Proposal to Develop a Storm Water Program Workplan and Implementation Strategy – Including Projects for Immediate Action

DRAFT

CALIFORNIA
Water Boards
STATE WATER RESOURCES CONTROL BOARD
REGIONAL WATER QUALITY CONTROL BOARDS

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Strategy to Optimize Resource Management of Stormwater - *Appendix B*
Executive Summary

Storm water runoff from municipal separate storm sewer systems (MS4s), and to a lesser extent, industrial facilities and construction sites continues to be a major source of water quality impairment throughout the developed areas of California. Additionally, population growth, climate change and the current drought is increasing the pressure on the State to manage its water resources more effectively. These challenges represent an opportunity to redefine how California utilizes and values storm water as a water resource. Well-conceived storm water management actions can provide multiple benefits for California communities including, improved water quality, increased water supply, increased space for public recreation, increased tree canopy, enhanced stream and riparian habitat area, as well as many other benefits. This Proposal identifies the goals, challenges, and actions needed for the State Water Resources Control Board and nine Regional Water Quality Control Boards (Water Boards) to continue to improve the regulation, management and utilization of California's storm water resources.

The Water Boards have worked with an active and engaged stakeholder community over the past several decades to better regulate and manage storm water as part of our efforts to restore water quality in California's rivers and streams. Across the state, storm water programs have evolved over time from programs that were, in some cases, largely focused on public outreach and education and general control measures, to programs oriented toward specific control measures and water quality-based requirements. In the last several years, further advancements have been made, including the implementation of Total Maximum Daily Loads (TMDLs) requirements, low impact development (LID) practices, and watershed management plans that have one or multiple benefits. With the current drought, integrated approaches to storm water regulation are critical to help mitigate impacts of the drought by utilizing storm water as an important and valuable resource. This concept represents one of the pillars of this Storm Water Strategic Initiative (Initiative). Many other challenges and issues remain, and the Water Boards are committed to developing policies, plans, permits and/or guidance to guide regulation and build on existing successes throughout the state.

The combination of an urgent need to take bigger strides in protecting water quality from storm water impacts with the severe impacts of drought and climate change on California water resources compels immediate action.

In 2013, the State Water Resources Control Board (State Water Board) recognized the need to formulate a long term vision for the storm water program statewide. The California Water Action Plan, released in January 2014, further called for multiple benefit storm water management solutions and efficient permitting for multiple benefit projects. As a result, in April 2014, the Water Boards commenced the Initiative and formed a team of State and Regional Water Board staff (Initiative Team). Concurrently, the California Environmental Dialog developed a vision for managing storm water as a resource, wherein water quality improvement and water supply enhancement are complementary goals. Building on those steps, the Initiative Team released a

concept paper and met extensively with stakeholders, to understand their interests and ideas on how to proceed. The result is this Storm Water Strategic Initiative Proposal (Proposal).

Guiding principles form the foundation of this initiative and are intended to focus and guide the development of this proposal. Based on stakeholder input, the proposal includes the following, guiding principles for the Storm Water Program.

The Water Boards' Storm Water Program and overall efforts to manage storm water should:

1. Treat storm water as a valuable water resource;
2. Preserve watershed processes to achieve desired water quality outcomes;
3. Implement efficient and effective regulatory programs; and
4. Collaborate to solve water quality and pollutant problems with an array of regulatory and non-regulatory approaches.

Following the development of the guiding principles, the Initiative identified issues or barriers that inhibit the existing Storm Water Program from aligning with the guiding principles. Those issues are identified in this Proposal along with solutions to the issues, presented in Appendix A as a list or menu of projects or actions that the Water Boards can implement to evolve the Storm Water Program. The Project List includes the goals, objectives, scope, and resource needs for each project, in addition to the Initiative Team's recommendation of the priority for implementing each project. During the Initiative process, an additional effort was made to identify the projects that should receive immediate or near term support. These projects were classified as very high or high priority projects that will fast track key elements of the Storm Water Program and/or have current efforts already underway that would allow the project to move forward expeditiously. For clarity, the Initiative Team refers to these projects as the Immediate Action Projects. Eight of the projects in Appendix A. are designated as Immediate Action Projects (see Table 5.) Feedback from the stakeholders, and direction and support by the State Water Board, will guide the final content of the list of Immediate Action Projects. Implementing the Immediate Action Projects will the top priority for the next phase of the Initiative.

The next phase of Initiative will be to develop a statewide Storm Water Program Workplan and Implementation Strategy (Workplan) for the Immediate Action Projects. The Workplan will take effect upon approval by the State Water Board, and be updated regularly to include additional projects, as priority and resources allow. Stakeholder feedback on the recommendations in this Proposal will guide the content of the Workplan. The Workplan and a set of performance measures will be posted and maintained on a Water Boards web site. In order to sustain the project and achieve the vision, goals and objectives of this Initiative, the Water Boards must commit a sufficient level of storm water resource planning staff.

Strategy to Optimize Resource Management of Stormwater - *Appendix B*

1. Introduction

In 1987, the United States Congress amended the Federal Water Pollution Control Act Amendments (Clean Water Act; CWA) to include section 402(p), requiring the United States Environmental Protection Agency (U.S. EPA) to address storm water impacts to water quality (Gilbert-Miller, 2011.). Almost 30 years later, storm water runoff from municipal separate storm sewer systems (MS4s) and from some construction sites and industrial facilities continues to be a major source of water quality impairment throughout California (2010 Integrated Report.). Consequently, pressure has grown on the Water Boards Storm Water Program to develop policies/plans to guide storm water regulation, draft and reissue permits, and increase and improve efforts that address water quality problems resulting from storm water discharges.

The Water Boards have established some alternative, innovative solutions to storm water management in recent years, including integrated approaches that are coordinated through watershed efforts and encourage storm water retention for both water quality and water supply benefit. However, the challenges in regulating storm water continue to grow as California's natural landscape and hydrology is affected by development, a growing population, and the meteorological effects of climate change. The Storm Water Program must continue to evolve and promote incentive-driven approaches with multiple-benefits that achieve tangible results in terms of improved water quality and augmentation of local water supplies. In 2013, the State Water Board Members recognized that to advance the Water Boards' Storm Water Program, there needed to be an increased focus on the program and a rethinking of traditional regulatory approaches to storm water management, and therefore declared development of strategies for the Storm Water Program a priority.

The purpose of the Initiative is to direct the Water Boards' role in storm water resource management and the evolution of the Storm Water Program by a) developing guiding principles to serve as the foundation of the stormwater program into the future, b) identifying issues that inhibit the program from aligning with the guiding principles, and c) proposing and prioritizing projects that the Water Boards can implement to address those issues. This Initiative Proposal (Proposal) presents the anticipated outcomes of the Initiative, and a list of potential, strategic projects based on the stakeholder interests for consideration of the State Water Board. With direction from the State Water Board, a focused Storm Water Program Work Plan and Implementation Strategy will be developed to build on existing work performed by regional water quality control boards and local agencies, and to the extent resources are available, complete a selection of priority projects to improve the effectiveness of the Storm Water Program.

