

11.0 EFFECTIVENESS ASSESSMENT COMPONENT

In accordance with Municipal Permit Provisions D.4 and F.3, the Authority annually assesses the effectiveness of SWMP implementation, and specifically the effectiveness of each major component of the Authority's urban runoff management program, as described in this SWMP; the effectiveness of each significant type of jurisdictional activity/BMP implemented; and the effectiveness of the Authority's urban runoff management program as a whole. The Authority will also assess progress toward achieving interim jurisdictional goals outlined in the WQIP and assess the effectiveness of selected strategies. Additionally, Industrial Permit Section XV mandates an annual comprehensive industrial facility compliance evaluation, involving inspection of all industrial areas and BMPs as well as review of sampling and inspection records from the previous year. Additional assessments are required if SAN enters Level 1 or Level 2 discharger status. The Authority's approach to the annual and long-term effectiveness assessment is described below.

11.1 INTRODUCTION

Since 2004, the Authority has been evaluating the effectiveness of the SAN SWMP to varying degrees under both the Industrial Permit and the Municipal Permit. Beginning with the 2013 Municipal Permit, the focus of assessment changed to encompass required evaluations of the WQIP. The Copermittees have developed and will continue to refine criteria that allow for an assessment of the effectiveness of storm water management efforts implemented in accordance with the Municipal Permit. The Authority will continue to collaborate with the Responsible Parties to outline standardized methods and procedures for assessing the effectiveness of local urban runoff management programs, which incorporate WQIP strategies. The WQIP assessment program is described in Sections 11.2, 11.5.1, and 12.0.

11.2 MUNICIPAL PERMIT ASSESSMENT COMPONENTS

Municipal Permit Provision D.4 mandates two types of general assessments: (1) receiving water assessment; and (2) MS4 outfall assessment. Additionally, the Authority will periodically assess progress toward achieving goals related to the focused priority condition outlined in the San Diego Bay WQIP, as well as contributing to watershed-wide special studies assessments. Finally, the Authority will perform assessments integrating the annual assessment components, JRMP and WQIP implementation evaluations, and monitor data to evaluate the overall effectiveness of the WQIP and this SWMP. This iterative process of program assessments and revisions is required to comply with the provisions of the Municipal Permit.

11.3 RECEIVING WATER ASSESSMENT

Receiving water data, collected per the methods discussed in Appendix K of the WQIP, will be assessed in the San Diego ROWD. Receiving water data will be collected and analyzed as a watershed and/or regional effort. However, prior to completing the receiving water assessment, the Authority will review their jurisdictional program to compile any available and relevant data that may be used to assess the MS4 contribution to receiving water quality conditions. Jurisdictional Runoff Management Program data that will be compiled may include, but are not limited to, hotline reports, IDDE investigations, industrial and commercial tenant inventories or land use data, inspection results, new BMPs, or new Authority regulations or policies.

Once relevant data have been compiled in regional formats, the Responsible Parties will conduct a watershed assessment as required by Municipal Permit Provision D.4.a.(2).

11.4 MS4 OUTFALL ASSESSMENT

The Authority will assess its MS4 outfall monitoring program annually as part of the San Diego Bay WQIP Annual Report process, described in Section 12.0. Assessments will include evaluations of dry and wet weather outfall monitoring, including field screening and observations, and data collected under the IDDE program (Section 3.0 and Appendix D-2).

Assessments will include the following:

- Non-storm water assessments per Municipal Permit Provision D.4.b.(1):
 - Progress toward effectively prohibiting NSWDS and illicit discharges into the MS4;
 - Ranking and prioritization of MS4 outfalls according to TTWQ;
 - Identification of known and suspected sources contributing to non-storm water action level exceedances at highest ranking MS4 outfalls;
 - Estimation of volumes and loads of NSWDS; and
 - Identification of data gaps.
- Wet weather MS4 outfall assessments per Municipal Permit Provision D.4.b.(2):
 - Estimation of volumes and loads of storm water discharges;
 - Identification of modifications to MS4 outfall monitoring locations and frequencies;
 - Identification of known and suspected sources contributing to storm water action level exceedances at highest-ranked MS4 outfalls; and
 - Identification of data gaps.

