Substitute Environmental Documents for the Los Angeles River Watershed Bacteria Total Maximum Daily Load

Prepared under the California Environmental Quality Act (CEQA)
Requirements of a Certified Regulatory Program

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Acronyms

BMPs	Best Management Practices
BPA	Basin Plan Amendment
CalOSHA	California Occupational Health and Safety Administration
CO_2	Carbon Dioxide
CASQA	California Stormwater Quality Association
CCR	California Code of Regulation
CDFG	California Department of Fish and Game
CEQA	California Environmental Quality Act
cfs	Cubic Feet per Second
CWA	Clean Water Act
dBA	Decibel
ESA	Endangered Species Act
FSF	Free Surface Flow
FHWA	Federal Highway Administration
FoLAR	Friends of the Los Angeles River
kWh	kilowatt hours
LA	Load Allocation
LACDPW	Los Angeles County Department of Public Works
LARWQCB	Los Angeles Regional Water Quality Control Board
LASGWC	Los Angeles and San Gabriel Rivers Watershed Council
LID	Low Impact Development
MBTA	Migratory Bird Treaty Act
MGD	Million Gallons per Day).
MS4	Municipal Separate Storm Sewer System
NPDES	National Pollutant Discharge Elimination System
NTS	Natural Treatment Systems
PRC	Public Resources Code
SED	Substitute Environmental Document
SCAQMD	South Coast Air Quality Management District
SMURRF	Santa Monica Urban Runoff Recycling Facility
SSF	Sub-Surface Flow
SUSMP	Standard Urban Stormwater Mitigation Plan
SWRCB	State Water Resources Control Board
TMDL	Total Maximum Daily Load
USC	United States Code
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wild Life Service
WDR	Waste Discharge Requirement
WERF	Water Environment Research Foundation
WLA	Waste Load Allocation

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1 Executive Summary

The California Regional Water Quality Control Board, Los Angeles Region (Regional Board) is the lead agency for evaluating the environmental impacts of the proposed Total Maximum Daily Load (TMDL) for bacteria at the Los Angeles River Watershed. This Substitute Environmental Document (SED) analyzes environmental impacts that may occur from reasonably foreseeable methods of implementing a TMDL for bacteria in Los Angeles River Watershed. This SED is based on a proposed TMDL that will be considered by the Regional Board. If approved by the Regional Board, the TMDL will be implemented through an amendment to the California Water Quality Control Plan, Los Angeles Region (Basin Plan). The TMDL is described in the Staff Report, Tentative Board Resolution, and Tentative Basin Plan Amendment available on the Regional Board website. This SED analyzes foreseeable methods of compliance with the TMDL and analyzes the potential environmental impacts, mitigation, and alternatives in accordance with the California Environmental Quality Act (CEQA).

The SED will be considered by the Regional Board when the Regional Board considers adoption of the bacteria TMDL as a Basin Plan Amendment (BPA). Approval of the SED is separate from approval of a specific project alternative or a component of an alternative. Approval of the SED refers to the process of: (1) addressing comments, (2) confirming that the Regional Board considered the information in the SED, and (3) affirming that the SED reflects independent judgment and analysis by the Regional Board CEQA Guidelines Section 10590 and 15090 (Title 14 of CCR).

Water contact recreational uses are impaired in the Los Angeles River Watershed due to excess exceedances of indicator bacteria limits as listed in the State of California 303(d) list of impaired waterbodies. The objective of the TMDL is to restore the water contact recreational uses to Los Angeles River Watershed through the attainment of water quality standards for indicator bacteria limits. The designated beneficial uses for the Los Angeles River Watershed include Municipal and Domestic Supply (MUN), though most reaches only have conditional designations, Ground Water Recharge (GWR), Water Contact Recreation (REC-1), Non-Contact Water Recreation (REC-2), Warm Freshwater Habitat (WARM), Wildlife Habitat (WILD), and Wetland Habitat (WET).

Swimming in waters with elevated indicator bacteria densities has long been associated with adverse health effects. Specifically, local and national epidemiological studies have demonstrated that there is a causal relationship between adverse health effects and recreational water quality, as measured by indicator bacteria densities.

Sources of indicator bacteria in Los Angeles River Watershed include both point sources and nonpoint sources. To attain water quality standards Waste Load Allocations (WLAs) are assigned for point sources and Load Allocations (LAs) assigned for nonpoint sources to responsible parties in the Los Angeles River Watershed (see Section 6 and Section 9 of the Staff Report). The WLAs will be implemented through permits which include the Municipal Separate Storm Sewer System (MS4) National Pollutation Discharge Elimination System

(NPDES) Permits, General NPDES permits, individual NPDES permits, the Statewide Industrial Storm Water General Permit, the Statewide Construction Activity Storm Water General Permit, and Waste Discharge Requirement (WDR) permits in the Los Angeles River Watershed.

This SED analyzes three Program Alternatives and both structural and non-structural implementation alternatives (see Sections 4 and 5) that include actions within the jurisdiction of the Regional Board and implementing municipalities and agencies. A No Project Alternative is analyzed to compare the impacts of approving a proposed alternative and its components compared with the impacts of not approving the proposed alternative. The SED analyzes the potential environmental impacts in accordance with significance criteria. CEQA requires the Regional Board to conduct a program-level analysis of environmental impacts (Public Resources Code §21159(d)). This analysis is a program-level analysis. Public Resources Code Section 21159(c) requires that the Environmental Analysis take into account a reasonable range of:

(1) Environmental, economic, and technical factors,
(2) Population and geographic areas, and
(3) Specific sites.

A "reasonable range" does not require an examination of every site, but a reasonably representative sample of them. The statute specifically states that the section shall not require the agency to conduct a "project-level analysis" (Public Resources Code § 21159(d)). Rather, a project-level analysis must be performed by the local agencies that are required to implement the requirements of the TMDL (Public Resources Code §21159.2). Notably, the Regional Board is prohibited from specifying the manner of compliance with its regulations (Water Code §13360), and accordingly, the actual environmental impacts will necessarily depend upon the compliance strategy selected by the local agencies and other permittees.

Municipalities and agencies that will implement specific projects and Best Management Practices (BMPs) may use this SED to assist in the selection and approval of project alternatives. The implementing municipality or agency will be the lead agency and have responsibility for environmental review of the projects that they determine necessary to implement the bacteria TMDL.

Approval of projects (i.e., project alternatives or components of project alternatives) refers to the decision of either the implementing municipalities or agencies to select and carry out an alternative or a component of an alternative. Section 5 summarizes the components that comprise the project alternatives analyzed. The components assessed at a project-level have specific locations that will be determined by implementing municipalities and agencies. The project-level components will be subject to additional environmental review, including review by cities and municipalities implementing bacteria TMDL projects.

Many of the specific projects and BMPs analyzed in this SED will involve small infrastructure maintenance and construction projects. Infrastructure maintenance and construction projects generate varying degrees of environmental impacts. The potential

impacts can include, for example, noise associated with construction, air emissions associated with vehicles to deliver materials during construction, traffic associated with increased vehicle trips and where construction or attendant activities occur near or in thoroughfares, and additional light and glare. Additionally, maintenance of constructed BMPs such as vegetative treatment systems and divert and or treat may result in additional traffic and air emissions and other public nuisance. These foreseeable impacts are analyzed in detail in Section 6.

To address the environmental impacts from routine and essential activities, public works departments can employ a variety of techniques, BMPs, and other mitigation measures to minimize potential impacts on the environment. Mitigation measures for construction projects for maintenance projects include varying construction activities for certain times of the day for reducing the duration of traffic and noise impacts, developing a detailed traffic plans in coordination with police or fire protection authorities, using of less noisy equipment, using of sound barriers, and using lower emissions vehicles to reduce air pollutant emission.

Many of the mitigation measures identified in the SED are common practices currently employed by agencies when planning and implementing stormwater BMPs. Agencies such as the California Stormwater Quality Association (CASQA), and the Water Environment Research Foundation (WERF) publish handbooks containing guidance on the selection, siting, design, installation, monitoring, and evaluation of storm water BMPs (CASQA, 2003a, CASQA, 2003b, WERF, 2005). Manuals describing engineering and administration policies and procedures for construction projects are also available. These mitigation methods and BMPs are discussed in detail in Section 6. Mitigation measures are suggested to minimize site specific impacts to less than significant levels. Mitigation of adverse environmental impacts is strictly within the discretion of the individual implementing agency. It is the obligation of responsible parties to mitigate adverse environmental impacts associated with reasonably foreseeable means of compliance when impacts are deemed significant (14CCR§15091(a)(2)).

