to municipality and creates confusion as to the true cost of permit compliance. Previous work that includes cost information will be utilized where possible.

Products and Timelines:

1.5 Years: Produce a staff report outlining costs associated with storm water permits standardized estimating procedures, and a case study.

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6 Months: Develop Item for State Water Board consideration of adoption.

Project 4d Identify Industrial and Construction Storm Water Permit Compliance Cost

Priority: Medium, *Assessment: Important, achievable with moderate barriers*

Prerequisite: This project may be informed by Project 5c.

Goal(s): 3 – Implement Efficient and Effective Regulatory Programs

Project Objective: Establish a procedure for Water Board staff to use in the permit development process that will estimate sector-specific costs for all new requirements in future construction and industrial storm water permits.

Scope: For some sectors and at the best management practice (BMP) level, identify the range of costs expected for a discharger to be in compliance with the requirements. This information will support the work associated with Project 5c, Sector-Specific Technology-Based Numeric Effluent Limits.

Background: The Industrial and Construction General Storm Water Permit requirements often result in unknown costs to the discharger(s), and many perceive overall program costs to be increasing. Recent staff attempts to mitigate costs include complex permit systems aimed at aligning costs and/or requirements with riskier and/or more appropriate facilities and situations. However, the missing pieces of information for decision makers are the cost of compliance.

Products and Timelines:

1.5 Years: Produce a staff report outlining costs associated with storm water permits, standardized estimating procedures and a case study.

6 Months: Develop Item for State Water Board consideration of adoption.

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Objective 5: Improve and Align State Water Board Oversight of Water Board Programs and Water Quality Planning Efforts

Storm water is unique in comparison to other types of discharges and these differences are rarely accounted for in program planning, data collection or integration with other monitoring efforts. The projects captured in this objective aim to improve program oversight through a data-driven approach, and align storm water data collection with other water quality planning efforts at the Water Board. The projects are the following:

- Project 5a – Create Storm Water Program Data and Information "Open Data"
- **Project 5b – Evaluate and Increase Storm Water Permit Compliance**
- **Project 5c – Establish Sector-specific Technology-based Numeric Effluent Limitations for Industrial and Construction Storm Water Permits**
- **Project 5d – Align Water Quality Statewide Planning Efforts with Storm Water Program Implementation – Pilot Project Using the Biological Integrity Plan**

Project 5b Evaluate and Increase Storm Water Permit Compliance

Priority: Medium, *Assessment: Important, achievable with significant barriers*

Prerequisite: None

Goal(s): 3 – Implement Efficient and Effective Regulatory Programs, 4 – Collaborate in Order to Solve Water Quality and Pollutant Problems with an Array of Regulatory and Non-Regulatory Approaches

Project Objective: Develop recommended focus areas for existing storm water permit compliance evaluation, and identify potential additional resources for conducting focused program audits and compliance inspections to deter noncompliance (through increased Water Board staff field presence). Collaborate with other state and local agencies on existing compliance efforts.

Scope: Assist Water Board Storm Water Program staff by focusing compliance evaluations on permit requirements that provide the most effective water quality outcomes. The project includes: (1) research to identify and prioritize elements of the program's permits that require additional resources to determine effective compliance strategies; (2) revisions of the Administrative Procedures Manuals to outline standard methods used by the program for audit, inspection and compliance determination procedures; and (3) collaboration within the agency and with other agencies on increasing the efficiency of the program's inspections, audits and compliance determinations. The project includes assisting the program with outreach to storm water permittees to distribute compliance evaluation results. This compliance assistance is proposed in addition to existing compliance responsibilities, and will

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provide additional resources for evaluating the overall effectiveness of the Storm Water Program.

Background: Significant funds are spent annually on storm water audits, inspections and compliance evaluations; however, focused compliance evaluations on key permit requirements related to effective water quality outcomes need to be identified, and will support implementing requirements developed in Storm Water Program permits. Many agencies have a program for audits, inspections, and compliance evaluations that directly overlaps with elements within the Storm Water Program's compliance determinations. This project will provide resources for conducting effective collaboration with other agencies and will identify focused compliance issues that exist across multiple programs statewide. Developing and supporting these partnerships is a crucial element for expanding Storm Water Program staff knowledge on the breadth of environmental concerns at regulated facilities (and MS4s), and it will lead to direct water quality benefits and increased efficiency of compliance determinations

Products and Timelines:

1 Year: Develop a technical guidance document for State Water Board consideration of adoption that identifies storm water permit compliance areas to focus on, and conduct meetings to disseminate recommendations with associated Water Board storm water programs. If necessary, amend the Administrative Procedures Manual to add additional procedures for the agreed upon enforcement procedures related to the enforcement goals.