It is important to note that the assessments conducted under Municipal Permit Provision D.4.b focus primarily on data gathered from the single permit-required MS4 outfall monitoring location (see Appendix D-2 for outfall location and description) and the IDDE program. As described in Section 11.4, additional sampling data gathered under the Industrial Permit will be utilized to measure progress toward meeting the interim and final numeric goals stated in the WQIP.

11.5 SPECIAL STUDIES ASSESSMENT

The Authority is participating in a number of regional and watershed special studies, including the San Diego Regional Reference Streams and Beaches Studies and the San Diego Bay Debris Study. The Authority will collaborate with the other Responsible Parties to evaluate the results and findings from these special studies, as described in Appendix K of the San Diego Bay WQIP. These assessments will be incorporated into the WQIP Annual Reports as well as the ROWD.

11.5.1 FOCUSED PRIORITY CONDITION ASSESSMENT AND INTEGRATED ASSESSMENT

As part of the WQIP process mandated under the 2013 Municipal Permit, the Responsible Parties selected highest and focused priority conditions within their jurisdictions. The process for selecting these conditions is documented in Section 2.0 of the San Diego Bay WQIP. The Authority selected metals (copper and zinc) as the focused priority condition for the Authority jurisdiction, and, based on this selection, the Authority set a number of interim and final goals to evaluate progress. The first of these interim goals coincides with the end of the current Municipal Permit cycle and preparation of the ROWD. At that time, the Authority will evaluate progress toward achieving these interim goals on the basis of monitoring data and records of program implementation.

Table 11-1 lists the interim and final goals that have been set to evaluate the focused priority condition, as well as notes on the data that will be assessed and the assessment method. Data gathered from Industrial Permit-required monitoring (described in Appendix D-1) and records of BMP implementation will be used to assess these goals.

**Table 11-1. Assessment of Goals for Focused Priority Condition (Copper and Zinc)
Within Authority Jurisdiction, Current and Future Permit Terms**

| Water Quality | | | | | |
|--|----------------------------------|--|---|----------|-------------------------|
| Numeric Goals | | Assessment Period and Fiscal Year | | | |
| | | Current Permit Term | FY 16-20 | FY 21-25 | FY 26-30 |
| | | FY 17 | FY 18 | FY 21 | FY 26 |
| | | Interim Goal ¹ | | | Final Goal ² |
| MS4 Discharges Jurisdiction-wide Percentage of Wet Weather Samples With Concentrations Exceeding Target) | Dissolved Copper ³ | 70% | 30% | 20% | 0% |
| | Dissolved Zinc ³ | 65% | 35% | 25% | 0% |
| OR | | | | | |
| Performance Metrics | | FY 16 | FY 18 | FY 21 | FY26 |
| MS4 Discharges Sub-basins 1, 3, and 5 (in total) Area Treated with Street Sweeping | Acres/ Week ⁴ | 7 Acres/Week (Current Frequency) | 21 Acres/ Week (3-fold increase in area) | | |

Notes:

- Interim Goals are based on State Industrial General Permit Numeric Action Levels (NALs), which are based on the 2008 USEPA NPDES Multi-Sector General Permit benchmark values. Benchmark values for copper and zinc are 33.2 µg/L and 260 µg/L, respectively, and were calculated based on the highest hardness as CaCO₃ value in the 2008 Multi-Sector General Permit hardness table.
- Final Goals are based on the 1-hour average concentration for dissolved solids from the USEPA California Toxics Rule Criteria for Enclosed Bays and Estuaries. Criteria values for copper and zinc are 4.8 µg/L and 90 µg/L, respectively.
- The data assessed is the wet weather compliance sampling data gathered under the Industrial Permit monitoring program (Appendix D-1). The assessment method is a comparison of sample results to the Industrial Permit NALs and calculation of percent exceedance.
- The data assessed is the SWMP implementation records. The assessment method is tracking and confirmation of the implementation of street sweeping frequency.