The SED finds foreseeable methods to comply with the TMDL that include both non-structural and structural BMPs in Los Angeles River Watershed. Some of these BMPs may cause significant adverse impacts. These impacts can be mitigated through commonly used construction and maintenance practices. The SED identifies mitigation measures for potentially significant adverse impacts and finds that these measures may mitigate potentially significant impacts to less than significant levels. To the extent that significant adverse impacts to the environment are due to the implementation of this TMDL, feasible alternatives and/or feasible mitigation measures, that would substantially lessen significant adverse impact, exist. The SED may be used by implementing municipalities and agencies to expedite any additional environmental analysis of specific projects required to comply with the bacteria TMDL. The Regional Board cannot prescribe the exact means of compliance or the use of mitigation measures, when feasible. It is within the discretion the implementing party to select the most appropriate means of compliance and the use of measures which may mitigate potential adverse impacts associated with those means of compliance is recommended.

2 Regulatory Requirements

This section presents the regulatory requirements for assessing environmental impacts of a TMDL implemented through a BPA at the Regional Board. This TMDL for bacteria contamination in the Los Angeles River Watershed is evaluated at program-level detail under a Certified Regulatory Program, and the information and analyses are presented in this Substitute Environmental Document (SED) as discussed in this section.

2.1 Exemption from Certain CEQA Requirements

The California Secretary of Resources has certified the State and Regional Boards' basin planning process as exempt from certain requirements of the California Environmental Quality Act (CEQA), including preparation of an initial study, negative declaration, and environmental impact report (California Code of Regulations, Title 14, Section 15251(g)). As the proposed amendment to the Basin Plan is part of the basin planning process, the environmental information developed for and included with the amendment is considered a substitute for an initial study, negative declaration, and/or environmental impact report.

2.2 California Code of Regulations and Public Resources Code Requirements

While the "certified regulatory program" of the Regional Board is exempt from certain CEQA requirements, it is subject to the substantive requirements of California Code of Regulations, Title 23, Section 3777(a), which requires a written report that includes a description of the proposed activity, an analysis of reasonable alternatives, and an identification of mitigation measures to minimize any significant adverse environmental impacts. Section 3777(a) also requires the Regional Board to complete an environmental checklist as part of its substitute environmental documents. This checklist is provided in section 6 of this document.

In addition, the Regional Board must fulfill substantive obligations when adopting performance standards such as TMDLs, as described in Public Resources Code section 21159. Section 21159, which allows expedited environmental review for mandated projects, provides that an agency shall perform, at the time of the adoption of a rule or regulation requiring the installation of pollution control equipment, or a performance standard or treatment requirement, an environmental analysis of the reasonably foreseeable methods of compliance. The statute further requires that the environmental analysis at a minimum, include, all of the following:

(1) An analysis of the reasonably foreseeable environmental impacts of the methods of compliance.
(2) An analysis of reasonably foreseeable feasible mitigation measures to lessen the adverse environmental impacts.
(3) An analysis of reasonably foreseeable alternative means of compliance with the rule or regulation that would have less significant adverse impacts (Pub. Resources Code, §21159(a)).

Section 21159(c) requires that the environmental analysis take into account a reasonable range of:

(4) Environmental, economic, and technical factors,
(5) Population and geographic areas, and
(6) Specific sites.

2.3 Program- and Project-Level Analyses

Public Resources Code § 21159(d) specifically states that the public agency is not required to conduct a "project-level analysis." Rather, a project-level analysis must be performed by the local agencies that are required to implement the requirements of the TMDL (Pub. Res. Code §21159.2). Notably, ***the Regional Board is prohibited from specifying the manner of compliance with its regulations*** (Water Code § 13360), and accordingly, the ***actual*** environmental impacts will necessarily depend upon the compliance strategy selected by the local agencies and other permittees.

The SED identifies the reasonably foreseeable environmental impacts of the ***reasonably foreseeable*** methods of compliance (Pub. Res. Code, §21159(a)(1)), based on information developed before, during, and after the CEQA scoping process that is specified in California Public Resources Code section 21083.9. This analysis is a program-level (i.e., macroscopic) analysis. CEQA requires the Regional Board to conduct a program-level analysis of environmental impacts (Pub. Res. Code §21159(d)). Similarly, the CEQA substitute documents do not engage in speculation or conjecture (Pub. Res. Code §21159(a)). When the CEQA analysis identifies a potentially significant environmental impact, the accompanying analysis identifies reasonably foreseeable feasible mitigation measures (Pub. Res. Code §21159(a)(2)). Because responsible agencies will most likely use a combination of structural and non-structural BMPs, the SED has identified the reasonably foreseeable alternative means of compliance (Pub. Res. Code, §21159(a)(3)).

2.4 Purpose of CEQA

CEQA's basic purposes are to: 1) inform the decision makers and public about the potential significant environmental effects of a proposed project, 2) identify ways that environmental damage may be mitigated, 3) prevent significant, avoidable damage to the environment by requiring changes in projects, through the use of alternative or mitigation measures when feasible, and 4) disclose to the public why an agency approved a project if significant effects are involved (Cal. Code Regs., tit. 14, § 15002(a)).

To fulfill these functions, a CEQA review "…need only be adequate, complete, and a good faith efforts at full disclosure "(Cal.Code Regs.,tit. 14, §15151) (City of Fremont v. San Francisco Bay Area Rapid Transit Dist., supra, 34 Cal.App.4th at p. 1786.). In River Valley Preservation Project v. Metropolitan Transit Development Board (1995) 37 Cal.App.4th 154, 178: "[a]s we have stated previously, "[our] limited function is consistent with the principle that [t]he purpose of CEQA is not to generate paper, but to compel government at all levels to make decisions with environmental consequences in mind…" (City of Santee v. County

of San Diego (1989) 214 Cal.App.3d 1438, 1448 [263 Cal.Rptr. 340]; quoting Laurel Heights I, supra, 47 Cal.3d at p. 393.

Nor does CEQA require unanimity of opinion among experts. The analysis is satisfactory as long as those opinions are considered (Cal. Code Regs., tit. 14, §15151).

In this document, the Regional Board staff has performed a good faith effort at full disclosure of the reasonably foreseeable environmental impacts that could be attendant with the proposed bacteria TMDL.

3 TMDL Overview and Program Objectives

3.1 Introduction – Legal Background

The TMDL sets forth an implementation plan to attain the water quality standards for bacteria at these water bodies. The TMDL was prepared pursuant to state and federal requirements to preserve and enhance water quality at the Los Angeles River Watershed. The adoption of a TMDL is not discretionary and is compelled by section 303 (d) of the federal Clean Water Act (33 USC §1313(d)).

The California Water Quality Control Plan, Los Angeles Region, also known as the Basin Plan, sets water quality standards for surface waters and ground waters in the region. These standards are comprised of designated beneficial uses for surface and ground waters, and numeric and narrative objectives necessary to support beneficial uses and the state's antidegradation policy. Such standards are mandated for all waterbodies within the state under the Porter-Cologne Water Quality Act. In addition, the Basin Plan describes implementation programs to protect all waters in the region. The Basin Plan implements the Porter-Cologne Water Quality Control Act (commencing at Section 1300 of the "California Water Code") and serves as the State Water Quality Control Plan applicable to the Los Angeles River Watershed, also requiring water quality standards for all surface waters as required pursuant to the federal Clean Water Act (CWA).

Section 305(b) of the CWA mandates biennial assessments of the nation's water resources. These water quality assessments are used, with any other available data and information, to identify and prioritize waters not attaining water quality standards. The resulting amalgamation of waters is referred to as the "303(d) List" or the "Impaired Waters List". CWA section 303(d)(1)(C) and (d)(1)(D) require that the state establish TMDLs for each listed water. Those TMDLs, and the 303(d) List itself, must be submitted to USEPA for approval under section 303(d)(2). Section 303(d)(3) requires that the state also develop TMDLs for all waters that are not on the 303(d) List as well, however, TMDLs for waters that do not meet the criteria for listing are not subject to approval by USEPA.

TMDLs must be established at a level necessary to attain water quality standards, considering seasonal variations and a margin of safety. The TMDL must also include an allocation to all point sources, nonpoint sources, and natural background in the form of WLAs and LAs, respectively. TMDLs are generally established in California through the basin planning

process (i.e., an amendment to the basin plan to incorporate a new or revised program of implementation of the water quality standards, pursuant to Water Code section 13242). The process that the Regional Board uses for establishing TMDLs is the same whether under section 303(d)(1) or 303(d)(3).

USEPA's authority over the 303(d) program includes the obligation to approve or disapprove the identification of impaired waters. If any list or TMDL is disapproved, USEPA must establish its own list or TMDL.

As part of California's 2002 and 2006 303(d) list submittals, the Regional Board identified Los Angeles River Watershed as being impaired due to elevated indicator bacteria densities.

The Los Angeles River Watershed Bacteria TMDL is subject to the 2001 provision of Public Resources Code Section 21083.9 that requires a CEQA Scoping meeting to be conducted for Regional Projects. CEQA scoping involves identifying a range of project/program related actions, alternatives, mitigation measures, and significant effects to be analyzed in an environmental impact report (EIR) or its functionally equivalent document. On March 10th, 2010 a CEQA Scoping Meeting was held to present and discuss the potential environmental impacts associated with reasonably foreseeable methods of compliance for the Los Angeles River Watershed Bacteria TMDL. A notice of the CEQA Scoping meeting was sent to interested parties including cities and county with the Los Angeles River Watershed. Input from all stakeholders and interested parties were solicited for consideration in the development of the SED. The Regional Board received written comments from the following stakeholders: Flow Science, the City of Carlson, the City of Downey, the City of Duarte, the City of Irwindale, the City of Los Angeles, the City of San Marino, the City of San Gabriel, the City of Signal Hill, the Sanitation Districts of Los Angeles County, and the Los Angeles River Watershed Management Committee. These written comments are included as Appendix 1 to this report.