2. Background

Storm water discharges are regulated and managed as point source discharges through the issuance and implementation of National Pollutant Discharge Elimination System (NPDES) permits. The Clean Water Act initially required NPDES permits to be issued to regulate point source discharges from wastewater treatment facilities and industrial processes. In 1987 Congress expanded the Clean Water Act to include point source discharges of storm water from industrial facilities, construction sites, and MS4s.[1]

There are significant differences in the characteristics of these broad categories of point source discharges. Wastewater facilities can plan on a consistent and relatively predictable influent to a single, centralized treatment facility allowing treatment systems to be designed to optimize removal of solids, organics and other pollutants. Storm water runoff is diffuse, episodic, and varies greatly depending on magnitude and frequency of storms. Storm water runoff also contains variable pollutant loads due to accumulation during dry weather and rainfall characteristics. Beyond the natural characteristics of storm water runoff, increases in impervious surfaces due to urbanization, and the use of traditional infrastructure designed primarily for flood control, have increased the volume and velocity of runoff discharges contributing to hydromodification within watersheds. These factors contribute to the challenges of managing storm water discharges in a regulatory framework initially designed for predictable and consistent wastewater discharges.

Beginning in 1990, MS4 NPDES permits for storm water discharges were organized around basic elements of storm water management programs, as directed in 40 C.F.R. §122.26(d)(2)(iv), and provided permittees flexibility to identify, develop, and implement specific best management practices (BMPs) and institutional controls. Initial industrial and construction NPDES storm water permits also allowed permittees significant flexibility to develop Storm Water Pollution Prevention Plans that identify, develop, and implement best management practices to control pollutants.

As the Water Boards' Storm Water Program has matured, storm water permits have also evolved. Since the 2000s, the regulatory approach has included more detailed requirements that outlined the minimum level of implementation required for the permittees to meet the maximum extent practicable (MEP) and Best Available Technology Economically Achievable (BAT)/Best Conventional Pollutant Control Technology (BCT) standards for storm water. In addition, some MS4 permits now include more detail to emphasize the jurisdictional runoff management programs developed by the municipalities and introduce requirements for developing and implementing watershed-based programs within local watersheds. Construction and industrial storm water permits have minimum requirements for BMPs, training, certification,

[1] In 1990, U.S. EPA promulgated regulations that addressed medium and large MS4s, industrial facilities, and construction sites greater than 5 acres (Phase I). In 1999, these regulations were expanded to address smaller MS4s and construction sites between one and 5 acres (Phase II).

and action levels. Other specific requirements include post-construction BMP design standards and numeric limitations, consistent with wasteload allocations identified in Total Maximum Daily Loads (TMDLs) to attain established water quality objectives.

Although storm water permit requirements have progressively become more prescriptive and specific (i.e., where TMDLs and numeric effluent limits have been utilized), permits include very little detail regarding the desired outcomes of the required actions. Compliance with the permit requirements has largely been reduced to tracking reports and numbers of actions rather than tracking progress in the quality of receiving waters or discharges from the permittees. Addressing the challenges of managing storm water to protect water quality and watershed health, and at the same time, realizing the opportunities to beneficially use storm water, will require a fundamental shift in how the Water Boards implement the Storm Water Program. The Initiative builds on lessons learned and successes of previous and existing storm water permits while incorporating new approaches to water resource management.

The California Water Action Plan, released in January 2014, called for multiple benefit storm water management solutions and efficient permitting for multiple benefit projects to improve the sustainability of California's water resources. Additionally, in early 2014, State Water Board Member Tam Doduc participated in the California Environmental Dialog (CED) with a special session to consider setting a vision for a "Stormwater Strategy." The overall vision of the workgroup was to manage storm water in a manner that is beneficial to water quality and water supply (CED, 2014.). The Water Boards responded to these actions by initiating the Storm Water Strategic Initiative, the first phase of an effort to develop a Storm Water Program Work Plan and Implementation Strategy, to transition the program to better address new challenges, including drought and climate change. The Initiative is intended to guide the Water Boards' program for at least the next 10 years.

3. Collaboration, Outreach and Process

3.1. Internal Process

The Initiative was led by a multidisciplinary team composed of engineers, scientists, and geologists from the Central Coast, Los Angeles and San Diego Regional Water Boards and the State Water Board. This "Initiative Team" was guided by Executive Sponsors from the San Francisco Bay and Los Angeles Regional Water Boards and the State Water Board.

The Initiative Team held several meetings in early 2014 to discuss the concept and framework of the Initiative and identify the key elements and goals. The Initiative Team conducted extensive and focused outreach to receive input from a variety of stakeholder interest groups. To help facilitate dialogue, the Initiative Team developed and distributed a concept paper based on input from the State Water Board Storm Water Program management and the Executive Sponsors. (State Water Board, 2014.) The concept paper outlined three main elements: (1) utilization of storm water as a resource (2) removal of storm water pollutants by true source control and (3) improvement of overall Water Board program efficiency and effectiveness. The three main elements proposed to the stakeholders later evolved into the four Guiding Principles described in Section 4. The concept paper also suggested possible Storm Water Program issues and project actions designed to spur, but not limit, discussion with stakeholders.

3.2. Stakeholder Involvement Process

In summer and fall of 2014, the Initiative Team conducted over twenty stakeholder meetings. Each meeting targeted specific groups including representatives of environmental advocacy and non-profit organizations, municipal storm water permittees, industrial and construction storm water permittees, the general public, and Regional Water Board staff to gather input on how to improve the effectiveness of the Storm Water Program. The concept paper was circulated to stakeholders prior to meeting with the groups. In order to have a focused, effective discussion at the stakeholder outreach meetings, the Initiative Team met with each interest group independently. Stakeholder meetings included the following;

- California Municipal Storm Water Agencies, Oakland, May 8, 2014
- Southern California Environmental Advocacy Organizations, Santa Monica, June 25, 2014
- Southern California Municipal Storm Water Agencies, Riverside, June 26, 2014
- Interested Parties and General Public, Sacramento, July 2, 2014
- Southern California Regional Water Boards staff, Riverside, July 22,2014
- Northern California Regional Water Boards staff, Sacramento, July 23, 2014
- Northern California Environmental Advocacy Organizations, San Francisco, July 29, 2014
- Northern California Municipal Storm Water Agencies, Oakland, July 31, 2014
- Northern California Industrial and Construction Permittees, Sacramento, August 7, 2014
- U.S. Department of Defense, Sacramento, August 8, 2014,

- California Council for Environmental and Economic Balance and Wastewater and Municipal Storm Water Agencies, Fountain Valley, August 12, 2014
- Southern California Environmental Advocacy Organizations, Long Beach August 12, 2014
- Central Coast Municipal Storm Water Agencies, Monterey, August 13, 2014
- Central Coast Municipal Storm Water Agencies, San Luis Obispo, August 14, 2014
- Northern California Municipal Storm Water Agencies, Sacramento, August 14, 2014
- Southern California Interested Parties and General Public, San Diego, August 20, 2014
- Northern California Interested Parties and General Public, Sacramento, August 21, 2014
- California Urban Water Conservation Council, Sacramento, August 25, 2014
- Gateway Water Management Authority, Paramount, August 27, 2014
- U.S. Environmental Protection Agency, San Francisco, October 17, 2014.

In addition, the Initiative was highlighted through an information item at the State Water Board's July 2, 2014 Board Meeting Workshop. The State Water Board did not take an action nor provide specific direction during the workshop.

