

4.0 DEVELOPMENT AND PLANNING COMPONENT

4.1 INTRODUCTION

Section 4.0 of this SWMP addresses requirements in Provisions E.3.a through E.3.f of the Municipal Permit that the Authority has determined are relevant to the Development and Planning Component. As listed below, these Provisions require the Authority to:

- B.3.b.(4).(b)—Develop a list of candidate projects as part of the Watershed Management Area Analysis (WMAA) that could be used as alternative compliance options in place of implementing on-site structural BMPs for Priority Development Projects (PDPs). Project applicants may choose to fund, contribute funds to, or implement one of the candidate projects identified in the WMAA. Section 4.6 was prepared to address this requirement.
- E.3.a.—Require all development projects within SAN’s jurisdiction to implement general BMP requirements and specific source control and LID BMPs, where applicable and feasible, into the planning process. Section 4.5.1 and Section 4.5.2 were prepared to address this requirement.
- E.3.b— Determine which development projects fall under the Municipal Permit’s definition of a PDP and require the implementation of on-site structural BMPs. The previous Standard Urban Storm Water Mitigation Plan (SUSMP) in Appendix C has been replaced with the BMP Design Manual for BMP design, development, and implementation in accordance with Provision F.2.b (update occurred in February 2016).
- E.3.c.(1)—Ensure that PDPs implement structural BMPs that meet the type and performance requirements of the Municipal Permit. Section 4.5.3 and Appendix C were prepared to address this requirement.
- E.3.c.(2) —Require implementation of on-site BMPs for PDPs to manage hydromodification impacts. As discussed in Section 4.5; however, the Authority PDPs are exempt from this requirement, because storm water runoff from Authority PDPs discharges to an enclosed embayment.
- E.3.c.(3)—Consider the allowance for PDP applicants to propose and fund, contribute funds to, or implement an alternative compliance project (ACP) that has or has not been identified in the WMAA. Section 4.6 was prepared to address this possibility.
- E.3.c.(4)—Submit proof of the mechanism under which ongoing long-term maintenance of all structural BMPs will be conducted. Section 4.5.3 and Appendix C were prepared to address this requirement.
- E.3.c.(5)—Verify that infiltration BMPs do not cause or contribute to an exceedance of applicable groundwater quality objectives. Infiltration BMPs must meet the design criteria required in the Municipal Permit. Section 4.5 was prepared to address this requirement.
- E.3.d—Develop a BMP Design Manual to replace the SUSMP and implement the new manual within 180 days of completion. Section 4.7 was prepared to address this requirement. The SUSMP was followed until it was replaced by the BMP Design Manual in February 2016 (Appendix C).
- E.3.e—Implement an approval, verification, and inspection program that requires structural BMPs on all PDPs and confirms that the BMPs are designed, constructed, and maintained to remove pollutants in storm water to the MEP. Section 4.8 was prepared to address this requirement.
- E.3.f—Implement an ERP to enforce the legal power of the Authority to achieve compliance with the requirements of the Municipal Permit, as applicable, for all development projects. Section 4.9 has been prepared to address this requirement.

4.2 LAND USE PLANNING

During the Authority's land use planning and project review process, and prior to project approval and/or permit issuance for all PDPs, the Authority prescribes the requirements necessary for project improvement to ensure that discharges of pollutants from the project and to the MS4 will be prevented, eliminated, or reduced to the MEP; will not cause or contribute to a violation of water quality standards; and will comply with Authority ordinances, and the Municipal Permit. The Authority's planning and development project review process incorporates appropriate storm water management controls into standard conditions of approval, use permits, lease agreements, and other project approval mechanisms, as outlined below.

4.2.1 MASTER PLAN

A Master Plan for SAN was adopted by the Authority Board on May 1, 2008. The Master Plan documents the Authority's planning process for SAN and provides guidance for development of the airport to meet continued passenger, cargo, and operations growth. The goal of the Master Plan is "to provide a financially and environmentally responsible guideline for future Airport development that will accommodate forecast aviation demand and remain adaptable to either a short-term or long-term future for the existing Airport site based on the results of the Airport Site Selection Program" (San Diego County Regional Airport Authority, 2008). All Development Projects implemented as a result of the Master Plan are subject to this SWMP.

The Authority prepared the SAN Master Plan to guide the development of SAN to the year 2030. The project's main components are:

- Ten new jet gates at Terminal 2: Addition of 10 gates to accommodate more travelers. (Completed in 2013.)
- Additional parking for remain-overnight aircraft: Additional parking for remain-overnight (RON) aircraft to increase the efficiency of airport operations by eliminating the need to taxi aircraft from one side of the runway to the other. (Completed in 2013.)
- Second-level roadway at Terminal 2: A second-level roadway to provide separate departure and arrival areas at Terminal 2 and so relieve the previous congestion associated with the dual arrival and departure location. (Completed in 2013.)
- Parking structure: A new structure to provide additional options for passengers and greeters to park their vehicles for short-term trips. (Completed in 2018.)
- Taxiway improvements on the northern and southern sides: Taxiway improvements to increase the flow of aircraft traffic by efficiently lining up aircraft waiting to take off.
- SAN Park Pacific Highway: Reconstruction and relocation of the SAN Park Pacific Highway. (Completed in 2014.)
- Access road: Construction of a new access road for easier access to North Area facilities. (Completed in 2015.)
- New general aviation facilities: Replacement of the general aviation facilities with new terminals, hangars, access roads, and aprons on 12.4 acres of SAN property. (Completed in 2013.)
- Reconstruction of taxiways: Reconstruction of Taxiways C and D with new apron hold pads and taxiways.
- North Side building improvements: Construction of new, enhanced buildings to improve operations, including a Receiving and Distribution Center and a rental car operation and storage facility. (Completed in 2016.)