This SED will be released for public comment, accompanying the TMDL staff report, BPA, and Tentative Resolution. The documents should be considered as a whole when evaluating the environmental impacts of implementing the TMDL. Public comments received on these documents and the subsequent Regional Board staff responses will all be considered by the Regional Board during the Regional Board hearing.

3.2 Project description, TMDL Goals, and Water Quality Objectives

As further set forth herein, this project is to adopt a regulation that will guide Regional Board permitting, enforcement, and other actions that will require responsible parties to take appropriate measures to restore and maintain all applicable Water Quality Standards in Los Angeles River Watershed and to comply with the requirements of section 303(d) of CWA.

The Basin Plan designates beneficial uses of waterbodies, establishes water quality objectives for the protection of these beneficial uses, and outlines a plan of implementation for maintaining and enhancing water quality. The proposed amendment would incorporate into the Basin Plan a TMDL for bacteria in the Los Angeles River Watershed.

The Basin Plan beneficial uses designations include the REC-1 and REC-2 designations for the Los Angeles River Watershed. The Basin Plan also contains bacteria water quality objectives to protect the REC-1 and REC-2 beneficial uses.

On October 25, 2001, the Regional Board adopted a BPA updating the bacteria objectives for waters designated as REC-1 (LARWQCB, 2001). The State Water Resources Control Board (State Board) approved the Regional Board's BPA on July 18, 2002 (State Board Resolution 2002-0142), the Office of Administrative Law approved it on September 19, 2002 (OAL File No. 02-0807-01-S), and the USEPA approved it on September 25, 2002. The revised objectives include freshwater geometric mean limits and single sample limits for two indicator bacteria: including fecal coliform and *E. coli*. The revised objectives are also consistent with, but augment, current USEPA guidance (1986), which recommends the use of enterococcus in marine water based on national epidemiological studies (LARWQCB, 2001; Cabelli, 1983).

The Basin Plan contains bacteria water quality objectives to protect the REC-1 and REC-2 beneficial uses. The objectives include geometric mean limits and single sample indicator bacteria limits for fresh waters: including fecal coliform and E. coli.

1. Geometric Mean Limits
    a. *E. coli* density shall not exceed 126/100 mL.
    b. Fecal coliform density shall not exceed 200/100 mL.

2. Single Sample Limits
    a. *E. coli* density shall not exceed 235/100 mL.
    b. Fecal coliform density shall not exceed 400/100 mL.

Regional Board staff is in the process of updating the bacteria objectives for freshwaters designated as REC-1 to remove redundancy and maintain consistency with USEPA's recommended criteria. The update of bacteria objectives will remove the fecal coliform objectives and use *E. coli* objectives as the sole objective for freshwaters. To be consistent with the update of bacteria objectives, the numeric targets for this TMDL will be only the adopted Basin Plan objectives for *E. coli* for REC-1 in freshwaters.

Single sample bacteria exceedances are used to determine impairments. Geometric mean limits are also used to determine impairments. Protecting REC-1 beneficial uses will result in the protection of REC-2 beneficial uses because REC-1 bacteria objectives are more stringent than REC-2 bacteria objectives. The implementation provisions for the water contact recreation bacteria objectives, defined in the Basin Plan Resolution 2001-018, are listed below (LARWQCB, 2001). The geometric mean values should be calculated based on a statistically sufficient number of samples (generally not less than 5 samples equally spaced over a 30-day period).

These objectives are, in general, based on an acceptable health risk in fresh recreational waters of eight illnesses per 1,000 exposed individuals (USEPA, 1986).

The reference system/antidegradation approach is the approach proposed in this TMDL. This approach allows for days where single sample standards exceed bacteria water quality objectives, however the number exceedances must not be in excess of the allowable exceedance days determined through the reference system approach.

4 Description of Alternatives

These substitute environmental documents (SED) analyze three Program Alternatives that encompass actions within the jurisdiction of the Regional Board and implementing municipalities and agencies. The program alternatives include 1) the TMDL as it is proposed for Regional Board adoption; 2) a TMDL established by the USEPA, and 3) a No Program Alternative in which a TMDL is not implemented. Because a TMDL is required by Section 303(d) of the Clean Water Act (CWA), the No Program Alternative is only analyzed to allow decision makers to compare the impacts of approving a proposed alternative and its components compared with the impacts of not approving a proposed alternative. The specifics of the many projects which would make up a program alternative are discussed in detail in Section 5 and include structural and non-structural Best Management Practices (BMPs) that are reasonably foreseeable to be implemented under the bacteria TMDL program alternatives.

This document does not analyze a "partial" TMDL (e.g., a TMDL which would achieve only a 70% or only an 80% reduction for indicator bacteria densities based on geometric mean limits and single sample limits). This sort of alternative was considered and rejected. To the extent that significant adverse environmental impacts would be created by compliance with the proposed TMDL, a "partial" TMDL would have fewer environmental impacts associated with compliance (although, also, less environmental benefits of the TMDL), the specific legal requirements of section 303(d) of the CWA require a level necessary to achieve water quality standards. Thus a "partial" TMDL would not fulfill the requirements set forth in the CWA because a partial reduction in bacteria would not meet water quality standards.

The components assessed at a program-level generally are program elements that would be implemented as part of the bacteria TMDL, but these elements do not have specific locations or design details identified. The components assessed at a project-level have specific locations which will be determined by implementing municipalities and agencies. The project-level components will be subject to additional future environmental review, including review by cities and municipalities implementing bacteria TMDL projects.

4.1 Program Alternatives

4.1.1 Alternative 1 - Regional Board TMDL

This program alternative is based on the TMDL that is presently proposed for Regional Board consideration. The TMDL assigns both WLAs and LAs which will be implemented through NPDES and WDR permits. The interim and final WLAs focus on reductions in sources of bacteria from municipal storm drains. The TMDL LAs focus on reductions of diffuse local sources and nonpoint sources which are not easily characterized. The TMDL

LAs will be implemented primarily through regulatory mechanisms that implement the State Board's 2004 Nonpoint Source Policy, including permits and waivers.

The Regional Board TMDL provides a plan for addressing the adverse impacts of bacteria through a progressive reduction in bacteria loading in the Los Angeles River Watershed. The plan also distinguishes between dry and wet weather bacteria exceedances. The TMDL proposes a 25 schedule for the Los Angeles River Watershed for dry and wet weather. Once adopted into the Basin Plan, WLAs and LAs specified in the BPA will be considered by the NPDES permit writers when developing permit limits that are adopted in separate actions by the Regional Board.

During the development of the TMDL, a CEQA scoping meeting was held during which the manner of compliance was discussed. At this meeting, reasonably foreseeable means of compliance were examined. Non-structural alternatives include administrative controls, street cleaning and storm drain cleaning and public education and outreach. Structural methods include divert and/ or treat, vegetative treatment systems, local capture systems, local and regional infiltration basins, media filtration, local and regional infiltration systems, detention basins, natural treatment systems.

This TMDL program alternative anticipates compliance through installation of structural BMPs, and non-structural BMPs as discussed in Section 5. Potential adverse impacts to the environment stem principally from the installation, operation, and maintenance of these structural BMPs. This document analyzes these impacts and concludes that installation of implementation projects are of relatively short duration and typical of "baseline" construction and maintenance projects that occur presently in the TMDL area. It also concludes that significant impacts can be mitigated or there are alternative means of compliance available.

4.1.2 Alternative 2 – United States Environmental Protection Agency TMDL

This program alternative is based on a TMDL to be established by the USEPA, if the Regional Board fails to adopt a bacteria TMDL. The technical analysis will be similar to the Regional Board analysis and the same laws and regulations will be applied. It is assumed the technical portions and WLAs and LAs of this TMDL Program Alternative will be essentially the same as Program Alternative 1. However, such a TMDL is not implemented through a Basin Plan amendment. Therefore, the WLAs will be implemented through NPDES permit limits as the permits are renewed without consideration of a compliance schedule. Because NPDES permits are renewed every five years, all responsible parties and municipalities will be required to be in full compliance immediately following the TMDL adoption by USEPA, or within five years.

This TMDL program alternative also anticipates compliance through installation of structural BMPs, and non-structural BMPs as discussed in Section 5.

4.1.3 Alternative 3 – No Program Alternative

This program alternative assumes that neither the USEPA nor the Regional Board implements the TMDL. While cities and municipalities could implement BMPs on a

discretionary basis, this CEQA analysis is based on the assumption that no additional BMPs would be implemented in addition to those that are presently in place. However, the No Project TMDL is contrary to state and federal law. Therefore, the failure to implement the TMDL would not fulfill the requirements set forth in the CWA.