A general summary of the input received from categories of stakeholder groups is provided below. Other less prevalent topics were also discussed and noted during stakeholder group meetings, but are not summarized here.

3.2.1. Environmental Advocacy Input

Environmental advocacy representatives recognized storm water should be used as a resource, the benefits of such use can contribute to water quality and watershed health, and that storm water permits should be written to encourage this action. Environmental advocacy representatives expressed the need for storm water permits to include stricter and simpler compliance related requirements, such as numeric effluent limitations, and stricter enforcement approaches to address permit violations. Implementation of TMDL requirements was highlighted as a priority that should be conducted immediately. In addition, environmental advocacy representatives suggested that storm water permits should provide incentives to encourage green infrastructure, retrofits, and multi-benefit projects.

3.2.2. Municipal Storm Water Input

Municipalities thought that compliance costs and lack of available funding was the biggest barrier to successful storm water program implementation. Municipal representatives indicated that more funding opportunities would significantly assist their efforts to improve storm water quality. Many municipalities felt that the MS4 permits emphasize actions that do not directly improve storm water quality. The municipalities suggested that the permits should focus on improvements that will have direct and measureable benefits, such as regional infiltration or treatment systems, funding of green street projects, and related efforts. Another important issue identified by municipalities is that significant outreach to target audiences is needed. The municipalities highlighted that local leaders and elected officials must understand the importance of supporting storm water quality improvements with adequate funding.

3.2.3. Regional Water Board Staff Input

Regional Water Board staff generally stated that although statewide consistency is valued for effective storm water management, regional differences associated with climate, population, density, and significance of storm water impacts should still be recognized. For areas of improvement, regional board staff suggested that TMDL wasteload allocations and receiving water limitations should be integrated and effectively implemented in storm water permits. While regional board staff considered utilizing storm water as a resource an important issue that must be addressed, regional board staff also conveyed that identifying where infiltration and retention of storm water can and should occur and the means to encourage it is critical to supporting this Guiding Principle.

3.3. Incorporation of Stakeholder Input

The Initiative Team prepared summaries of each stakeholder meeting to memorialize the issues and projects identified during the meetings. Those issues and projects were then compiled and, where possible, combined with other similar input to form the basis of the Issue and Project Lists. These were then organized and prioritized according to the methodology presented in Section 5.

4. Guiding Principles

The guiding principles included in this document represent the fundamental values the Water Boards' Storm Water Program aspires to uphold and advance, from the perspective of the regulator as well as the regulated community and other stakeholders. Early in the development of the Initiative, the Initiative Team considered contemporary documents including the California Council for Environmental and Economic Balance report titled "A Clear Path to Cleaner Water, Implementing the Vision of the State Water Board for Improving Performance and Outcomes at the State Water Boards", a letter from the California Environmental Dialogue to Mr. Tom Howard, State Water Board, and considered policy related direction from the State Water Board's Executive Office to draft the guiding principles for the concept paper. The Initiative Team used the draft principles during the stakeholder meetings to better understand stakeholder interests, and refine and expand the recommendations into the guiding principles presented here.

Guiding Principle 1: The Water Boards' Programs Treat Storm Water as Valuable Water Resource.

Why Is This Guiding Principle Important?

Storm water is a valuable resource and a critical element of local sustainability. Past land development practices increased impervious areas and compacted soils, resulting in less storm water infiltrating and more surface runoff. Traditional MS4s and infrastructure were designed to rapidly convey storm water from the landscape into receiving waters and eventually the ocean, bays, and estuaries. Under predevelopment conditions, storm water would infiltrate and recharge the water table rather than being discharged to surface waters. As a result of land use impacts, groundwater characteristics and flow regimes can be altered, reducing available groundwater supplies as well as base flow for perennial streams during dry periods. This paradigm needs to shift. Capturing and using storm water as a resource can provide multiple benefits such as offsetting drought related impacts through additional recharge and aquifer storage, mitigating storm water pollution, creating open space, enhancing fish and wildlife habitat, supporting watershed processes, and improving water use efficiency while mitigating the adverse effects of flood flows.

Guiding Principle 2: The Water Boards' Storm Water Programs Preserve Watershed Processes to Achieve Desired Water Quality Outcomes.

Why Is This Guiding Principle Important?

In California, pollutants in storm water from urban areas are a primary cause of impairment of our rivers, lakes, reservoirs, estuaries, and ocean. Urbanization causes changes in the natural landscape and hydrology resulting in increased loads of pollutants, increased toxicity, changes in stream flow magnitude and frequency, changes in the seasonality of various discharges,

physical changes to stream, lake, and wetland habitats, changes in the energy dynamics of food webs, sunlight, and temperature, and biotic interactions between native and exotics species. Management of storm water to maintain watershed processes within natural ranges can avoid these impacts. Restoring key watershed processes,[2] such as through retrofitting of the existing urban environment, can help mitigate the damage done by past land development practices.

Guiding Principle 3: The Water Boards Implement Efficient and Effective Regulatory Programs.

Why Is This Guiding Principle Important?

Improving the efficiency and effectiveness of the Water Boards' Storm Water Program increases Water Board productivity while concurrently achieving progress towards desired environmental outcomes. As external stakeholders must focus on environmental outcomes, the Water Boards need to support such outcomes through regulatory and funding programs. Implementing a more efficient and sustainable storm water program would allow staff to work on other important program issues staff and is a critical key to success of this effort. As California's population increases, pressure mounts on the environment, which leads to pressure on the Water Boards to produce better regulatory results (e.g., updated permits, inspections, improved data management, policy changes). The Water Boards seek to increase these results while gaining better evidence that they are achieving the environmental outcomes of improved water quality, reliable water supply, and healthy watersheds.

Guiding Principle 4: The Water Boards Collaborate to Solve Water Quality and Pollutant Problems with an Array of Regulatory and Non-Regulatory Approaches.

Why Is This Guiding Principle Important?

While standard regulatory approaches such as issuing permits can be effective, other less common regulatory and source control approaches can play an important role in reducing pollutant discharges and protecting water quality. For example, removing pollutants before they become entrained in storm water can be more effective than traditional treatment based management practices. Not enough resources have been applied to source control related techniques such as product replacement, product substitutions, and incorporating green chemistry toward the removal of pollutants prior to exposure with storm water. Supporting and where possible, implementing these concepts of true source control through the Water Boards' Storm Water Program can appreciably improve storm water quality and represent a considerable cost savings in comparison to treatment based management practices. Few materials that are commonly reported in storm water are evaluated from a lifecycle perspective, that is what actions, processes, or handling techniques are causing high pollutant levels in storm water and what actions behaviors or processes could be altered to reduce the exposure.

[2] Key watershed processes include overland flow, rilling and gullying, infiltration and groundwater recharge, interflow (i.e., shallow groundwater flow), evapotranspiration, delivery of sediment and organic matter to waterbodies, and chemical/biological transformations.

True source control would necessitate extensive collaboration with industries and require those agencies with appropriate authorities to take action as well in order to achieve success.

5. Methodology

The following is a stepwise process to identify, organize, and prioritize the primary issues facing the Storm Water Program, and develop potential projects to address those primary issues. While the process was largely undertaken by the Initiative Team, stakeholders and Initiative Executive Sponsors provided input at key points in the process. The methodology is shown graphically in Figure 1 and described in more detail below.