- Roadway improvements: Expansion of current roadways to improve traffic and access to the northern side of the airport (Completed in 2016).

The 2018 Airport Development Plan is the next master-planning phase for SAN and identifies improvements that will enable the airport to meet demand through 2035. The Draft Environmental Impact Report (EIR) was released July 2018, and the Final EIR is planned to be released in late 2019. The EIR is a comprehensive study of all potential impacts on the environment resulting from proposed improvements to SAN, project alternatives, and enhancements to travel experiences for San Diego County residents and visitors. It ensures that actions being taken are in the best interest of surrounding communities and the environment. The EIR covers potential impacts on aesthetics, air and water quality; archaeological and historical issues; impacts on endangered species, the coastal zone, wetlands, and coastal resources; toxic and hazardous waste issues; potential noise and light pollution; and all cumulative effects on the environment as well. As part of the California Environmental Quality Act (CEQA), the EIR is an objective, full-disclosure report meant to inform the public about any and all possible impacts on the environment and to seek input on alternatives to reduce the impacts. The EIR is available to the public on the SAN website at <http://www.san.org/Airport-Projects/Environmental-Affairs>.

The Authority's Strategic Stormwater Master Plan (SSMP) was a 3-part study that begun in 2015 and was intended to develop a comprehensive airport-wide strategic master drainage plan that includes evaluations of storm water quantity, quality, reuse, and recommended infrastructure. Phase II of the SSMP (2017) first identified storm water capture and reuse as a feasible means to address several storm water quality and quantity concerns. The SSMP/Capture and Reuse Project was finalized August 10, 2018, and represents the third and final phase (Phase III) of the SSMP. The analysis detailed in Phase III of the SSMP was performed to verify the conclusions of the Phase II SSMP (2017) and to further develop and validate the design of the system. As outlined in Phase III, the required size for each underground storage tank depends largely on the following parameters: 1) rainfall quantity, 2) tributary area, 3) runoff volumes, 4) required storage capacity, 5) pumping/discharge rates, and 6) overflow rates.

In the WQIP Fiscal Year 2018 annual report, storm water capture and reuse was updated from being an optional strategy to a jurisdictional strategy. In 2018, the Terminal 2 Parking Plaza Harvest and Reuse Facility opened and captures 100% of the rainfall runoff from an 85th-percentile 2-year storm event that falls on the 7.6-acre parking structure and routes the water to the Central Utility Plant for use in the cooling towers. In early 2019, the Authority will begin construction of a storm water capture and reuse system that will capture approximately 80% of average annual storm water runoff from approximately 200 acres of the 661-acre Authority property.

SUSTAINABILITY POLICY

On November 13, 2017, the Authority officially signed the Airports Sustainability Declaration, which is a voluntary and non-binding agreement that calls for airports to develop, implement and expand initiatives to improve the sustainability and resilience of airports and their surrounding communities.

The Authority adopted its Sustainability Policy (Policy 8.31) on February 7, 2008 and updated the policy on January 3, 2019. The Sustainability Policy reviews SAN's primary organizational strategies and sustainability goals, describes ways in which these goals are being met currently at SAN, and evaluates areas where there is room for improvement. The Sustainability Policy commits the Authority to these sustainable practices:

- Affirm commitment to regulatory compliance, continuous improvement, accountability and transparency in environmental, social and economic performance through the development of formal sustainability reports on a regular basis;
- Actively participate in local and regional sustainability partnerships and strongly encourage and promote sustainable practices both in the aviation industry and the region;

- Proactively address greenhouse gas emissions and the impacts of climate change through SAN operations, planning and development decisions;
- Review and evaluate all new programs and projects in terms of addressing all three pillars of sustainability, in a balanced, holistic and measurable approach;
- Analyze the life cycle operating costs and impacts of the Authority's facilities, operations and services, using a Total Cost of Ownership approach to determine project feasibility economic sustainability;
- Adopt the standards set forth by the United States Green Building Council's LEED and/or other green design and construction standards as guiding criteria for achieving sustainable design in the development and remodeling of SAN facilities;
- Apply the three pillars of sustainability, LEED, and other green construction criteria as a significant factor when reviewing tenant development/redevelopment projects and provide incentives to encourage sustainable design features;
- Develop language within all new leases, agreements and contracts that supports the Authority's sustainability initiatives;
- Require the Authority's lessees and contractors to comply with the terms and conditions of their agreements pertaining to sustainability;
- Establish a work environment that maximizes the Authority's employee assets and stimulates an atmosphere of innovation, productivity, pride, and a personal commitment to sustainability; and
- Take a leadership role in sustainability initiatives that strengthen the social well-being and community relationships with visitors, Airport stakeholders and the public the Authority serves.

Section 4.3.3 describes how sustainability goals are incorporated into new and redevelopment efforts. Annual Sustainability Reports that highlight activities and accomplishments in the 5 strategic areas of focus (Community, Customer, Employee, Financial and Operational) are publicly available at <http://sustain.san.org/>.

4.2.2 SOURCE CHARACTERIZATION

Pollutants found or expected in SAN runoff can vary according to land use, as indicated by Table 4-1.