In addition, while impact to the environment from construction or maintenance of structural BMPs would be avoided in this No Program alternative, the alternative would not restore water contact recreational uses to the Los Angeles River Watershed . TMDL Program Alternative will restore water contact recreational uses to the Los Angeles River Watershed by attaining water quality standards through the reduction of indicator bacteria densities in excess of allowable number from these waterbodies. As such, both program alternative 1 or 2 represents a benefit to the environment and the No TMDL Program Alternative represents a continued impairment of beneficial uses in the watershed.

4.1.4 Recommended Program Alternative

This environmental analysis finds that Alternative 1 is the most environmentally advantageous alternative.

Alternative 3 is not a feasible alternative. While it avoids potential impacts due to discrete installation projects, waterbody impairment will continue. Both Alternatives 1 and 2 will comply consistent with the CWA and water contact recreational uses to the Los Angeles River Watershed.

The key difference between program alternatives 1 and 2 is the establishment of an implementation schedule. While the same WLAs and LAs will need to be met and the same technological choices will be available by both alternatives, Alternative 1 will allow a measured implementation plan, resulting in full compliance of bacteria objectives in 25 years. Alternative 2, in contrast, will require compliance at the time of permit renewal, which in all permit cases, is less than five years. The environmental impacts due to alternative 2 may be of greater severity given the increased intensity of implementation actions with the shorter time frame. The longer compliance schedule of Alternative 1 allows for prioritization and planning, more thoroughly mitigated impacts, more appropriately designed, sited and sized structural devices and, therefore, less environmental impact, in general. In addition, prioritization and planning will likely result in more efficient use of funds and lower overall costs.

Improved water quality is beneficial to the Los Angeles Watershed and is consistent with the Regional Board's goals of having swimmable and fishable waters.

4.2 Project-Level Alternatives

The program alternatives above present many alternatives and options, and do not require any specific projects to achieve compliance. Rather, a project-level analysis must be performed by the local agencies that are required to implement the requirements of the TMDL (Pub. Res. Code § 21159.2). Notably, the Regional Board is prohibited from specifying the manner of compliance with its regulations (Water Code § 13360), and

accordingly, the actual environmental impacts will necessarily depend upon the compliance strategy selected by the local municipalities, agencies and other permittees.

Although the Regional Board cannot mandate the manner of compliance, foreseeable environmental impacts from methods of compliance are well known, as are feasible mitigation measures. During the development of the TMDL, a CEQA scoping meeting was held during which the manner of compliance was discussed. At this meeting, the most reasonable means of compliance were discussed and included non-structural alternatives such as administrative controls, street cleaning and storm drain cleaning and public education and outreach. Structural methods include divert and/ or treat, vegetative treatment systems, local capture systems, local and regional infiltration basins, media filtration, local and regional infiltration systems, detention basins, natural treatment systems.

The components assessed at a project level have specific locations which will be determined by implementing municipalities and agencies. The project-level components will be subject to additional future environmental review, including review by cities and municipalities implementing bacteria TMDL projects. Section 5 of this SED includes an extensive discussion of the project alternatives.

5 Implementation Alternatives and site specific analysis

A description of the structural devices or non-structural best management practices (BMPs) and the type of sites where they might be placed in compliance with the TMDL are described in the following section.

The Regional Board is prohibited from specifying the manner of compliance with its regulations (Water Code § 13360), and accordingly, the actual compliance strategies will be selected by the local agencies and other permittees. Although the Regional Board does not mandate the manner of compliance, foreseeable methods of compliance are well known. The project-level components will be subject to additional future environmental review. A project-level environmental analysis must be performed by the local agencies that are required to implement the requirements of the TMDL (Pub. Res. Code § 21159.2.).

5.1 Structural BMPs

Structural BMPs involve the use of structural methods to treat or divert water at either the point of generation or point of discharge to either the storm system or to receiving waters. These controls can require construction and operation activities that create potentially significant environmental impacts. Structural BMPS may be sub-regional or regional in scope.

5.1.1 Sub-Regional Best Management Practices

Sub-regional structural BMPs consist of a single or a series of BMPs designed to treat wet weather flows for limited sub-regions within the watershed. Sub-regions can vary in size from small parking lots to several city blocks. These sub-regional implementation strategies

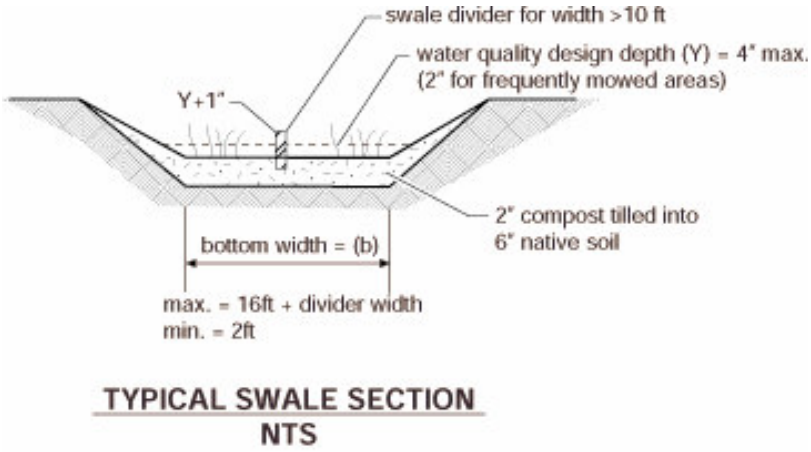
typical have multiple pollutant treatment potential (Marina del Rey, 2007). Listed below are sub-regional structural BMPs and brief description of each.

5.1.1.1 Vegetated Treatment Systems and Local Infiltration Systems:

Through a combination of biofiltration, retention, infiltration, and evapotranspiration, BMPs within this category can provide a significant contribution to bacteria control for small areas and can be applied across the watershed. BMPs in this category include swales, filter strips, bioretention areas, and storm water planters (McCoy *et al.*, 2006). .These can be installed as on-site features of developments or in street medians, parking lot islands, or curb extensions. Vegetated systems involve the use of soils and vegetation to filter and treat storm water prior to discharge into surface or sub-surface water.

Biofiltration can remove some particulates and the associated bacteria loading from storm water runoff. Additional bioslopes, infiltration trenches, soil grading alterations, bioretention ponds, and the use of selective vegetation can further increase the efficiency of vegetative biofiltration systems. In areas where biofiltration is not practical, modification includes design of bioslopes, infiltration trenches which utilize amended soil and promote subsurface flow.

Figure 5-1 Cross-Section of a Vegetative Swale



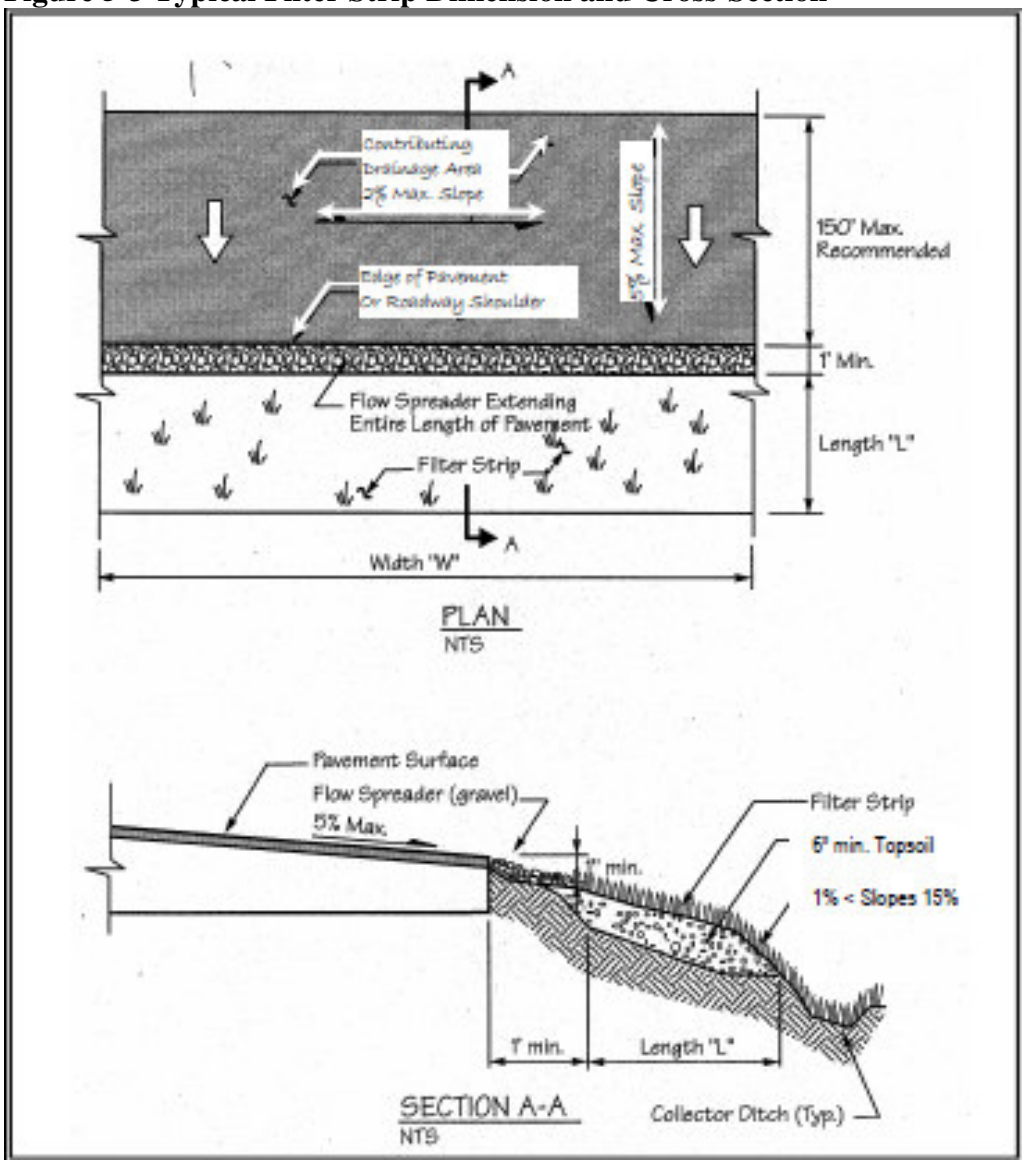
(Washington State Department of Ecology, 2005)