11.6 INDUSTRIAL PERMIT ASSESSMENT COMPONENTS

The Authority conducts annual facility evaluations, including assessment of industrial source areas and BMPs. Additional BMP and facility assessments are conducted when SAN enters Level 1 or Level 2 discharger status for any analyte as a result of NAL exceedances.

11.6.1 ANNUAL EVALUATION

As described in Section 7.0, the Authority conducts an Annual Evaluation. This evaluation includes an assessment of all BMPs in each industrial drainage area and associated potential pollutant sources to determine whether the BMPs are properly designed, implemented, and effective in reducing and preventing pollutants from industrial storm water and authorized NSW. The evaluation also includes review of sampling results and inspection records. Based on the Annual Evaluation, the SWPPP may be revised to ensure (1) the site map is up to date; (2) control of all potential pollutant sources is included in the SWPPP; and (3) proper BMPs are being implemented based on sampling data and visual records.

11.6.2 LEVEL 1 STATUS ASSESSMENTS

As part of the Level 1 ERA evaluation (described in Section 7.0), the Authority assesses industrial pollutant sources that are or may be related to any Level 1 NAL exceedances. Based on this evaluation, the Authority identifies and assesses the corresponding BMPs in the SWMP and any additional BMPs revisions necessary to prevent future exceedances.

11.6.3 LEVEL 2 STATUS ASSESSMENTS

When SAN enters Level 2 status for any analyte, one of three demonstrations is completed by a QISP as part of the Level 2 Action Plan and Technical Report, described in Section 7.0. Each evaluation includes the following additional assessments:

- Industrial Activity BMP Demonstration:
 - An assessment of current BMPs and additional BMPs recommended under the Level 2 ERA Action Plan is conducted to determine whether these BMPs (1) achieve compliance with effluent limitations in the Industrial Permit; and (2) are expected to eliminate future NAL exceedances; and
 - If current and additional BMPs are not expected to eliminate future NAL exceedances, an assessment of the BMP selection methodology is conducted to describe why any further BMPs are not implemented. This assessment includes an economic analysis of BMP alternatives.
- Non-Industrial Pollutant Source Demonstration:
 - An assessment of the relative contributions of the pollutant exceeding NALs from (1) storm water run-on from adjacent properties or non-industrial areas of SAN or aerial deposition, and (2) storm water associated with the Authority's industrial activities is conducted; and
 - An assessment of the monitoring data used to evaluate the relative contributions of non-industrial and industrial sources is conducted.
- Natural Background Pollutant Source Demonstration:
 - An assessment of monitoring data, research, and published literature used to demonstrate that a natural background source is responsible for the NAL exceedance is conducted.

11.7 PROGRAM REVIEW AND MODIFICATION

The Municipal Permit and Industrial Permit both require an Annual Report that includes an assessment of SWMP effectiveness. The Annual Reports will provide documentation of the SWMP elements and data needed to make decisions regarding refinement of the SWMP. The assessment will document specific strategies implemented each year, comparison to the action levels and numeric goals, effectiveness of the strategies toward meeting goals, need for further action or modification, and recommendations. This process will be used to track the effectiveness of the Authority's jurisdictional runoff management program on an annual basis.

Additionally, the Municipal Permit requires a ROWD at the end of each Municipal Permit cycle. This includes an assessment of the SWMP effectiveness in improving the Authority's focused priority condition. The assessment documents monitoring results and actions implemented in comparison with goals set in the WQIP. Lessons learned from this assessment will guide an adaptive management process that may lead to modifications to the SWMP as the Authority reevaluates its focused priority condition, water quality goals and schedules, water quality improvement strategies and BMPs, and monitoring and assessment programs. As progress toward achieving goals is made, the Authority's focused priority condition will be re-evaluated, and new priorities will be identified if appropriate.

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

- The WQIP sweeping goal was amended slightly in Section 11.0 to reflect the most up-to-date information collected on the runway/taxiway sweeping program, and older goals incorporated into draft versions of the WQIP (which are no longer included in the final WQIP) have been removed; and
- The table showing WQIP goals (Table 11-1) has been updated to include all interim and final WQIP goals.