Table 4-1. Anticipated and Potential Pollutants Generated by Land Use Type at SAN

Priority Project Category	General Pollutant Categories								
	Sediment	Nutrients	Heavy Metals	Organic Compounds	Trash and Debris	Oxygen-Demanding Substances	Oil and Grease	Bacteria and Viruses	Pesticides
Commercial Development	P ⁽¹⁾	P ⁽¹⁾	X	P ⁽²⁾	X	P ⁽⁵⁾	X	P ⁽³⁾	P ⁽⁵⁾
Industrial	X		X	X	X	X	X		
Automotive Repair Shops			X	X ⁽⁴⁾⁽⁵⁾	X		X		
Restaurants					X	X	X	X	P ⁽¹⁾
Parking Lots	P ⁽¹⁾	P ⁽¹⁾	X		X	P ⁽¹⁾	X		P ⁽¹⁾
Fueling Facilities			X	X	X	X	X		
Streets, Roads	X	P ⁽¹⁾	X	X ⁽⁴⁾	X	P ⁽⁵⁾	X	X	P ⁽¹⁾

X = anticipated

P = potential

(1) A potential pollutant if on-site landscaping exists.

(2) A potential pollutant if the project includes uncovered parking areas.

(3) A potential pollutant if land use involves food or animal waste products.

(4) Including petroleum hydrocarbons.

(5) Including solvents.

4.3 DEVELOPMENT PROJECT REVIEW PROCESS

All development projects at SAN undergo a review as part of the project approval process, as described below. This SWMP requires that all development projects provide BMPs to minimize to the MEP the introduction of pollutants of concern to the storm water conveyance system that may significantly impact receiving waters. The Authority's environmental review process ensures a comprehensive evaluation of water quality and cumulative impacts, identifies appropriate measures to avoid, minimize, and mitigate those impacts, and ensures sustainable design features and LEED criteria are incorporated, where possible, into development projects. As part of this process, the P&EAD evaluates the project application to ensure that all applicable documentation has been submitted. All project documents must be submitted to the proper departments for verification and approval, as described in the sections below.

4.3.1 CALIFORNIA ENVIRONMENTAL QUALITY ACT

The Authority staff members use the CEQA and the CEQA Guidelines to evaluate projects for approval. CEQA requires that the Authority first evaluate the effects of the proposed project on the environment through an initial environmental review. All phases of project planning, implementation, and operation are considered in the environmental review. The CEQA Guidelines, issued by the State of California Governor's Office of Planning and Research contain the "Environmental Checklist Form" (Appendix G), which is a model checklist for use in determining whether the effects of a proposed project on the environment are exempt, mitigatable, or significant. The Authority has adopted the checklist as part of its environmental review process. The checklist is incorporated into an assessment of the environmental impacts of the project, for which the Authority prepares a brief report as necessary with the project description, location, environmental setting, potential for impacts, and ways to mitigate significant impacts, if any and as applicable. The initial environmental review is used by the Authority to assess whether to prepare a Negative Declaration, Mitigated Negative Declaration, or EIR.

A Negative Declaration or Mitigated Negative Declaration is prepared if it is determined that there is no potential for significant impacts or if the project proponent revises the project to include BMPs or other enforceable conditions that will mitigate any identified significant impacts, respectively. The Negative Declaration or Mitigated Negative Declaration includes a description of the project, project name, legal description, project applicant, and findings.

Alternatively, an EIR is prepared if the Authority determines that the project may have a significant effect (as defined by CEQA) on the environment. Projects that clearly require an EIR may skip the initial environmental assessment and be moved directly to the EIR process. An EIR describes the project, analyzes its significant environmental effects (including water quality impacts), discusses ways to mitigate or avoid the effects, and incorporates public comments.

The Authority's approval to execute a development project is typically a discretionary act. The Authority also coordinates with federal agencies (typically the Federal Aviation Administration) on the review process under the National Environmental Policy Act.

Authority staff in the Airport Planning and Noise Mitigation Department use the following questions pertaining to hydrology and water quality to evaluate the potential storm water impacts of any particular project.

Would the Project:

- Violate any water quality standards or waste discharge requirements?

- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation on site or off site?
- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on site or off site?
- Create or contribute runoff water that would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff?
- Result in an increase in pollutant discharges to receiving waters, considering water quality parameters such as temperature, dissolved oxygen, turbidity, and other typical storm water pollutants (e.g., heavy metals, pathogens, petroleum derivatives, synthetic organics, sediment nutrients, oxygen-demanding substances, and trash)?
- Result in significant alteration of receiving water quality during or following construction?
- Result in increased impervious surfaces and associated increased runoff?
- Create significant adverse environmental impact on drainage patterns because of changes in runoff flow rates or volumes?
- Be a tributary to an already impaired water body as listed on the 303(d) list? If so, can it result in an increase in any pollutant for which the water body is already impaired?
- Be a tributary to environmentally sensitive areas (ESAs) (e.g., RARE beneficial use areas, ASBS, etc.)? If so, can it exacerbate already-existing sensitive conditions?
- Have a potentially significant environmental impact on surface water quality of either marine, fresh, or wetland waters?
- Have a potentially significant adverse impact on groundwater quality?
- Cause or contribute to an exceedance of applicable surface water or groundwater receiving water quality objectives or degradation of beneficial uses?
- Impact aquatic, wetland, or riparian habitat?

4.3.2 APPLICATION OF CALIFORNIA COASTAL ACT

Discretionary projects proposed at SAN may require a coastal development permit in conformance with the California Coastal Act. If the Authority determines that a project requires a coastal development permit, an application is prepared and submitted to the California Coastal Commission. The California Coastal Act contains water quality and watershed-related policies with which coastal development projects must comply. The Authority proposes project alternations or mitigation measures to be consistent with these policies for development projects that require a coastal development permit, which are then reviewed, revised as appropriate, and approved by the Coastal Commission.