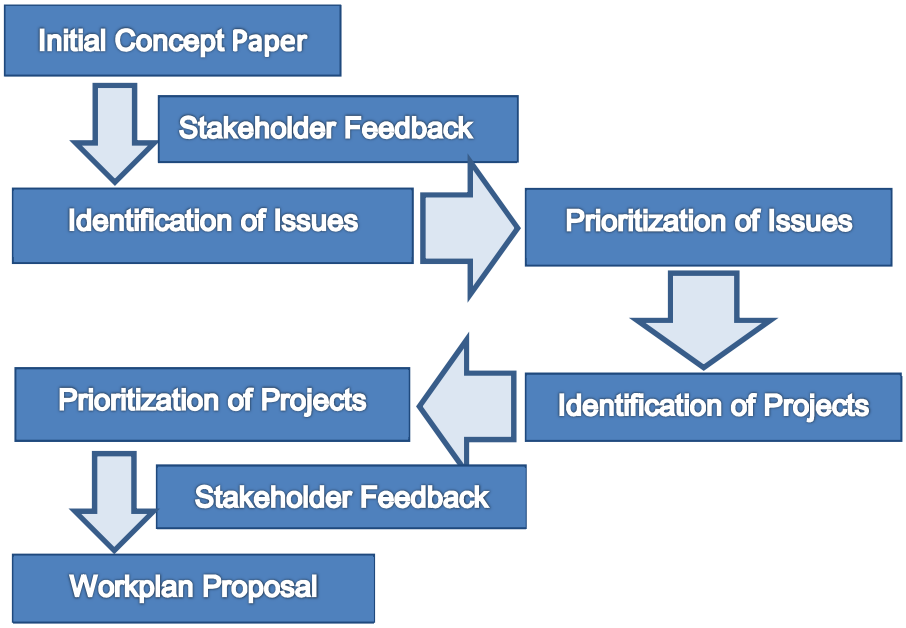

Figure 1. Storm Water Strategic Initiative Methodology Flowchart

5.1. Identification and Prioritization of Issues Facing the Storm Water Program

Following development of the guiding principles, the Initiative Team began the initial process of identifying factors that impede the pursuit and attainment of the guiding principles' objectives. These factors became a preliminary list of storm water program "issues." The issues were organized according to guiding principles and assembled in a preliminary concept paper document that was circulated widely amongst stakeholders. The process the Initiative team used to solicit stakeholder feedback on the preliminary list of issues is described in Section 3.

In response to stakeholder input, the Initiative Team modified its previously developed list of issues to clarify the descriptions of the issues and capture stakeholder perspectives. Stakeholders also identified new storm water program issues, which the team added to the issues list. The resulting issues list, due to its comprehensiveness, had substantial overlap between many of the various issues. The team minimized these redundancies by combining

those issues that were similar. The resulting list addressed all issues raised by stakeholders and included a concise description of each issue.

The Initiative Team then prioritized the issues based on a series of criteria designed to assess the importance resolving the issue in order aligning the Storm Water Program with the guiding principles. The following criteria were used to assess each issue:

- Will addressing the issue protect and restore watershed processes?
- Will addressing the issue utilize storm water as a resource?
- Will addressing the issue reduce pollutant discharges and improve water quality?
- Will addressing the issue result in management of pollutants from a more holistic and efficient point of view, by addressing them earlier in their life-cycle?
- Will addressing the issue improve internal and/or external program efficiency and/or effectiveness?

A numeric score was assigned based on the strength of the issue's alignment with the each of the criterion. Scoring was conducted collectively by the Initiative team. In almost all cases, the Initiative team was able to reach a unanimous decision on final scores. The issues' numeric scores for each criterion were then summed to calculate a single score for each issue. Based on these scores, the issues were furthered characterized as very high, high, medium, or low priority.

5.2. Identification and Prioritization of Projects to Address Issues Facing the Storm Water Program

Upon prioritization of the issues, the Initiative Team undertook an effort to identify and describe projects to address the issues. Since the issues identified were numerous and broad-ranging, the team focused on developing projects that addressed all high and medium priority issues, though projects addressing low priority issues were developed in some cases. Projects were developed using a variety of methods. Many were projects the team had previously identified during its experience implementing the Storm Water Program at the Water Boards. Other projects were identified by the Water Board management team. Still others were designed to build upon and bolster existing stakeholder and Water Board efforts.

Prior to project prioritization, each project was described in a consistent level of detail to facilitate the prioritization process and ensure comparability between projects. The project descriptions include (1) the priority of implementing the project, (2) the issues the project addresses, (3) goals and objectives, (4) project scope, (5) background information, (6) proposed work products, and (7) proposed timelines and resource needs.

Once the projects were identified and fully described, the Initiative Team prioritized the projects in the same manner as the prioritization of the Storm Water Program issues. Again, projects were scored using a series of criteria, and the totaled scores were used to identify a priority level for the project. The following criteria were used:

- Does the project address one or more high priority issue(s)?
- Is the project likely to be effective in addressing the issue(s)?
- Is the project likely to be efficient in addressing the issue(s)?

- Does the project have Permittee and/or stakeholder support?
- Do the Water Boards have the authority to implement the project? Is the issue wholly within the Water Boards' control, or can the Water Boards indirectly or collaboratively address the issue?
- Can the project be done with existing resources (internal), or are external resources needed?
- Does the project leverage other efforts/resources?
- Are there significant barriers to project implementation? If so, are they technical, policy, legal or funding barriers?

Similar to the prioritization of issues, the projects were sorted into very high, high, medium, and low priority based on their summed criteria scores. Some projects were recommended as "Immediate Action Projects". The Initiative Team and Executive Sponsors find that these Immediate Action Projects are ready to begin immediately, provided Water Board resources are available. Immediate Acton Projects meet the criteria of requiring little to no build-up time or effort in order to begin.

6. Issues and Projects List

This section presents the results of the Initiative process in the form of the Issue and Project Lists.

6.1. Issues

The stakeholder process identified approximately 40 issues that are barriers to effective storm water management and water quality protection. These issues were, in many cases, an articulation of the barriers to effective storm water management. In some cases, the issues reflected ongoing and long term challenges to the Storm Water Program, while others reflected more recent challenges. For some issues, limited effort has already been completed to address an issue, while in other cases little to no work has been done. For ease of presentation and to facilitate the review of the issues, seven overarching issue topic statements have been developed to show commonalities between related issues. Additionally, the issue topic statements are shown linked to the Guiding Principle most closely addressed by it. Once categorized, the issues were prioritized according to the methodology described in Section 5.

A complete list of the issues and the results of the issue prioritization is presented in Table 1.