Buffers and filter strips provide separation between pollution generating areas and water bodies and provide biofiltration for runoff from these areas. These types of BMPs contribute to bacteria control by reducing a significant source of bacteria near storm drains and streams.

Figure 5-2 Grassed Buffer Strips

(CASQA, 2003a)

Figure 5-3 Typical Filter Strip Dimension and Cross-Section



(Washington State Department of Ecology, 2005)

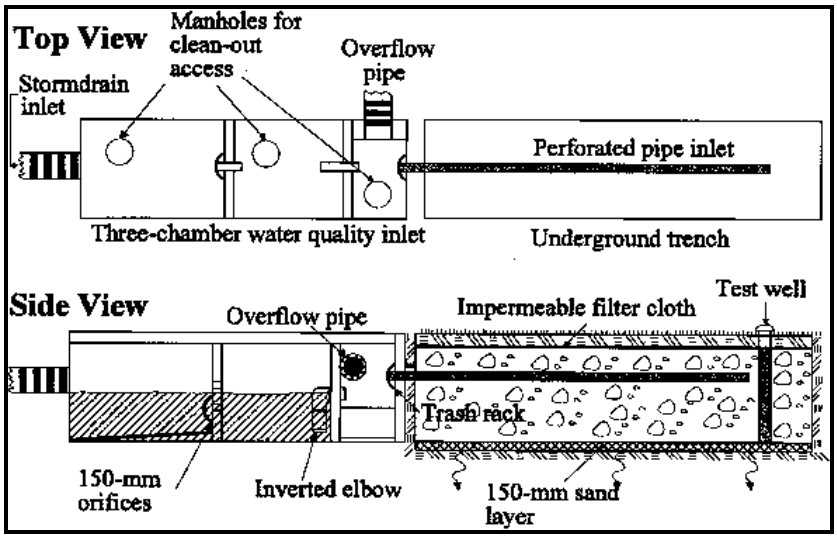
Vegetated bioswales are constructed drainage ways used to convey stormwater runoff. Vegetation in bioswales allows for the filtering of pollutants, and infiltration of runoff into the ground. Broad swales on flat slopes with dense vegetation are the most effective at reducing the volume of runoff and pollutant removal. Bioswales planted with native vegetation offer higher resistance to flow and provide a better environment for filtering and trapping pollutants from stormwater. Vegetated bioswales generally have a trapezoidal or parabolic shape with relatively flat side slopes. Individual vegetated bioswales generally treat small drainage areas (five acres or less). A properly designed vegetated swale may achieve a 25 to 50 percent reduction in particulate pollutants conservatively, including sediment and sediment-attached metals. The hydrocarbons, lead, and zinc removal efficiencies for vegetated swales are 62%, 67%, and 71%, respectively (USEPA, 1999).

Local infiltration systems contribute to bacteria control by reducing the runoff from infiltrating potentially contaminated runoff from houses, streets, parking lots, agriculture, etc., and mitigating peak flows. Local infiltration systems utilize methods to increase on-site infiltration including the use of alternative paving materials, retention grading and infiltration pits, but effectiveness is based primarily on soil characteristics. Specific BMPs in this category include: permeable paving, pervious concrete, pervious asphalt, pervious paving blocks, grass pavers, gravel pavers, pervious crushed stone, retention grading, and infiltration trenches. Local infiltration systems can be effective for management of storm waster runoff from areas ranging from an individual lot to a parking to several city blocks. Infiltration, along with soil soaking and evapotranspiration, reduces the volume of storm water runoff, reducing required sizes of downstream facilities.

Figure 5-4 Infiltration Trenches

(CASQA, 2003b; USEPA, 2006)

Figure 5-5 Schematic of an Infiltration Trench



(FHWA, 2007)

5.1.1.2 Local Capture System

Local capture systems contribute to the control of bacteria in the watershed by reducing volume of runoff and reducing peak flows. BMPs within this category include rain barrels, cisterns, and other containers used to hold rainwater for refuse or recharge. These systems are usually designed to capture runoff from relatively clean surfaces such as roofs, such that the water may be reused without treatment. Tank capacities range from around 55 gallons to several thousand cubic feet and can be above or bellow ground. Local capture systems contribute to control of bacteria in watershed by reducing volume of runoff and reducing peak flows.

Figure 5-6 Residential Cistern

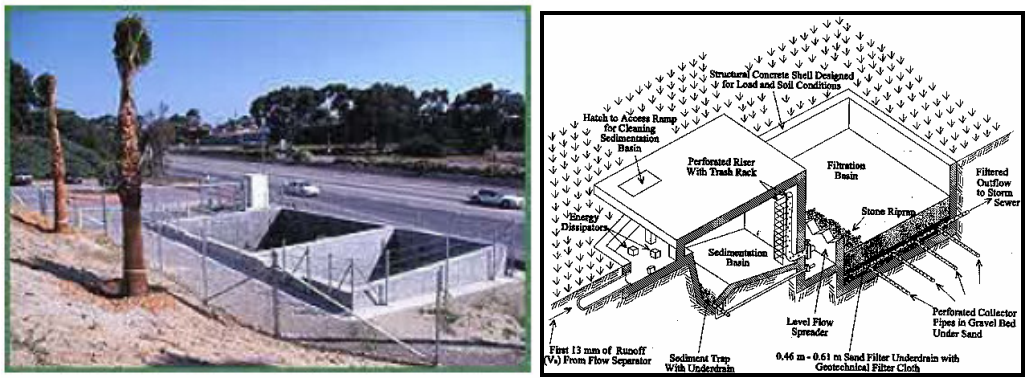
(County of Los Angeles *et al.*, 2005)

5.1.1.3 Media Filtration

Media filtration in storm water primarily used to separate fine particulates and associated pollutant, but might also be used for enhanced treatment to remove bacteria and nutrients.

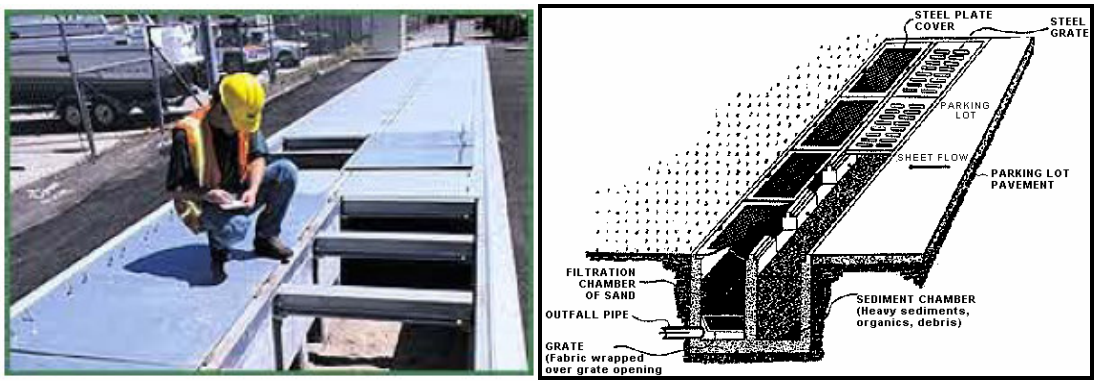
To maximize bacteria loading benefits, these facilities should be strategically placed in location with high observed or suspected bacteria loadings. In this process, stormwater is captured and directed either under gravity or pumped pressure through media such as sand, anthracite, compost, zeolite and combustion of natural and engineered substrates. These systems do not provide volume reduction benefits, but may provide limited flow attenuation for small size storms depending on size and type of facility. Media filters could be integrated directly into existing storm drain systems, but are generally offline facilities requiring a diversion structure.