4.3.3 SUSTAINABILITY

The Authority intends for all new construction at SAN to be LEED certified. The Authority is committed to building and operating sustainably, and strives to protect the wide variety of natural resources that exist at SAN's location on San Diego Bay. In terms of reducing impacts from storm water to the MEP, all development projects during the review process need to demonstrate their commitment to the following goals:

- Reducing waste and recycling;

- Conserving water;
- Lowering their impact on air quality;
- Using sustainable building methods (applying LEED criteria); and
- Promoting green infrastructure.

Design and construction incorporate “green” design principles, such as use of LID BMPs, as outlined in the following section and Appendix C, and use recycled materials and renewable resources. Most construction material waste from development projects is recycled and reused on site. The Authority has developed language in new leases, agreements, and contracts that supports the Authority’s sustainability initiatives and requires lessees and contractors to comply with all terms and conditions of their agreements pertaining to sustainability.

4.3.4 POST-CONSTRUCTION STORM WATER MANAGEMENT

The Authority developed a SUSMP under the previous Municipal Permit for projects that are determined to be PDPs. According to Provision E.3.d of the 2013 Municipal Permit, the SUSMP (now replaced by the BMP Design Manual under the 2013 Municipal Permit) continued to be implemented by the Authority until the new BMP Design Manual was developed in February 2016. The Authority worked with other Copermittees to develop the new regional Model BMP Design Manual in compliance with Provision E.3.d of the Municipal Permit. Once it was approved by the RWQCB, the Authority replaced the previous Authority SUSMP with the new Authority BMP Design Manual, which is based on the Model BMP Design Manual but tailored to meet the requirements of the Authority (see Appendix C).

The Authority’s previous SUSMP described procedures to identify pollutants and conditions of concern for each PDP. To properly classify pollutants of concern, each PDP had to identify the receiving waters to which the project would discharge, list any and all pollutants for which the receiving waters were impaired using the most recent 303(d) list, and then compare the list of pollutants for which the receiving waters were impaired with the pollutants anticipated to be generated by the project. The Authority also had to evaluate each PDP for conditions of concern (that is, conditions with the potential to permanently impact downstream channels and habitat integrity). The Authority could, if required, request a drainage report to include all or a subset of the following items to conduct its evaluation: the relevant hydrologic and environmental factors, geotechnical concerns and mitigation measures, a field reconnaissance to observe and report downstream conditions and the area’s susceptibility to erosion or habitat alteration, and rainfall runoff characteristics from the project area developed for 2-year and 10-year frequencies. The Authority’s previous SUSMP was included in older versions of this SWMP in Appendix C, but has now been replaced with the new BMP Design Manual in Appendix C, as mentioned above.

4.3.5 TENANT AND AUTHORITY DEVELOPMENT PROJECTS

The BMP Design Manual addresses updated on-site post-construction storm water requirements for Standard Projects and PDPs, and provides updated procedures for planning, preliminary design, selection, and design of permanent storm water BMPs based on the performance standards presented in the Municipal Permit (see Section 4.7 below and Appendix C). The BMP Design Manual guides project applicants, for both Authority and tenant developments, including the representatives responsible for preparation of the Storm Water Quality Management Plans (SWQMPs), and P&EAD personnel responsible for review of these plans.

New development and redevelopment projects are conducted by two major categories of project proponents: projects conducted by tenants of the airport (hereafter referred to as “tenant projects”) and projects conducted by the Authority itself (hereafter referred to as “Authority projects” or “capital projects”). The Authority has a different project approval process for each of these two project proponent categories and these differences are reflected in the Authority BMP Design Manual project review and approval processes.

The Authority BMP Design Manual approval process, including roles and responsibilities of Authority departments, is described below and in Appendix C for both tenant and Authority projects.

4.3.5.1 Tenant Projects

Whenever an airport tenant desires to make surface or subsurface improvements or perform new construction, reconstruction, modification, or demolition, the tenant must submit a request for approval to the Terminals and Tenants Department prior to commencing work. The request must be accompanied by plans and specifications that indicate the nature and extent of the proposed work and conform to Authority policies and all relevant laws, ordinances, rules, and regulations. The plans may include references to specific sections or parts of the Uniform Building Code or other applicable codes, ordinances, or laws. The Terminals and Tenants Department, in conjunction with the ADC, assigns a project manager to evaluate the project application for completeness and to coordinate technical review with the other Authority departments. The P&EAD must determine whether the BMP Design Manual requirements are applicable to the project, as described in Section 1.2 of the BMP Design Manual. For both Standard Projects and PDPs, in order for the project application to be considered complete, the project proponent must submit a SWQMP with the project application in accordance with the Authority BMP Design Manual describing how the project will meet the Manual requirements. The P&EAD reviews the finalized project plans and documents to ensure that all environmental requirements are met.

The approval of a SAN tenant project becomes part of the lease or part of a use and occupancy permit once all documents in the project application have been approved. Any CEQA mitigation measures or conditions of approval required by the review process of these departments become part of the lease or use permit and may be adopted by the Authority Board as a CEQA Mitigation Monitoring and Reporting Program. Sustainability and LEED criteria commitments are also incorporated. Authority review does not substitute for any other required applicable City, County, or Federal development permits. Written approval must be obtained from the Authority before development may begin, regardless of the scope of work.