Strategy to Optimize Resource Management of Stormwater - *Appendix B*

Table 1. List of Issues organized by Guiding Principle and Topic

Guiding Principle 1: The Water Boards' Programs Treat Storm Water as Valuable Water Resource		
Storm water policy and management actions should optimize the use of storm water as a resource.		
ID	Issues Needing to Be Addressed to Achieve the Guiding Principle	Priority
1	Storm water should be managed as a resource to maintain and restore infiltration/recharge and achieve multiple benefits such as flood control, drought and climate change preparedness, water supply augmentation, groundwater recharge, water quality improvement, habitat restoration/protection, and recreational opportunities.	High
2	Determining the value of storm water and developing a credit program for infiltration in permits can be an effective means to meet water quality outcomes.	High
3	Greater collaboration between the Water Boards storm water program and related intra/inter-agency programs is beneficial to remove barriers and inconsistency in code related to storm water capture, infiltration, and use.	High
4	Water Boards need to identify and address how storm water retention, storage and infiltration projects could potentially affect water supplies, water rights and associated legal implications from retention, storage and infiltrating projects.	Medium
5	Greater incentives are needed to broaden the acceptance and implementation of Low Impact Development (LID), such as green streets, green parking lots, bioretention features, green roofs, and native landscaping practices for the general public.	Medium
6	Storm water interests should be better aligned with other larger environmental interests to optimize synergistic effects.	Medium
Consistent and widespread messaging is needed to broaden the understanding of the value of storm water.		
ID	Issues Needing to Be Addressed to Achieve the Guiding Principle	Priority
7	The Water Boards should be actively involved in developing focused and consistent messaging through public (including industrial and commercial) outreach and education regarding improving storm water needs.	Medium
8	Water Board should communicate the importance of storm water as a resource to elected officials, especially local government officials.	Low

Guiding Principle 2: The Water Boards' Storm Water Programs Preserve Watershed Processes to Achieve Desired Water Quality Outcomes		
Storm water permits should provide accountability and support water quality outcomes.		
ID	Issues Needing to Be Addressed to Achieve the Guiding Principle	Priority
9	Storm water permit requirements should focus on water quality outcomes instead of minimum requirements or actions. This lack of focus sometimes results in prioritizing resources for actions with fewer water quality benefits. Therefore, a more flexible, yet accountable, regulatory approach is needed to allow for multi-benefit projects and other customized actions to achieve accountability and water quality outcomes.	High
10	Post construction standards should be revised to adequately maintain and restore watershed processes critical to watershed health because current standards are either over protective in some cases and under protective in others.	High
11	Storm water regulations and incentives should be used together to achieve desired outcomes. Incentives are needed to allow for alternative approaches to storm water management, such as watershed restoration.	High
12	Existing development should be retrofitted for storm water management.	High
13	The performance goals and requirements for post construction measures should be consistent in order to lead to effective implementation during the planning, design, and construction phase.	High
14	Water Board resources should be increased to provide adequate oversight (inspection, report review, audits and enforcement) for the storm water program.	Medium
15	Compliance evaluation (i.e., inspections and report review) should be performed in a consistent manner.	Low
16	Storm water staff should not limit themselves to reworking the same issues when developing permit requirements, but rather focus on issues essential to water quality and watershed health.	Low

Guiding Principle 3: The Water Boards Implement Efficient and Effective Regulatory Programs		
Storm water program funding barriers need to be addressed.		
ID	Issues Needing to Be Addressed to Achieve the Guiding Principle	Priority
17	The Water Boards assist municipalities, especially disadvantaged and environmental justice communities, in removing barriers that prevent them from fully funding their programs.	High
18	Access to local and state funding opportunities needs to be broadened, especially for disadvantaged and environmental justice communities, and non-competitive grant funding opportunities need to be identified.	Medium
19	Better cost estimates are needed for newer storm water strategies.	Low
20	A clear and consistent understanding of cost of compliance with storm water permit requirements should be established.	Low
21	Environmental costs associated with inadequate storm water management should be quantified.	Low
Storm water programs need effective reporting and assessment methods.		
ID	Issues Needing to Be Addressed to Achieve the Guiding Principle	Priority
22	Feedback loops between planning, implementation, monitoring and effectiveness assessment should be applied at all levels (facility, municipality and state).	High
23	Methodologies, tools, and measures for storm water program effectiveness should be improved to support adaptive management and provide data that can be acted upon to improve storm water program effectiveness.	Medium
24	Consistent report submittals into a relational database will benefit Water Board decision-making and program management.	Medium
25	Basic Water Board program work and tasks will be more efficient with the use of the latest technology (e.g. tablets for inspectors).	Low
26	Water Board databases should be updated and improved to be more user-friendly.	Low

Guiding Principle 3: Continued

Storm Water policy and permits should be periodically updated to reflect the continually improving understanding and management of storm water.

ID	Issues Needing to Be Addressed to Achieve the Guiding Principle	Priority
27	Policy development and storm water permit writing need greater connectivity and alignment.	High
28	Better optimization of (compliance) design storms is needed for specific water quality outcomes (e.g. TMDLS).	High
29	MS4 permits should include schools (automatically).	Medium
30	Total Maximum Daily Load (TMDL) implementation through storm water permits should be carefully addressed, due to the large number of TMDLs, limited TMDL implementation resources, and challenges with incorporating TMDL implementation requirements into storm water permits.	Medium
31	Water quality-based numeric effluent limitations can be feasible and effective and should be utilized in storm water permits.	Medium
32	Permits need to better clarify specific elements that are enforceable including: enrollment, deadlines, and timely BMP implementation. Stricter enforcement of these elements is needed.	Medium
33	Technology-based, numeric effluent limitations (NELs) can be feasible and effective in some cases (e.g., sectors, circumstances, etc.) and should be utilized in storm water permits.	Medium
34	Post construction standards should be more flexible to allow for efficient and creative solutions to post construction impacts.	Medium
35	Permit writing tools are needed for more consistent storm water permits.	Low
36	A unified approach to assessing compliance with receiving water limitations, such as identifying standard points of compliance, needs to be established.	Low
37	Some Phase I and Phase II permit requirements are redundant with other programs.	Low

Guiding Principle 4: The Water Boards Collaborate to Solve Water Quality and Pollutant Problems with an Array of Regulatory and Non-Regulatory Approaches

True source control should be efficiently and effectively supported as a solution for applicable storm water pollutants.

ID	Issues Needing to Be Addressed to Achieve the Guiding Principle	Priority
38	Control of some pollutants (specifically product-related pollutants) can be efficient and effective achieved through "true source control."	High
39	Long term institutional and industry connections are needed to implement effective true source control.	Medium
40	Since MS4s' authority for true source control is limited, the State should play a key role or lead the effort.	Medium

6.2. Projects

Upon completion of the Issue List, proposed projects were developed to address the issues and ultimately progress the Storm Water Program toward attainment of the guiding principles. Proposed projects were identified during both the stakeholder outreach meetings and internal staff deliberation. Project descriptions were developed for each project and include:

- **Project Title**
- **Priority Rank:** Project priority rank based on scored criteria; see Section 5 for the scoring criteria.
    - **Assessment:** Explanation of prioritization based on two summary criteria: 1) how important is completing the project for the Storm Water Program to align with the guiding principles, and 2) how achievable is the project, do the Water Boards have the needed authority and resources to complete the project?
- **Issues:** A list of the Issue ID numbers (see Table 1) that the project will address.
- **Goal:** A goal is identified for each project and usually associated with the issue(s) the project addresses.
- **Objective:** An action item(s) is identified to support the goal.
- **Scope:** A scope of work is outlined to accomplish the objective.
- **Background:** Information, including barriers, regarding the issues and project is provided. Previous and/or current information is also identified to assist in developing the project scope.
- **Product and Timelines:** For each major task, the resulting product is identified and estimate of the timeline and required resources is provided. Resource estimates are given in terms of both staff resource allocations and contract or non-staff funds. Staff resources allocations are estimated as high, medium, and low staff resource allocations, which correspond to greater than three personnel years (PYs), one to three PYs, and less than one PY, respectively. Contract or non-staff resources are estimated as none, some, or substantial resource needs.