Figure 5-7 Austin Sand Filter and Schematic



(Caltrans, 2002; FHWA 2007)

Figure 5-8 Delaware Sand Filter and Schematic



(Caltrans, 2002; FHWA 2007)

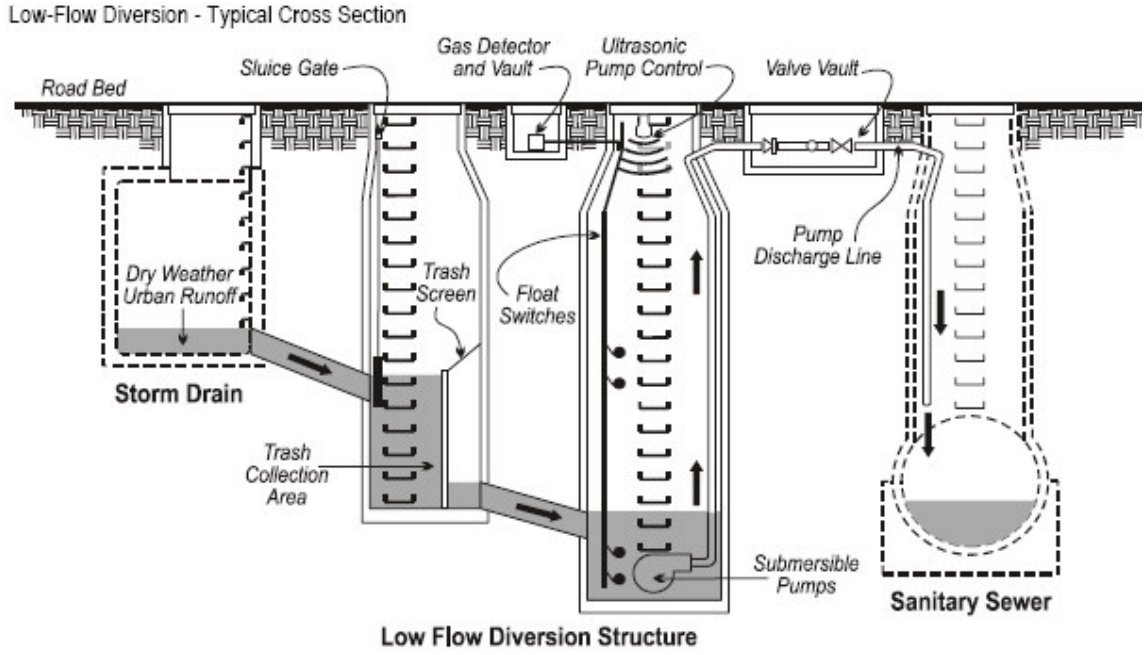
5.1.2 Regional Structural BMPs

Regional structural BMPs contain many similarities to sub-regional structural BMPs but differ in both the scope and scale of implementation strategies. Treatment areas can range from several sub-regions to the entire watershed. Regional structural BMPs retain the multiple treatment potential of sub-regional BMPs. Listed below are regional structural BMPs and a brief description of each:

5.1.2.1 Divert and/ or Treat

A low flow diversion is a structural device that routes urban runoff from canyons, streets and small watersheds away from the storm drain system or waterway, and redirects it into the sanitary sewer system, where the contaminated runoff then receives treatment and filtration before being re-used or discharged. This type of diversion would be a sub-regional diversion, as it would be responsible for a few streets. Whereas if the device is placed at the end of a large out-fall, it would be regional and drain larger amounts of urban run-offs.

Figure 5-9 Schematic of Low Flow Diversion Structure



(CDM, 2005)

Instead of using Low-flow diversions to a sanitary sewer system, the water in the stormwater system can be diverted to a stormwater treatment plant. Depending on the water quality the water might have to be passed through a waste-water treatment, UV irradiation, chlorination, ozonolysis or Biocides and Peracetic acids. Chlorination is one of the most used methods of disinfection, wherein chlorine being a strong oxidant breaks the cell membrane of bacteria kills them. UV light with wavelength of 220 to 320 nanometers can be used to inactivate pathogens. Ozone is generated onsite and the compound is a extremely reactive oxidant that inactivates the pathogen through lysis. Peracetic acids deactivate outer cell membrane and can be applied for de-activation of bacteria and viruses; further it is more effective oxidant than chlorine and doesn't have harmful by-products as chlorine.

Figure 5-10 Santa Monica Urban Runoff Recycling Facility (SMURRF)

(CDM, 2005)

After treatment, water could be channeled to the original receiving waters, to a nearby pond or lake or to a secondary usage.

5.1.2.2 Regional Infiltration Systems

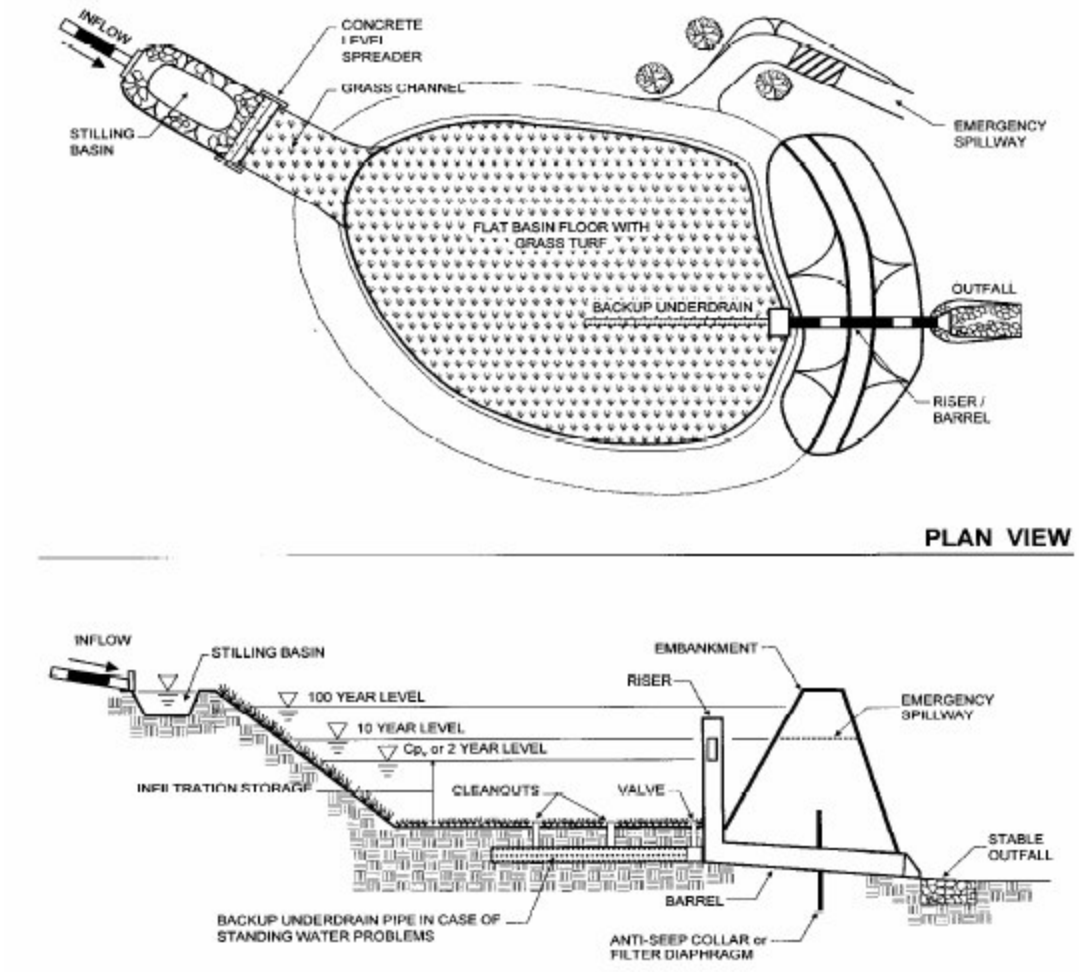
A regional infiltration facility is generally a large basin capable of detaining the entire volume of a design storm and infiltration volume over a specified period. Regional biofiltration systems, including sub-surface flow wetlands, promote hydrolysis, oxidation, and rhizodegradation from soil filtration through the aerobic and anaerobic zones of the soil matrix (Halverson, 2004). These systems can treat a variety of different pollutants and can be utilized for flood mitigation.

This is primarily accomplished by volume reduction to receiving waters; by impounding water and allowing it to slowly percolate in surface soil and eventually to groundwater. These facilities can be applied as a stand-alone treatment feature for bacteria control on a subwatershed scale. In the event of large storm, some flow would bypass infiltration and discharge to receiving water untreated. However, treatment of a large percentage of flow would still be achieved. Application of regional facility depends on suitability of soils for infiltration and appropriately- located open space.