4.3.5.2 Authority Projects

Whenever an Authority department desires to make surface or subsurface improvements or to perform new construction, reconstruction, modification, or demolition, the project sponsor, proponent, or manager must submit appropriate information to the Authority's Executive Team. The Authority's Executive Team evaluates each development project on the basis of its financial funding capacity and prepares a development program with the accepted projects. The Airport Planning and Noise Mitigation Department and P&EAD assess the environmental impacts of the program. P&EAD must determine whether the current BMP Design Manual requirements are applicable to the project, as described in Section 1.2 of the BMP Design Manual. For both Standard Projects and PDPs, in order for the project submittal to be considered complete, the submittal must include a SWQMP in accordance with the Authority BMP Design Manual describing how the project will meet the Manual requirements. Once reviewed by the relevant Authority departments, the development program is submitted to the Authority Board for approval. The Authority Board evaluates the development program and determines whether the program will be included as part of the Authority's budget. Any mitigation measures or conditions of approval required by the review process of these departments become part of the project design, contract, and/or implementation and are formalized, as necessary, as a CEQA Mitigation Monitoring and Reporting Program adopted by the Authority Board at the time of project approval. Again, commitments to sustainability or LEED initiatives are also incorporated into the project design and contracts.

4.4 PRIORITY DEVELOPMENT PROJECTS

PDPs are defined as proposed land development projects for which the Authority must impose specific requirements and structural BMPs. PDPs at SAN are further described in the Authority's BMP Design

Manual (Appendix C). Municipal Permit Provision E.3.b includes the following criteria for determination of a PDP:

- New development projects that create 10,000 cumulative square feet or more of impervious surfaces;
- Redevelopment projects that create and/or replace 5,000 cumulative square feet or more of impervious surface if the existing site has 10,000 square feet or more of impervious surfaces;
- New or redevelopment projects that create 5,000 cumulative square feet or more of impervious surfaces for use by restaurants, parking lots, and streets, roads, highways, and freeways; hillside development projects are not applicable to SAN;
- New and redevelopment projects that create or replace 2,500 cumulative square feet or more of impervious surfaces which discharge directly to an ESA;
- New development projects that support automotive repair shops or retail gasoline outlets;
- New or redevelopment projects that disturb one or more acres of land and are expected to generate pollutants post-construction; and
- Some development projects may be exempt from being defined as a PDP by the Authority if they meet one or more of the following conditions:
 - New or retrofit paved sidewalks that are designed to divert storm water runoff to vegetated or permeable areas, be hydraulically disconnected from impervious streets or roads, or include permeable pavements or surfaces in accordance with USEPA Green Streets guidance; and
 - Retrofitting or redevelopment of existing paved alleys, streets, or roads that are designed in accordance with the USEPA Green Streets guidance.

As stated in Section 4.3.4, the definitions of a PDP contained in the new BMP Design Manual (adopted in February 2016) are now followed, replacing the old PDP definitions in the previous SUSMP document.

4.5 BEST MANAGEMENT PRACTICES

The Authority requires that all development projects ensure that pollutant discharges and runoff flows are reduced to the MEP and that receiving water quality objectives are not violated. Proposed new development projects are required to incorporate BMPs into project plans in order to obtain approval. As required by Municipal Permit Provision E.3.a.(1), all development project plans must incorporate BMPs that remove pollutants from runoff as close to the source as possible and that do not create a nuisance or pollution associated with vectors. All development projects are required to implement source control and LID BMPs. Structural BMPs are required for any development projects which meet the requirements in Provision E.3.b. of the Municipal Permit, as discussed below.

4.5.1 SOURCE CONTROL BMPS

Source control BMPs are designed to reduce the contact between pollutants and storm water runoff and include land use and planning practices designed to reduce the potential for contamination at the source of pollution. Detailed source control BMPs are included in Appendix B and in the BMP Design Manual in Appendix C.

The Authority, as required by Provision E.3.a.(2) of the Municipal Permit, requires the following source control BMPs for all development projects where applicable and feasible:

- Prevention of illicit discharges to the MS4;
- Storm drain system stenciling and signage;

- Protection of outdoor material storage, trash storage, and work areas from rainfall, run-on, runoff, and wind dispersal; and
- Minimization of pollutant generation.

4.5.2 LOW-IMPACT DEVELOPMENT BEST MANAGEMENT PRACTICES

LID BMPs incorporate natural landscapes or resources and engineered, small-scale hydrologic controls into new or redevelopment projects to mimic pre-development hydrologic conditions, thereby reducing runoff and pollutants carried to the MS4. Instructions for identifying and implementing LID BMPs, also referred to as Site Design BMPs, are included in the BMP Design Manual (Appendix C). The Authority, as required by Provision E.3.a.(3) of the Municipal Permit, requires the following LID BMPs to be implemented for all development projects where applicable and feasible:

- Preserve or restore natural reservoirs and drainage corridors;
- Implement buffer zones for natural water bodies where feasible, or other buffers such as access restrictions where buffer zones for natural water bodies are not feasible;
- Conserve natural areas, vegetation, and soils within the development project footprint.
- Minimize the width of streets, sidewalks, and parking lot aisles as feasible, considering public safety;
- Minimize the impervious footprint;
- Minimize soil compaction to landscaped areas;
- Disconnect impervious surfaces with interspersed pervious areas;
- Implement landscaped or pervious areas to enhance infiltration, retention, and treatment of runoff;
- Implement collection areas or devices located at, or close to, the point where storm water initially meets the ground;
- Implement permeable materials in low-traffic areas where feasible;
- Incorporate native or drought-tolerant landscaping; and
- Harvest or reuse precipitation to both reduce runoff and minimize water usage.