The complete Project List with full project descriptions is included as Appendix A. A summary of the Project List including project title, resource allocation estimates, and the timeline is presented in Table 2.

In many cases, a single project that addressed multiple issues could be identified. This approach reduced the number of projects and also provided for more comprehensive projects. A summary of the issues and the project identified to address the issue(s) is shown in Table 3. A review of the table demonstrates that most projects address multiple issues.

Table 2. Project Titles Organized by Guiding Principle and Issue Topic

PROJECT NUMBER	PROJECT TITLE	RESOURCE NEEDS* (Staff/Contract)	TIMELINE
The Water Boards' Programs Treat Storm Water as Valuable Water Resource			
1	Support Storm Water Capture and Use		
1a.	Storm Water Capture and Use Goal	Low / $	2 years
1b.	Barriers to Storm Water Capture and Use	Medium / $$	3 years 3 months
1c.	Increase Storm Water Capture and Use through Regulatory Approaches	Low / $	1.5 years
2	Stakeholder Collaboration to Promote Storm Water as a Resource	Low / $	2 years 3 months and ongoing**
3	Monetary Value of Storm Water	Medium / $	4 years
4	Senate Bill 985 Storm Water Resource Plan Implementation	Medium / $	2 years and ongoing**
The Water Boards' Storm Water Programs Preserve Watershed Processes to Achieve Desired Water Quality Outcomes			
5	Alternative Compliance Approaches for Municipal Storm Water Permit Receiving Water Limitations	Medium / $$	3 years
6	Watershed-Based Compliance and Management Guidelines and Tools	Medium / $$$	3 years 6 months
7	Post-Construction Requirements for Watershed Health	Medium / $$$	4 years

PROJECT NUMBER	PROJECT TITLE	RESOURCE NEEDS* (Staff/Contract)	TIMELINE
The Water Boards Implement Efficient and Effective Regulatory Programs			
8	Funding for Storm Water Programs	Medium / $	4 years and ongoing**
9	Municipal Storm Water Program Compliance Cost	Low / $$	1 year 6 months
10	Industrial and Construction Storm Water Permitting Compliance Cost	Low / $$	1 year 6 months
11	Storm Water Program Asset Management Planning and Cost Estimation	Low / $$	1 year
12	Municipal Storm Water Program Monitoring and Effectiveness Assessment	Medium / $$	3 years
13	Storm Water Program Data and Information "Open Data" Project	Medium / $$	4 years
14	Storm Water Permit Compliance Evaluation	Medium / $	2 years 3 months and ongoing**
15	Standardized Minimum Control Measures for Specific Municipal Program Elements	Medium / $	1 year 6 months
16	Statewide Regulatory Framework for Municipal Storm Water	Medium / $	5 years and ongoing**
17	Training and Information-Sharing for Water Board Staff and the Regulated Community	Low / $	Ongoing
18	Sector-specific Technology-based Numeric Effluent Limitations for Industrial and Construction Storm Water Permits	Medium / $	6 years

PROJECT NUMBER	PROJECT TITLE	RESOURCE NEEDS* (Staff/Contract)	TIMELINE
19	Trash Control	Medium / $	3 years 6 months
20	Alignment of Water Quality Statewide Planning Efforts with Storm Water Program Implementation – Pilot Using the Biological Integrity Plan	Low / $	2 years
The Water Boards Collaborate to Solve Water Quality and Pollutant Problems with an Array of Regulatory and Non-Regulatory Approaches			
21	True Source Control and Pollution Prevention	Low / $$$	4 years 6 months
22	Urban Pesticide Reduction	Medium / $	2 years

* Resources estimates (Staff/Contract) are presented using the following categories:

Staff

- Low – Less than one person working full time for the project duration
- Medium – One to three people working full time for the project duration
- High – More than three people working full time for the project duration

Contract

- $ – Less than $100,000 contract for external resources anticipated
- $$ – $100,000 to $500,000 contract for external resources anticipated
- $$$ – Greater than $500,000 contract for external resources anticipated

Note - Resources represent average for each project over time and include estimated resources used for task being worked on in parallel, as a result these estimates differ from those task specific resource allotments described in Appendix A.

** Ongoing indicates that the project will require a continuous but limited staff effort to sustain the results of the project.

Table 3. Summary of Issues being addressed by each Project

PROJECTS	ISSUES																																					
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
Project 1a.																																								
Storm Water Capture and Use Goal	x		x		x	x	x	x																			x													
Project 1b.																																								
Barriers to Storm Water Capture and Use	x			x																																				
Project 1c.																																								
Increase Storm Water Capture and Use through Regulatory Approaches	x				x				x	x	x	x																												
Project 2																																								
Stakeholder Collaboration to Promote Storm Water as a Resource	x		x		x	x	x																																	
Project 3																																								
Monetary Value of Storm Water	x	x	x	x							x						x	x																						
Project 4																																								
Senate Bill 985 Storm Water Resource Plan Implementation	x				x	x						x	x																											
Project 5																																								
Alternative Compliance Approaches for Municipal Storm Water Permit Receiving Water Limitations	x	x			x				x	x	x		x														x								x	x				
Project 6																																								
Watershed-Based Compliance and Management Guidelines and Tools	x								x	x						x																								
Project 7																																								
Post-Construction Requirements for Watershed Health									x	x																														
Project 8																																								
Funding for Storm Water Programs	x																x	x		x																				
Project 9																																								
Municipal Storm Water Program Compliance Cost																				x																				
Project 10																																								
Industrial and Construction Storm Water Permitting Compliance Cost																			x	x																				
Project 11																																								
Storm Water Program Asset Management Planning and Cost Estimation																			x	x																				

PROJECTS	ISSUES																																						
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
Project 12																																								
Municipal Storm Water Program Monitoring and Effectiveness Assessment																						x	x	x		x										x				
Project 13																																								
Storm Water Program Data and Information "Open Data" Project															x							x	x		x	x														
Project 14																																								
Storm Water Permit Compliance Evaluation											x			x																										
Project 15																																								
Standardized Minimum Control Measures for Specific Municipal Program Elements																													x			x			x					
Project 16																																								
Statewide Regulatory Framework for Municipal Storm Water					x											x											x	x		x	x		x		x	x				
Project 17																																								
Training and Information-Sharing for Water Board Staff and the Regulated Community	x		x	x	x		x		x	x	x		x									x	x				x	x		x	x	x	x					x		
Project 18																																								
Sector-specific Technology-based Numeric Effluent Limitations for Industrial and Construction Storm Water Permits																																	x							
Project 19																																								
Trash Control															x	x																								x
Project 20																																								
Alignment of Water Quality Statewide Planning Efforts with Storm Water Program Implementation – Pilot Using the Biological Integrity Plan									x					x		x																								
Project 21																																								
True Source Control and Pollution Prevention						x																																x		x
Project 22																																								
Urban Pesticide Reduction						x																x																x	x	x

7. Project Prioritization and Recommendations

This section presents the prioritized Project List and the Initiative Team's recommendations for Immediate Action Projects. Scores were assigned to each project as described in Section 5, and based on the scores the project was further delineated as very high, high, medium, or low priority. The results of this process are shown in Table 4. Several of the projects were further identified as high priority projects that are ready to begin immediately, and therefore the Initiative Team included them as Immediate Action Projects, described further in Section 7.1.