3 Months: Provide assistance to the associated Water Board storm water programs in conducting outreach through letters or meetings with permitted storm water facilities and MS4s to disseminate the goals of the outcome-oriented compliance review.

1 Year: Provide resources for developing a point of contact for facilitation between the Water Board Storm Water Program and other agencies that conduct work that overlaps the Storm Water Program and host and attend coordination meetings with other agencies and provide deliverables that assist with compliance determinations statewide. The main objective is to increase the efficiency of compliance determinations and facilitate coordination with other agencies that regulate the same permitted storm water facilities and MS4s of the Storm Water Program.

Ongoing: Provide assistance to the associated Water Board storm water programs in conducting inspections and audits of permitted storm water facilities and MS4s with specific emphasis on the identified outcome-oriented enforcement objectives.

Project 5c Establish Sector-Specific Technology-Based Numeric Effluent Limitations for Industrial and Construction Storm Water Permits

Priority: Low, *Assessment: Somewhat important, achievable with significant barriers*

Prerequisite: None

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Goal(s): 3 – Implement Efficient and Effective Regulatory Programs, 4 – Collaborate in Order to Solve Water Quality and Pollutant Problems with an Array of Regulatory and Non-Regulatory Approaches

Project Objective: Continue the collection of pollutant discharge data for specific sectors and implement sector-specific-technology based numeric effluent limitations (NELs) as appropriate, in industrial and construction storm water permits.

Scope: Review existing effluent and BMP performance data (SMARTS), along with information about industrial and construction scenarios (e.g., high risk) where there is sufficient data to develop a technology based NEL. For each sector and pollutant, determine the control and treatment options to evaluate. Determine the scenarios (e.g., compliance storm) to evaluate. For each scenario, estimate the pollutant load and pollutant load reduction. In the review, include an analysis on how the proposed NELs relate to TMDL requirements, and include researching options for developing NELs that comply with the TMDL requirements. Provide assistance to the associated Water Board storm water programs in conducting outreach via letters or meetings with permitted storm water facilities to discuss the proposed outcomes of this project.

Background: The Water Boards have the authority to include NELs in NPDES storm water permits. Previously, data to support the development of technology-based NELs for the majority of sectors permitted and pollutants of concern did not exist. While there is not sufficient data to develop NELs across all sectors and pollutants, the Water Boards likely can identify some specific sectors and pollutants for which to develop NELs. The Water Boards can improve efficiency and water quality by evaluating opportunities where the NELs also address TMDL requirements.

Products and Timelines:

1.5 Years: Develop a staff report for public comment summarizing available data (including a data quality analysis) and suggesting sectors and pollutants for technology-based NEL development.

1 Year: Develop a technical document for State Water Board consideration, to outline source control, treatment options, and scenarios to be analyzed.

2.5 Years: Develop a staff report for public comment that estimates pollutant load reductions for each identified scenario, and proposes technology-based NELs.

1 Year: Develop item for State Water Board consideration of adoption, permit language that includes, where appropriate, technology-based NELs.

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Strategy to Optimize Resource Management of Storm Water

Proposed Project List

Project 5d Align Water Quality Statewide Planning Efforts with Storm Water Program Implementation – Pilot Project Using the Biological Integrity Plan

Priority: High, *Assessment: Important, readily achievable*

Prerequisite: None

Goal(s): 3 – Implement Efficient and Effective Regulatory Programs

Project Objective: Using the Draft Biological Integrity Plan being prepared by State Water Board staff as a pilot, incorporate compliance endpoints in storm water permits that further support statewide planning efforts.

Scope: Integrate storm water staff into the Biological Integrity Plan advisory groups to exchange information and use bioassessment[1] in the Storm Water Program. Review the draft bioassessment narrative developed for the Biological Integrity Plan and work with stakeholders to develop a framework for conducting biological assessments and interpreting biological data as a measure of compliance with a storm water permit.

Background: Statewide water planning efforts often identify the Water Boards' Storm Water Program as a key implementation tool or key partner; examples include the (recently approved) statewide Trash Amendment, sediment quality objectives, and groundwater sustainability planning. The Draft Biological Integrity Plan will provide Water Board staff an opportunity to be involved in the development stage of the plan and better integrate guidance on coordinating plan outcomes and storm water regulations.