4.5.3 STRUCTURAL BMPS

Development and redevelopment projects determined to be a PDP must include plans to implement structural BMPs in addition to the Source Control and LID BMPs, to meet the structural BMP performance requirements of Provision E.3.c of the Municipal Permit. There are special considerations for redevelopment PDP projects, namely that if they result in the creation or replacement of impervious surface in an amount less than 50 percent of the surface area of the previously existing development, then the structural BMP performance requirements apply only to the creation or replacement of impervious surface and not to the entire development. However, if the redevelopment results in creation or replacement of impervious surfaces greater than or equal to 50 percent of the surface area, structural BMP performance requirements apply to the entire development.

Structural BMPs must be designed to retain on-site pollutants contained in the volume of storm water runoff produced from a 24-hour, 85th percentile storm event (design capture volume). Additional information on structural BMP design, implementation, verification, and maintenance is contained in the BMP Design

Manual in Appendix C. If BMPs that retain full design capture volume are considered technically infeasible, the following alternatives may be implemented:

- Biofiltration BMPs may be designed with the appropriate hydraulic loading rate to maximize storm water retention and pollutant removal; to prevent erosion, scour, and channeling within the BMP; and to be sized according to the requirements in the BMP Design Manual.
- If biofiltration is not technically feasible, then flow-through treatment control BMPs can be used to treat runoff, mitigate for the design capture volume not reliably retained on site, and meet the size and design requirements in the BMP Design Manual to remove pollutants from storm water to the MEP. Flow-through treatment control BMPs should be ranked with high or medium pollutant removal efficiencies for the expected pollutants of concern, and a feasibility analysis should be conducted by the Authority if the flow-through BMP has low removal efficiency.

If the project proponent chooses to implement infiltration BMPs to meet the structural BMP requirements, the infiltration device(s) must not cause or contribute to an exceedance in applicable groundwater quality objectives and must meet the following design criteria, according to Provision E.3.c.(5) of the Municipal Permit, unless the project proponent demonstrates that one or more of the criteria are not necessary to protect groundwater:

- Runoff must undergo pretreatment prior to infiltration;
- Pollution prevention and source control BMPs must be implemented at a level appropriate to protect groundwater quality;
- Infiltration BMPs must be adequately maintained to remove pollutants in storm water to the MEP;
- The vertical distance from the base of the infiltration BMP to the seasonal high groundwater mark must be at least 10 feet; this vertical distance criteria can be reduced in cases where the groundwater basins do not support beneficial uses (as is the case at SAN), as long as groundwater quality is maintained;
- The soil through which infiltration will occur must have physical and chemical characteristics adequate for proper infiltration durations and treatment of runoff for the protection of groundwater for beneficial uses; and
- The development will not occur in areas of industrial, light industrial, or other activities that pose a high TTWQ, unless source control BMPs are implemented to prevent exposure or the runoff from these activities is treated or filtered to remove pollutants prior to infiltration.

The BMP Design Manual provides instructions for selecting, sizing, and designing infiltration BMPs.

In accordance with Municipal Permit Provision E.3.c.(2)(d)(ii), the Authority is exempt from the Municipal Permit requirement to implement hydromodification BMPs to manage post-project runoff conditions at SAN, because storm water runoff from the airport discharges to an enclosed embayment (namely, San Diego Bay). This is further discussed in the WMAA, which is included in the San Diego Bay WQIP.

4.6 BMP DESIGN MANUAL

As described in Section 4.3.4, the Authority continued to use the SUSMP previously contained in Appendix C until the new BMP Design Manual was developed and replaced it (the new Appendix C). All development projects (Standard Projects and PDPs) are required to minimize the introduction of pollutants of concern to the storm water conveyance system to the MEP to reduce any significant impacts on the receiving water. This objective can be most effectively achieved by using a combination of Site Design, Source, and treatment or structural control BMPs. The Authority's BMP Design Manual (Chapter 4) describes the selection and design criteria for the Source Control and LID BMPs (required for all development projects),

and the additional treatment control or structural BMPs required to be implemented at PDPs (Chapters 5-7). For PDPs, the Authority's BMP Design Manual outlines the method for selecting structural storm water BMPs to be used on the project to maximize the removal of the pollutant(s) of concern identified on the project site, and per Municipal Permit requirements.

The Authority is implementing the new BMP Design Manual, replacing the previous SUSMP requirements, as from February 2016 onwards, to continue to address post-construction urban runoff pollution from new development, priority development, and redevelopment projects. The following changes required by the new Municipal Permit Provisions E.3.d.(1) through (5) have been incorporated into the new BMP Design Manual:

- Updated procedures to determine the nature and extent of storm water BMP requirements for potential development and redevelopment projects, including all applicable source control, LID, and structural BMPs; design procedures and requirements for structural BMPs; and any requirements specific to phased projects for both private development (tenant) and public improvement (Authority) projects;
- Updated procedures for identifying the expected pollutants and conditions of concern, based on receiving water quality; pollutants or conditions that cause or contribute to the highest priority water quality conditions identified in the WQIP; the land use type of the project and the pollutants associated with the land use; and the pollutants predicted to be present at the site;
- Updated performance requirements and procedures for designing structural BMPs;
- Long-term maintenance criteria for each structural BMP listed in the BMP Design Manual; and
- Alternative compliance criteria, if permitted, for PDPs.