Table 4. Project Prioritization Results

PROJECT NUMBER	PROJECT TITLE
Very High Priority	
1a.*	Storm Water Capture and Use Goal
1c.	Increase Storm Water Capture and Use through Regulatory Approaches
4*	Senate Bill 985 Storm Water Resource Plan Implementation
High Priority	
1b.*	Barriers to Storm Water Capture and Use
5*	Alternative Compliance Approaches for Municipal Storm Water Permit Receiving Water Limitations
6*	Watershed-Based Compliance and Management Guidelines and Tools
7	Post-Construction Requirements for Watershed Health
8*	Funding for Storm Water Programs
12	Municipal Storm Water Program Monitoring and Effectiveness Assessment
13*	Storm Water Program Data and Information “Open Data” Project
16	Statewide Regulatory Framework for Municipal Storm Water
17*	Training and Information-Sharing for Water Board Staff and the Regulated Community
20	Alignment of Water Quality Statewide Planning Efforts with Storm Water Program Implementation – Pilot Using the Biological Integrity Plan
22*	Urban Pesticide Reduction

PROJECT NUMBER	PROJECT TITLE
Medium Priority	
2	Stakeholder Collaboration to Promote Storm Water as a Resource
3	Monetary Value of Storm Water
9	Municipal Storm Water Permitting Compliance Cost
10	Industrial and Construction Storm Water Permitting Compliance Cost
14	Storm Water Permit Compliance Evaluation
15	Standardized Minimum Control Measures for Specific Municipal Program Elements
19	Trash Control
21	True Source Control and Pollution Prevention
Low Priority	
11	Storm Water Program Asset Management Planning and Cost Estimation
18	Sector-specific Technology-based Numeric Effluent Limitations for Industrial and Construction Storm Water Permits

* Recommended Immediate Action Projects

7.1. Immediate Action Projects and Recommendations

During the Initiative process, an additional effort was made to identify the projects that should receive immediate or near term support. These projects were classified as very high or high priority and will fast track key elements of the Storm Water Program and/or have current efforts already underway that would allow the project to move forward expeditiously. For clarity, the Initiative Team deemed it appropriate to form a subset of the Project List containing only the projects meeting the above criteria, and denote those projects the Immediate Action Projects (see Table 5). The Immediate Action Projects includes Projects 1, 4, 5, 6, 8, 13, 17, and 22 and if those projects are implemented immediately, as recommended, significant portions, if not the entire project, will be completed by 2018. Table 5 summarizes the Immediate Action Projects and estimates the resources and time needed to complete the projects. While staff strongly supports all eight of these projects, implementation will be dependent on available resources, and it may not be possible to simultaneously pursue all eight Immediate Action Projects. Tables 6a and 6b present two conceptual scenarios for project implementation based on available staff and contract fund resources. These hypothetical scenarios present two year project resource expenditures for the following scenarios: (a) unlimited staff resources and $200,000 of contract funds in the first year are available to implement all Immediate Action Projects and (b) four full time staff and $200,000 of contract funds in the first year are committed. See Section 8 for a further discussion of resource needs and alternatives for making resources available.

Projects not included as Immediate Action Projects may also be high priority projects, but the lack of current efforts to pursue the projects makes the implementation of these projects less time sensitive. As the Water Boards take action on the recommended projects and the Storm Water Program evolves, it will be necessary to readdress the Project List and prioritization rankings. Section 9 outlines the necessary steps to maintaining the relevance of the Project List through the Storm Water Program Workplan and Implementation Strategy effort.

Table 5. Summary of Immediate Action Projects

PROJECT NUMBER	PROJECT TITLE	TOTAL RESOURCES* (Staff/Contract)	TIMELINE
1a.	Storm Water Capture and Use Goal	1 PY / $50	2 years
1b.	Barriers to Storm Water Capture and Use	3 PY / $150k	3 years 3 months
4	Senate Bill 985 Storm Water Resource Plan Implementation	2 PY / $0	1 year and ongoing**
5	Alternative Compliance Approaches for Municipal Storm Water Permit Receiving Water Limitations	3 PY / $250k	3 years
6	Watershed-Based Compliance and Management Guidelines and Tools	4 PY / $500	6 years 9 months
8	Funding for Storm Water Programs	4 PY / $0	4 years and ongoing**
13	Storm Water Program Data and Information "Open Data" Project	3 PY / $100k	3 years
17	Training and Information-Sharing for Water Board Staff and the Regulated Community	0.5 PY / $0	Ongoing**
22	Urban Pesticide Reduction	2 PY / $0	2 years

* Estimates of the total staff and contract resources in Personnel Year (PY) and dollar amounts, respectively, needed to complete the project.

** Ongoing indicates that the project will require a continuous, but limited staff effort to sustain the project results.

8. Next Steps

8.1. Future Stakeholder Involvement

Stakeholder input is invaluable to the Initiative process and is especially important to the review of both this Proposal and for the ongoing development of a Storm Water Program Work Plan and Implementation Strategy. Stakeholder input during the release of the Proposal draft will shape the final Guiding Principles and the content and prioritization of the Issue and Project Lists. Additionally, stakeholder input regarding opportunities to collaborate or leverage other efforts will increase mutual interest and buy-in by more parties, and can substantially enhance and extend the available Water Boards resources towards more efforts and projects. The Water Boards will establish a long term, committed process for immediate and ongoing stakeholder input and collaboration.

The projects presented in Appendix A contain sufficient detail for the State Water Board to identify and prioritize the projects that the Water Boards will support in the near and long term. However, most of the projects in Appendix A will need further development before they can be implemented. In most cases this step will include:

- Project scope and products will be more clearly articulated;
- Specific tasks and milestones will be identified; and
- Budget and resource needs will be more accurately estimated (including information about external resources)

Thus, during the development of the Storm Water Program Workplan and Implementation Strategy, the Water Boards will actively engage the various stakeholders to provide input regarding scope, budget, and opportunities for collaboration to ensure that the project goals are met. Following selection of projects, Water Board staff will continue to include stakeholder involvement in the development and subsequent updates to the Storm Water Program Workplan and Implementation Strategy.

8.2. Resources

The Water Boards have currently assigned four Executive Sponsors and six team members each committing between 5 and 50 percent of their time to this Initiative effort. These staff resources were redirected from their existing duties with the expectation that work beyond this phase of the Initiative would require substantial, long-term commitment of additional resources to evaluate, implement, and sustain the projects and other strategic planning work for the storm water program.

In order for the specific projects proposed in this Proposal to be successful and the ongoing tasks associated with strategic planning to be sustained, the Water Boards will need to dedicated additional resources to the effort. The resource need estimates for each project are identified in this proposal. These estimates will be refined as additional information becomes available during the public process and consideration of the proposal.