Figure 5-11 Regional Infiltration Basin

(CASQA, 2003a)

Figure 5-12 Schematic of Regional Infiltration Basins



(CASQA, 2003a)

5.1.2.3 Regional Detention Facility

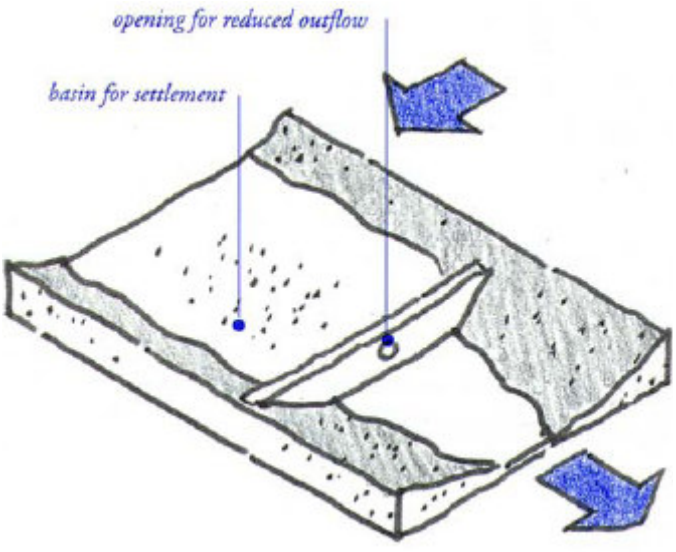
Regional infiltration and detention systems, including detention and infiltration basins, help reduce flow volume lower stream areas and promote sedimentation (McCoy *et al.*, 2006).

This type of facility consists of large basins equipped with outlet structures that regulates rates of release. It can be used upstream of an infiltration facility, constructed wetlands or disinfection plants to equalize flows and reduce sediment loads. These basins can be shallow, lined with vegetation and separated into multiple bays to improve their water quality functions; unlike infiltration systems they do not require favorable soils. Detention facilities can also be deep, steep-wall basins, or underground vaults when space is a limiting factor. However, they are generally not as effective as a stand-alone treatment option for bacteria.

Figure 5-13 Detention Basins

(CASQA, 2003a)

Figure 5-14 Simple Detention Basin



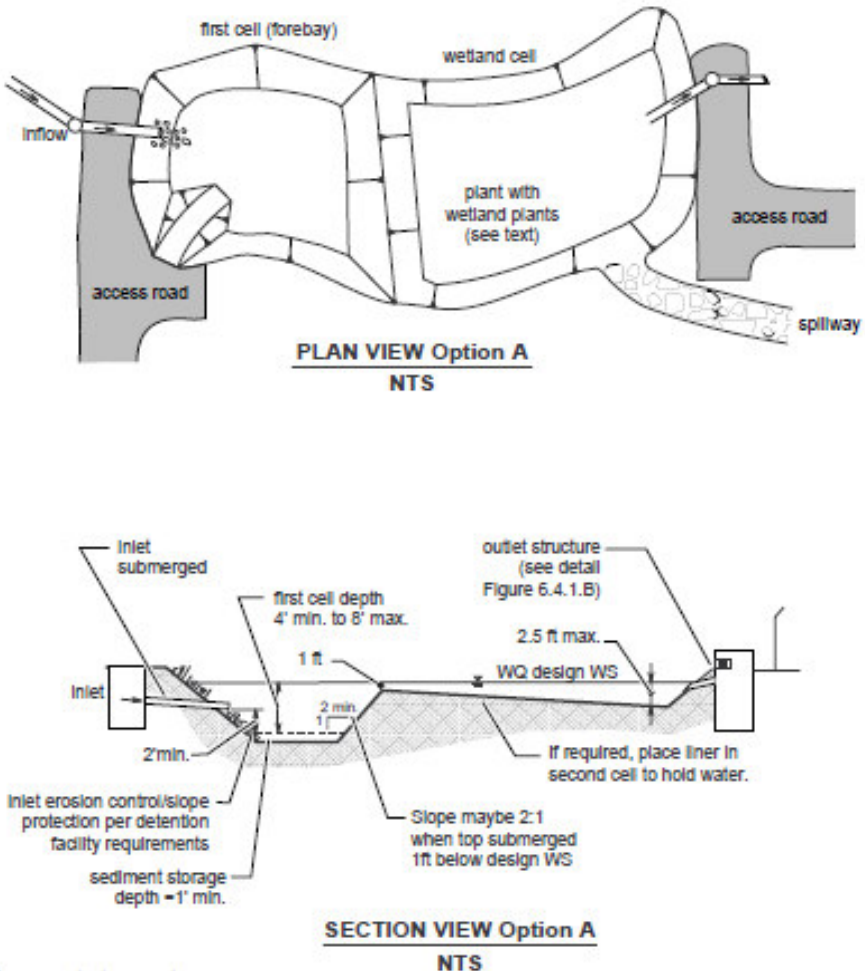
(CASQA, 2003a)

5.1.2.4 Regional Natural Treatment Systems

Regional Natural Treatment Systems (NTS) are vegetated treatment systems, primarily constructed water quality treatment wetlands. Constructed wetlands imitate processes carried out by natural wetlands and waste water treatment plants. The two most commonly used NTS's are free surface flow wetlands (FSF) and sub-surface flow wetlands (SSF). FSF wetlands are characterized by shallow ponds at varying depths above the surface. In SSF wetlands, water flows through the sub surface soil matrix. Both are characterized by typical wetland vegetation.

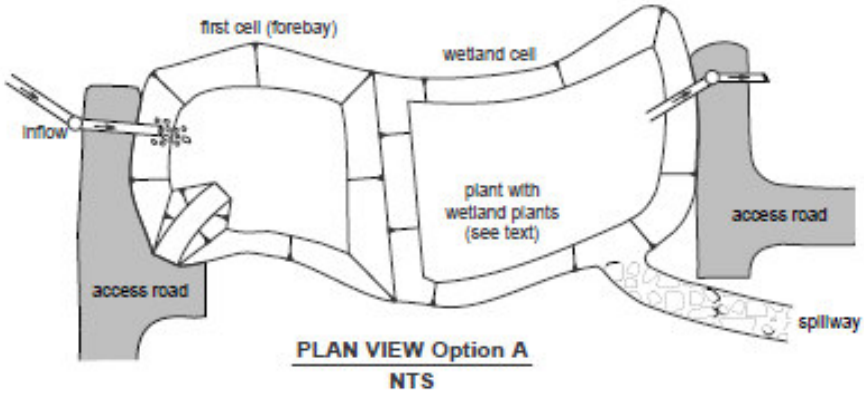
Unlike natural wetlands, regional NTS are vegetated treatment systems constructed, designed and maintained primarily for water quality treatment. Constructed wetlands can be applied either as inline or offline facility or can be integrated into other habitat-enhancement projects. The two most common regional NTS are free surface flow (FSF) and sub-surface flow (SSF) wetlands. FSF wetlands are characterized by shallow ponded water at varying depths above the ground surface; solar irradiation is supposedly the process involved in bacteria removal in this type of wetland. Whereas for the SSF wetlands, water flows through the sub-surface soil matrix, rarely surfacing; here presence of anoxic zone contribute to bacteria removal mechanism. This method requires comparatively large areas of relatively flat land to mimic natural function. Also these facilities are not intended to provide stand-alone treatment of storm water runoff. So often a detention facility upstream can be integrated to mitigate peak flows and provide a more steady inflow, and also biofiltration facilities, media filers or sedimentation basins could be utilized to reduce sedimentation loads and to further provide longevity and better performance of facility.

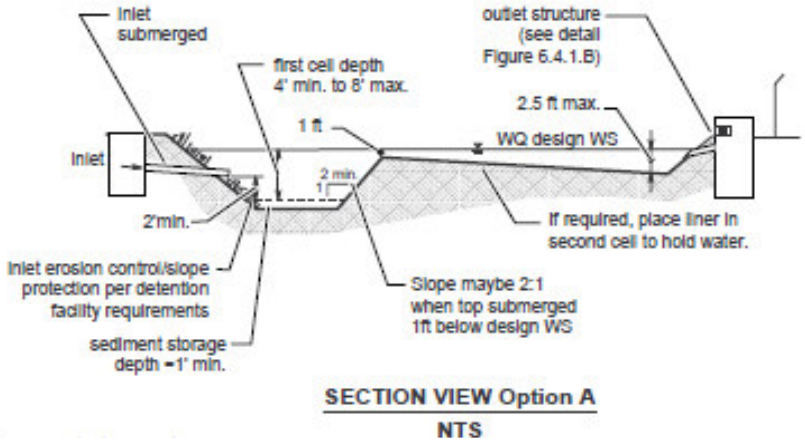
Figure 5-15 Stormwater Wetland Option A (Cross-Section View)



(Washington State Department of Ecology, 2005)