4.6.1 STORM WATER QUALITY MANAGEMENT PLAN

Standard Projects and PDP projects that are subject to the new BMP Design Manual must submit a SWQMP to P&EAD. The SWQMP will replace the Urban Storm Water Mitigation Plan previously required by the SUSMP. The SWQMP for all developments must demonstrate how source control and site design (or LID) BMPs have been incorporated and implemented. The SWQMP for PDPs must also include the following information:

- Documentation of the planning and decision process for structural BMP selection;
- Calculations used for design of structural BMPs that demonstrate that applicable performance standards have been met;
- General operation and maintenance requirements of the selected structural BMPs; and
- Maintenance mechanisms and responsibilities selected for long-term operation and maintenance of the structural BMPs.

Standard Projects, or projects that are not defined as a PDP and are not subject to PDP requirements, as well as PDPs, will submit checklists that verify that all source control and site design BMPs have been considered and implemented when feasible and include copies of all relevant plan sheets that demonstrate BMP implementation. The following checklist templates are included as appendices in the BMP Design Manual to be used in development of both a Standard Project and a PDP SWQMP:

- Applicability of Permanent, Post-Construction Storm Water BMP Requirements;
- Project Type Determination Checklist;
- Site Information Checklist for Standard (or PDP) Projects;

- Source Control BMP Checklist; and
- Site Design BMP Checklist.

The P&EAD evaluates the project SWQMP as part of the initial project review process to ensure that the project plans comply with BMP Design Manual and Municipal Permit requirements.

PDP BMP IMPLEMENTATION AND OVERSIGHT

PDP and structural BMP verification and inspection are conducted by the Authority to ensure that all design, construction, and maintenance requirements have been met.

4.7 STRUCTURAL BMP APPROVAL AND VERIFICATION

All PDP applications must meet the structural BMP performance requirements of Provision E.3 of the Municipal Permit, as outlined in the BMP Design Manual. Prior to occupancy of each PDP, P&EAD, together with a project proponent engineer, inspects each structural BMP to verify that it has been constructed in compliance with all specifications, plans, permits, and ordinances, and records verification and approval of the structural BMPs in the Web-based database. Initial BMP verification inspections are separate from the regular operation and maintenance inspections for each BMP.

4.7.1 PDP INVENTORY

The Authority has incorporated a development inventory into the Web-based database for tracking and approval of all developments including PDPs. If applicable, the SWQMP can be uploaded and the type and location of structural BMPs can be recorded in the database. The database currently includes, or will be updated to include, the project PDP, address and hydrologic subarea, descriptions of structural BMPs (if applicable), date(s) of construction, responsible parties for construction and structural BMP maintenance, BMP maintenance inspection dates and results, and corrective actions taken and associated resolutions, when applicable.

PDPs with structural BMPs are prioritized for inspection and follow-up as shown in Table 4-2.

Table 4-2. PDP Prioritization Criteria

PDP Priority	Authority Criteria
High	PDPs with expected pollutants that are listed as highest or focused priority pollutants for the Authority in the San Diego Bay WQIP.
Low	PDPs with expected pollutants that are not listed as highest or focused priority pollutants for the Authority in the San Diego Bay WQIP.

PDP = Priority Development Project
WQIP = Water Quality Improvement Plan

The Authority reserves the right to revise its methodology for determining PDP inspection priority for any project as necessary. P&EAD considers the following additional factors when revising PDP structural BMP inspection priorities, as follows:

- Receiving water quality;
- Number and sizes of structural BMPs;
- Likelihood of operation and maintenance issues of structural BMPs;
- Land use and expected pollutants generated; and

- Compliance record.

4.7.2 PDP STRUCTURAL BMP MAINTENANCE VERIFICATIONS AND INSPECTIONS

The Authority's approval of a development project includes the requirement to properly operate and maintain any structural BMPs that are constructed. The P&EAD verifies annually that structural BMPs are adequately maintained and continue to operate effectively to remove pollutants in storm water to the MEP. This verification is accomplished through inspection or self-certification.

Structural BMPs constructed by the Authority as part of a capital improvement project are maintained by the FMD. The P&EAD inspects and the FMD maintains these structural BMPs in accordance with the manufacturer's recommendations. The P&EAD records inspections and the FMD records maintenance of these BMPs. Before October 1 of each year, the P&EAD inspects either the FMD documentation of inspection/maintenance or the structural BMPs themselves or both.

Structural BMPs constructed by tenants are generally maintained by tenants, unless the Authority and the FMD have assumed responsibility under the terms of the tenant's lease or some other mechanism. Structural BMPs constructed by tenants are either inspected by P&EAD annually before October 1 or the tenant is allowed to self-certify inspection and maintenance. Structural BMPs associated with PDPs designated high priority by the Authority will not be eligible for self-certification and will be inspected by P&EAD directly. Tenants who have been authorized by P&EAD to perform their own inspections and maintenance of structural BMPs are required to submit documentation and self-certification that inspection and maintenance were performed prior to October 1.

Any decision to increase the frequency of inspections of structural BMPs will be made by P&EAD on a case-by-case basis and will be dependent on the type of operations occurring outdoors at the PDP, type of BMPs installed, frequency of storms, and past experience from inspecting structural BMPs.

4.8 ALTERNATIVE COMPLIANCE PROGRAM

The Municipal Permit allows the Copermittees to implement an alternative compliance program in lieu of structural control BMPs for a PDP on an individual jurisdictional level, if they so choose. Provision E.3.c.(3) of the Municipal Permit and Section 1.8 of the Authority's BMP Design Manual in Appendix C outline the requirements and conditions for establishing such programs. Provision E.3.c.(3)(b) also allows the Authority to approve a PDP that proposes to fund, contribute to, or implement an ACP, provided that the Authority determines that implementation of the ACP will have a greater overall water quality benefit for the WMA than fully complying with the performance requirements of Provision E.3.c.(1) on site, and is subject to the requirements described in Provisions E.3.c.(3)(a)(ii)-(viii).