Through SWAMP, Water Board staff has developed standard bioassessment protocols and has used them for the past 13 years to monitor the condition of California streams. Bioassessment monitoring requirements have been incorporated into storm water permits to evaluate environmental condition and assess the effectiveness of management actions. The State Water Board's Draft Biological Integrity Plan intends to promote statewide consistency in conducting bioassessments and interpreting biological data. The plan will include an implementation section describing how bioassessment should be incorporated into each Water Board regulatory program.

Products and Timelines:

2 Years: Review existing efforts, identify appropriate use of bioassessment data, and inform the implementation section of the State Water Board's Draft Biological Integrity Plan. (Expected date of State Water Board consideration of adoption of Biological Integrity Plan: Fall 2017)

[1] Bioassessment is a tool for assessing the biological integrity (ecological condition) of a waterbody.

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Strategy to Optimize Resource Management of Storm Water

Proposed Project List

Objective 6: Increase Source Control and Pollution Prevention

The projects captured in this objective aim to develop strategies to reduce storm water pollutant discharges to water bodies through the promotion of source control and other non-regulatory strategies that would reduce the exposure of pollutants to runoff. The projects are the following:

- Project 6a – Establish Statewide Framework for Urban Pesticide Reduction
- Project 6b – Identify Opportunities for Source Control and Pollution Prevention
- **Project 6c – Evaluate and Implement Trash Control**

Project 6c Evaluate and Implement Trash Control

Priority: Medium, *Assessment: Important, achievable with significant barriers*

Prerequisite: None

Goal(s): 3 – Implement Efficient and Effective Regulatory Programs, 4 – Collaborate in Order to Solve Water Quality and Pollutant Problems with an Array of Regulatory and Non-Regulatory Approaches

Project Objective: Evaluate current strategies and develop new methods to address the generation of trash in "hot spots", such as discharges from homeless encampments, high-use beaches, and parks adjacent to waters of the state.

Scope: Evaluate the current strategies available and being used to address trash generation in "hot spots" within the San Francisco Bay Region, Los Angeles Region, and San Diego Region. Compile strategies for determining and addressing trash generation in "hot spots" that can provide statewide guidance to region specific efforts. Establish a mechanism to determine areas that are "hot spots" and require trash controls efforts. Develop tools, guidance, permitting approaches, permit language, and/or policies to implement trash control strategies. Determine where ongoing efforts by stakeholders and non-governmental organizations can be leveraged to support the Water Boards' trash control efforts. Provide implementation support for the amendments to the Water Quality Control Plan for Ocean Waters of California to Control Trash and Part 1 Trash Provisions of the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California (Trash Amendments), and amend the Trash Amendments, if needed.

Background: The Trash Amendments were adopted by the State Water Board in April 2015. The Trash Amendments established a statewide water quality objective for trash and implementation provisions using a land-use based compliance approach that targets high trash generating areas. The Trash Amendments will be implemented through NPDES permits, waste discharge requirements (WDRs), and waivers of WDRs. The Trash Amendments focus on necessary trash controls (e.g., structural and instructional controls) at industrial facilities and within municipal storm water systems in specific high trash generating areas. For

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municipalities, controlling trash is focused in five priority land uses: (1) high density residential, (2) industrial, (3) commercial, (4) mixed urban, and (5) public transportation stations. In addition to these land uses, Regional Water Boards can determine that, within a municipal service area, specific locations or land uses generate substantial amounts of trash and require additional trash controls. These areas may include schools, stadiums, and utility roads.

Significant sources of trash that adversely impact beneficial uses of a water body are often outside the jurisdiction of the municipal storm water permittee. In these cases, Regional Water Boards may implement trash control requirements in WDRs or waivers of WDRs for areas that generate trash and/or where direct dumping to a water body may occur. These areas may include high-use campgrounds, picnic areas, beach recreation areas, marinas, and/or homeless encampments. Some Regional Water Boards, like San Francisco Bay, Los Angeles, and San Diego, are already addressing sources of trash from areas deemed to be "hot spots". During adoption of the Trash Amendments, the State Water Board directed Water Board staff to further evaluate strategies to address trash at "hot spots".

Products and Timelines:

1 Year: Produce a staff report outlining existing strategies to address trash generation in "hot spots" outside of a municipality's jurisdiction.

2.5 Years: Develop tools, guidance, permitting approaches, template permit language, and/or policies to implement trash control strategies for State Water Board consideration of adoption. Leverage ongoing local efforts by stakeholders and non-governmental organizations. Provide support to all parties (Water Board staff, permittees, stakeholders) responsible for implementing the recently adopted Trash Amendments, and amend the Trash Amendments, if needed.

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