

Clean Beaches Initiative
Mission Bay Central Computerized Irrigation
System Project

Final Report

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1. Project Background and Purpose

The California Water Quality Control Board, Region 9 Water Quality Control Plan for the San Diego Basin defined the beneficial uses for waterbodies within the region in 1975. At that time, the Pacific Ocean and Mission Bay were designated as an existing REC1 beneficial use. This designation required fecal coliform levels to be 400 colonies per 100 milliliters (ml) daily. Basin Plan amendments have required Enterococcus to be less than 104 colonies per 100 ml daily. The adoption of the Assemble Bill 411 into the California Health and Safety Code required a beach to be posted with an advisory warning when total coliform to be less than or equal to 10,000 colonies per 100 ml per day or have a 30-day geometric mean of 1,000 colonies per 100 ml. Fecal coliform is to be less than or equal to 400 colonies per 100 ml per day or have a 30-day geometric mean of 200 colonies per 100 ml. Enterococcus remained at less than 104 colonies per 100 ml daily with a 30-day geometric mean of 35 colonies per 100 ml. Beaches are required to be closed when there is a known sewage spill into the receiving water.

Mission Bay is an enclosed, recreational water body in San Diego, California that is used by approximately twelve million people each year, see Figure 1 on the next page. Numerous recreational activities take place, including swimming, diving, boating, fishing, kayaking, and water skiing. Water quality in Mission Bay has been monitored since the mid-1960s and exceedances of bacterial standards have been recorded from surface waters of Mission Bay since the early 1970s. County of San Diego beach water quality data for 1980-2006 are enclosed as Appendices 1-11. Contamination from storm drains, periodic overflows from the City of San Diego sanitary sewage system, and poor tidal flushing were thought to be the primary causes of most of the bacterial problems in Mission Bay.

Figure 1: Map of Mission Bay



Due to these water quality impacts, the City of San Diego applied to the State Water Resources Control Board for a Clean Beaches Initiatives grant titled the Rose and Tecolote Creek Water Quality Improvement Project. The purpose of this grant was to determine locations and install structural best management practices (BMPs) in the watershed to reduce bacteria levels in Mission Bay. Analysis of potential BMPs locations determined that these BMPs were likely not to improve Mission Bay's water quality at the mouths of Rose and Tecolote Creeks. The grant was modified to prepare a circulation study for the placement of BMPs to improve Mission Bay's water quality. The California Environmental Quality Act (CEQA) documentation was prepared and distributed for public review and comment. During this process it was determined that the proposed circulation BMPs would cause additional environmental impacts. Based on the failure to obtain CEQA approval, the proposed Phase II to install circulation pumps was halted.

In 2002, the City of San Diego and Weston Solutions, Inc., formerly MEC Analytical Systems, conducted the Clean Beaches Initiatives Mission Bay Source Identification Study to assess the numerous potential sources of bacteria to the receiving waters of the Bay. The Mission Bay Source Identification Study was performed concurrently with the Rose and Tecolote Water Quality Improvement Project. During Phase I of the study, numerous samples were collected from a variety of potential sources of bacteria to Mission Bay. The suspected sources included moored boats, leaking restroom infrastructure, irrigation runoff, storm drains, and wildlife. The investigative tasks conducted in the Mission Bay Source Identification Study Phase I were very