The Authority's BMP Design Manual, updated February 2016, addresses post-construction urban runoff pollution from new development and redevelopment projects, including Section 1.8, which outlines possible pathways for an alternate compliance program at SAN. As previously described, all proposed ACPs must prepare a SWQMP (which should include construction plans and water quality credits earned under the alternative compliance program) for review and approval by the Authority. In order to determine those credits, in December 2015, the RWQCB issued a Water Quality Equivalency (WQE) Guidance Document that provides standards and guidelines to determine whether a proposed ACP would achieve a water quality benefit that is greater overall than a PDP. This Guidance Document states that "credit systems require review and acceptance by the RWQCB prior to their implementation." In 2018, the Authority began development of a Credit Trading Framework with the purpose of providing a framework for implementing water quality credit trading at SAN.

The Authority's WQE Credit Trading Framework relies on the WQE Guidance Document as a basis for outlining the methods that project applicants and the Authority could use to bank, track, and trade water

quality credits for development projects within the SAN jurisdiction. Water quality credits would be calculated per the Region 9 WQE Guidance Document and could be used to partially or wholly satisfy pollutant control requirements for a proposed PDP through an ACP.

The types of credits to be traded by the Authority per the WQE Guidance Document would be storm water pollutant control credits (water quality credits). The Authority intends to submit the WQE Credit Trading Framework to the RWQCB for approval in 2019.

4.9 DEVELOPMENT AND PLANNING ENFORCEMENT

All project proponents involved in development or improvement planning are responsible for ensuring that project applications meet the requirements of the Municipal and Industrial Permits, Authority Rules and Regulations, Storm Water Code (Article 8), SWMP, BMP Design Manual, project permits and approvals, and contracts and leases. As required under Provision E.6 of the Municipal Permit, the Authority has developed an ERP to enforce its legal authority to achieve compliance. This section describes the ERP as it applies to development and planning projects at the SAN.

Violations are determined on the basis of noncompliance with established codes, regulations, permits, and approvals for development projects at the SAN. The enforcement mechanisms used by the Authority are listed below. The Authority generally obtains compliance using the first four mechanisms listed here. The remaining escalated enforcement mechanisms can be used, as necessary, to increase the severity of penalties and to compel compliance as soon as possible:

- Verbal and written warnings;
- Written notices of violation;
- Written notices to clean, test, or abate;
- Order to cease and desist;
- Fines;
- Denial or revocation of permits and approvals;
- Administrative and criminal penalties;
- Bonding requirements;
- Liens; and
- Program review and modification.

The Authority's ERP for development and planning activities have two levels of enforcement. The general enforcement process is outlined as follows:

- Enforcement Level 1 is initiated if a project moves forward with construction or development activities before the project application has been approved or in a manner that has not been approved or if the responsible party fails to perform and document BMP inspections or self-verification inspections. The developer or responsible party is issued a verbal and/or written notification of the finding to initiate enforcement. Corrective actions are expected to be submitted and/or verified through re-inspection within 30 days of the verbal or written notice. If the corrective actions require a longer time period than 30 days, the Authority employee or tenants will provide an explanation to the P&EAD inspector and a suggested timeframe for completion, which the P&EAD inspector will either agree upon, or reject and provide a preferred timeframe. The Authority or tenants must document the corrective action taken by responding to P&EAD through the Authority's web-based database. The Authority or tenants who cannot complete corrective actions in the time required must explain in

detail through the web-based database the specific causes of delay and propose a schedule for compliance. P&EAD has the sole discretion to grant an extension or pursue escalated enforcement. All corrective actions, as well as the time periods allowed and dates of actual completion, are recorded in the web-based database.

- Enforcement Level 2 is initiated when a prohibited off-site discharge occurs. A written notice to clean, test, or abate or an order to cease and desist (stop work order), is used to initiate enforcement and compliance is expected within 24 hours. If the violation is not corrected, the Authority or tenants must attend a mandatory meeting with the Director of the P&EAD to discuss the reasons for failing to comply and the means of resolving the issue.

4.10 DEVELOPMENT AND PLANNING MODIFICATIONS

The Authority has reserved this section to identify and document changes made to the Development Planning Component of the SWMP. Section 13.0 of this SWMP details the program modifications made to the March 2008 version of the SWMP to bring this document into compliance with the renewed Municipal and Industrial Permits. Changes are listed below:

- The previous SUSMP in Appendix C has been replaced with the BMP Design Manual in February 2016, and language in this section has been updated accordingly.
- Standard Projects and PDP projects subject to the BMP Design Manual must submit a SWQMP to the P&EAD. The SWQMP replaced the Urban Storm Water Mitigation Plan previously required by the SUSMP, as of February 2016.
- The following checklist templates are included in the BMP Design Manual to be used in development of a Standard Project and a PDP SWQMP: Applicability of Permanent, Post-Construction Storm Water BMP Requirements, Project Type Determination Checklist, Site Information Checklist for Standard (or PDP) Projects, Source Control BMP Checklist, and Site Design BMP Checklist (see Appendix C).
- Updates were made to Section 4, the Development and Planning Component, in January 2019, following finalization of the Strategic Master Drainage Plan and change in the storm water capture and reuse WQIP strategy from an optional to a jurisdictional strategy.
- The discussion of Alternative Compliance, Section 4.8, has been updated in January 2019.

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