To provide necessary staff resources, the Water Board may select from four general alternatives:

1. Redirect existing resources from other parts of the Water Boards organization to form a permanent team dedicated to storm water resource planning;

2. Request additional resources through the Budget Change Proposal process and then, if approved, raise fees or seek other funding to support the new positions;

3. Not redirect or assign new resources permanently but continue to support the effort with existing, temporary "teams" of staff and contract resources as has been done in the past; and/or

4. Extend the duration and deadline for each project commensurate with the level of resources dedicated.

The most efficient team structure will include some staff resources allocated to Regional Water Boards to provide balance and guidance for project outcomes that are readily implementable across the state. It is also important to note that Alternative 3, redirecting existing staff as part of a temporary team, presents a challenge in that existing storm water staff are responsible for core regulatory tasks (permit writing, inspections, compliance evaluations, enforcement, etc.), so only a limited amount of these resources can be used for a short period without adversely affecting the Storm Water Program.

In order to better inform the decision on the number of resources committed to the Initiative, and specifically the amount of resources needed to make significant progress on the Immediate Action Projects by the year 2018, two conceptual scenarios are presented in Tables 6 and 7. In the first scenario, unlimited staff resources and $200,000 of discretionary contract funds for the first year are available to implement the Immediate Action Projects (Table 6). The second scenario assumes four full time staff and $200,000 of discretionary contract funds in the first year are available to implement some of Immediate Action Projects (Table 7). These two scenarios are proposed as examples of maximum and minimum staff resource allocations, respectively. The scenarios should be used as a high level estimate of the progress on the projects in comparison to the resources committed over a two year period, not as a recommendation of the projects to prioritize. Comparing the two scenarios, the second approach results in fewer projects implemented during the first year, longer project durations, and higher future resource needs.

Table 6. Conceptual maximum resource allocation scenario.

PROJECT NUMBER	PROJECT TITLE	Year 1 Staff Resources	Year 1 Contract Funds	Year 2 Staff Resources	Year 2 Contract Funds	Future Staff Resources	Future Contract Funds
1a.	Storm Water Capture and Use Goal	0.5	$50,000	0.5			
1b.	Barriers to Storm Water Capture and Use	0.75	$75,000	1.5	$75,000	0.75	
4	Senate Bill 985 Storm Water Resource Plan Implementation	2					
5	Alternative Compliance Approaches for Municipal Storm Water Permit Receiving Water Limitations	1	$175,000	1	$75,000	1	
6	Watershed-Based Compliance and Management Guidelines and Tools			1.75	$250,000	2.25	$250,000
8	Funding for Storm Water Programs	0.75		1.5		1.75	
13	Storm Water Program Data and Information "Open Data" Project	1	$100,000	1		1	
17	Training and Information-Sharing for Water Board Staff and the Regulated Community	0.25		0.25		0.25	
22	Urban Pesticide Reduction	2		2			
Total Yearly Resource Needs		8.25	$400,000	9.5	$400,000	7	$250,000
Projected Yearly Resource Availability		8.25	$200,000	9.5	$0	-	-
Yearly Resource Balance		0	($200,000)	0	($400,000)	7	($250,000)

Table 7. Conceptual minimum resource allocation scenario.

PROJECT NUMBER	PROJECT TITLE	Year 1 Staff Resources	Year 1 Contract Funds	Year 2 Staff Resources	Year 2 Contract Funds	Future Staff Resources	Future Contract Funds
1a.	Storm Water Capture and Use Goal	0.5	$50,000	0.5			
1b.	Barriers to Storm Water Capture and Use	0.75	$75,000	1	$75,000	1.25	
4	Senate Bill 985 Storm Water Resource Plan Implementation	2					
5	Alternative Compliance Approaches for Municipal Storm Water Permit Receiving Water Limitations			1	$175,000	2	$75,000
6	Watershed-Based Compliance and Management Guidelines and Tools					4	$500,000
8	Funding for Storm Water Programs	0.75		1.5		1.75	
13	Storm Water Program Data and Information "Open Data" Project					3	$100,000
17	Training and Information-Sharing for Water Board Staff and the Regulated Community					0.25	
22	Urban Pesticide Reduction					4	
	Total Yearly Resource Needs	4	$125,000	4	$250,000	16.25	$675,000
	Projected Yearly Resource Availability	4	$200,000	4	$75,000	-	-
	Yearly Resource Balance	0	$75,000	0	($175,000)	16.25	($675,000)

8.3. Storm Water Program Workplan and Implementation Strategy

The next phase of work will be to implement the Immediate Action Projects by developing a Storm Water Program Workplan and Implementation Strategy (Workplan). Based on feedback from the stakeholders, and direction and support by the State Water Board, the Workplan will include one or more detailed workplan(s) with developed project scopes, timelines, resource needs, and a careful consideration of the most effective integration of project outcomes into the Water Boards' Storm Water Program. The Workplan will be presented to the State Water Board for approval and, if necessary, allocation of needed resources.

The Water Boards will report progress on future Workplan updates and project outcomes, at least, every two years. Regular review of the Workplan will be needed to add or remove projects and support a sustained effort to react to the needs and opportunities facing the Storm Water Program. Project priority ranking will likely be reassessed during each Workplan update cycle. The newly prioritized list will be presented to the State Water Board during the subsequent Workplan progress report. The updated Workplan will propose action on high priority projects, and the State Water Board will determine if resources exist to implement the proposed projects.

The Workplan is intended to support the evolution of the Storm Water Program for, at least, the next ten years. The Workplan development and updates will be led by the Storm Water Program staff, governed by both the Storm Water Program Roundtable and the Deputy Management Committee (DMC), and prioritize collaboration with other related Water Board programs including basin planning, TMDLs, SWAMP, enforcement, water rights, funding, and groundwater management. Outputs, outcomes and products related to Workplan activities will be integrated with the overall Storm Water Program planning and performance reporting system (cite http://www.waterboards.ca.gov/about_us/performance_report_1314/regulate/) via the existing management and governance systems within the Water Boards.

The Initiative Team recommends that, in addition to implementing projects identified through the Initiative, storm water strategic planning must be made a regular part of the activities for the Water Boards. The team recommends that overall program planning be given a high priority and that a specific commitment of resources be assigned to strategic storm water planning to ensure strategic project implementation. This recommended minimum level of support will sustain the type of planning activities that will continue to direct the evolution of the Storm Water Program, and lead to multiple-benefits solutions to storm water management that achieve tangible results in terms of improved water quality and increased water supply.

9. References

California Environmental Dialogue, Letter to Mr. Tom Howard, Executive Director, State Water Resources Control Board, May 9, 2014

California Council for Environmental and Economic Balance, 2013, "A Clear Path to Cleaner Water, Implementing the Vision of the State Water Board for Improving Performance and Outcomes at the State Water Boards" http://cceeb.org/2013/10/23/a-clear-path-to-cleaner-water/

California Natural Resources Agency, California Department of Food and Agriculture, and California Environmental Protection Agency, 2014, "California Water Action Plan" http://resources.ca.gov/docs/california_water_action_plan/Final_California_Water_Action_Plan.pdf

State Water Board, 2014, Storm Water Strategy Initiative Concept Paper, May 14. Staff Report http://www.waterboards.ca.gov/water_issues/programs/stormwater/docs/strategy_initiative/swsi_cncptppr_6092014.pdf

Susan Gilbert-Miller, *Low Impact Development Policies and California Water Rights: Natural Conflicts – Diminishing Returns,* 45 Univ of San Franscisco L. Rev. 783, 784 (2011).