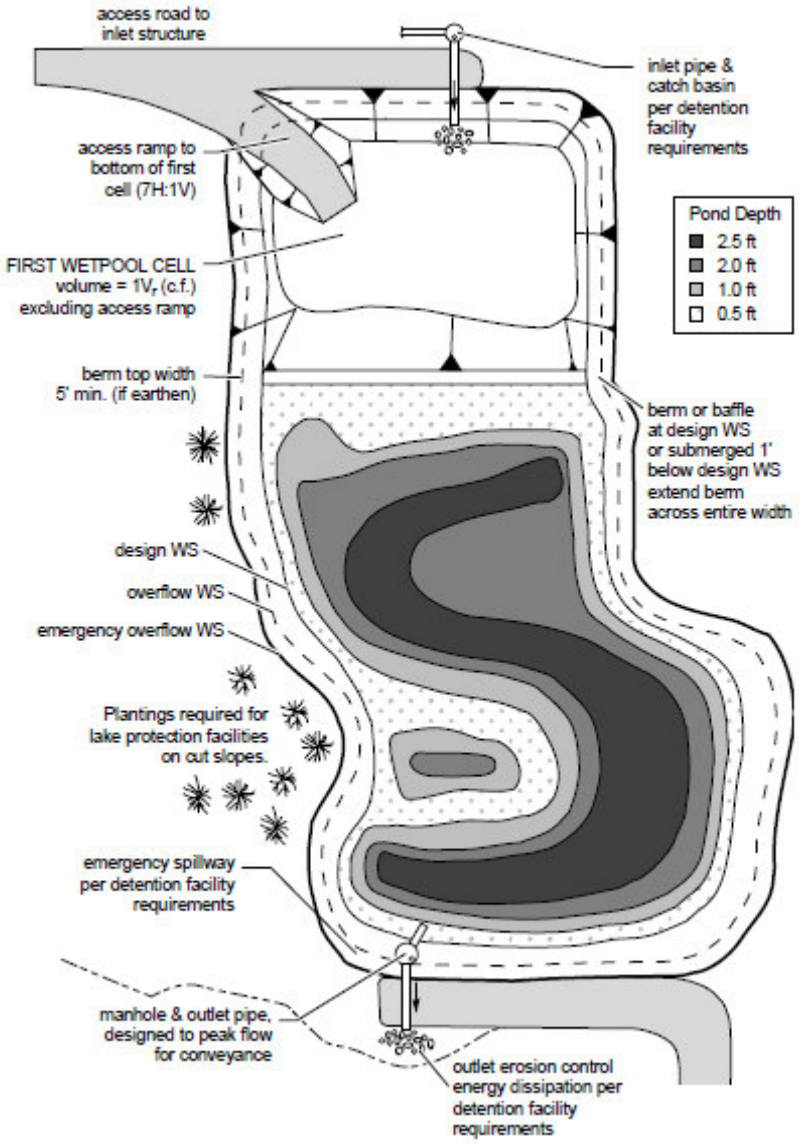
Figure 5-16 Stormwater Wetland Option B (Cross-Section View)





(Washington State Department of Ecology, 2005)

Figure 5-17 Overhead View of Stormwater Wetland



(Washington State Department of Ecology, 2005)

5.2 Non-Structural BMPs

Non-structural BMPs include prevention practices designed to improve water quality by reducing bacteria source. Non-structural BMPs may require minimum construction. In addition, non-structural BMPs provide for the development of bacteria control programs that include, but are not limited to prevention, education, and regulation. Less significant adverse impacts on the environment were anticipated for these controls. These programs are described below:

5.2.1 Administrative Controls

For dry weather implementation, administrative controls (or institutional controls) require less initial investment of time, compared to structural BMPs, due to less need for planning for capital required for structural BMPs. However, for long-term implementation, administrative actions may require greater time. These actions include better enforcement of existing pet droppings disposal, litter, and equestrian related ordinances, posting additional signage, proposing stricter penalties, and other actions of an administrative nature.

Administrative controls tend to be more costly and have a far greater scope. New developments and redevelopments in the Los Angeles River Watershed have to comply with the terms of the MS4 permit. This includes meeting the current Los Angeles County Standard Urban Stormwater Mitigation Plan (SUSMP) standards for appropriate post-construction stormwater BMPs and the use of Low Impact Development (LID). Sub-regional and region wide plans for sheet-flow diversion may need to be developed. A green building program similar to one developed in the City of Santa Monica can help promote sustainability (McCoy and Hartwich, 2006).

5.2.2 Outreach and Education

Education and outreach to residents may minimize the potential for contamination due to stormwater runoff by encouraging residents to clean up after their pets, pick up litter, minimize runoff from agricultural, residential, and commercial facilities, and control excessive irrigation. Horse owners may be educated about improved manure storage areas and designated horse-wash areas with connections to sanitary sewer. The public is often unaware of the fact that excess water discharged on streets and lawns ends up in receiving waters, or the contamination caused by the polluted runoff.

Local agencies can provide educational materials to the public via television, radio, and print media, distribute brochures, flyers, and community newsletters, create information hotlines to outreach to educators and schools, develop community events, and support of volunteer monitoring and cleanup programs.

5.2.2.1 Storm Drain Stenciling

Storm drain inlet stenciling is another means of educating the public about the direct discharge of storm water to receiving waters and the effects of polluted runoff on receiving water quality. Stenciling can be conducted in partnership with other agencies and organizations to garner greater support for educational programs (USEPA, 2005).

5.2.3 Street Cleaning

Street and parking lot cleaning may minimize trash and pollutants loading to urban storm drains. This management measure involves employing pavement cleaning practices such as street sweeping on a regular basis to minimize trash, sediment, debris and other pollutants that are potential sources of pollution end up to receiving waters. There are three types of street sweepers: mechanical, vacuum filter, and regenerative air sweepers (USEPA, 2006).

5.2.4 Storm Drain Cleaning

Routine cleaning of the storm drain system reduces the amount of trash entering the river, prevents clogging, and ensures the flood control capacity of the system. Cleanings may occur manually or with eductors, vacuums, or bucket loaders. A successful storm drain cleaning program includes regular inspection and cleaning of catch basins and storm drain inlets, increased inspection and cleaning in areas with high trash accumulation, accurate recordkeeping, cleaning immediately prior to the rainy season to remove accumulated trash, and proper storage and disposal of collected material. (CASQA, 2003a)

Figure 5-18 Catch Basin cleaning

(CASQA, 2003a)

6 Setting, Impacts, and Mitigation

6.1 Introduction

This section presents the environmental setting, impacts, and mitigation, where applicable, for the proposed implementation alternatives evaluated in the SED. The implementation alternatives for achieving compliance with the Los Angeles River Watershed Bacteria TMDL are described in detail in Section 5 and again in the TMDL Staff Report. Each of these implementation alternatives have been independently evaluated in this draft SED. The environmental setting for the TMDL is discussed in Section 6.1.3. The installation, operation and maintenance activities associated with the TMDL implementation alternatives are discussed in Section 6.2. Section 6.3 contains the environmental checklist, which includes the potential negative environmental impacts of the implementation alternatives (see Section 5).

6.1.1 Approach to Environmental Setting and Impact Analysis

Any potential environmental impacts associated with the Los Angeles River Watershed Bacteria TMDL depend upon the specific compliance projects selected by the responsible parties, most of whom are public agencies subject to their own CEQA obligations. (See Pub. Res. Code § 21159.2.) This CEQA substitute document identifies broad mitigation approaches that could be considered at the program level. Consistent with Public Resources

Code (PRC) §21159, the substitute document does not engage in speculation or conjecture, but rather considers the reasonably foreseeable environmental impacts of foreseeable methods of compliance, the reasonably foreseeable feasible mitigation measures, and the reasonably foreseeable alternative means of compliance, which would avoid or reduce the identified impacts.

Within each of the sections listed above, this draft SED evaluates the impacts of each implementation alternative relative to the subject resource area. The physical scope of the environmental setting and the analysis in this SED is the Los Angeles River Watershed. This is the geographic area for assessing impacts of the different implementation alternatives, because the high level of fecal indicator bacteria at the Los Angeles River Watershed would be controlled and/or eliminated by any one of or a combination of the implementation alternatives. Also, any potential impacts of implementing the proposed alternatives would be focused in this area.

The implementation alternatives evaluated in this draft SED are evaluated at a program level for impacts for each resource area. An assumption is made that a more detailed project-level analysis will be conducted by all responsible agencies and jurisdictions once their mode of achieving compliance with the bacteria TMDL has been determined. The analysis in this draft SED assumes that, project proponents will design, install, and maintain implementation measures following all applicable laws, regulations, ordinances, and formally adopted municipal and/or agency codes, standards, and practices. Several handbooks are available and currently used by municipal agencies that provide guidance for the selection and implementation of Best Management Practices (BMPs) (Caltrans, 2002; CASQA, 2003a; CASQA, 2003b; WERF, 2005).

6.1.2 Program-Level versus Project-Level Analysis

As previously discussed, the Regional Board is the lead agency for the TMDL program, while the responsible agencies are the lead agencies for any and all projects implemented, within their jurisdiction, to comply with the program. The Regional Board does not specify the actual means of compliance by which responsible agencies choose to comply with the TMDL. Therefore, the implementation alternatives are mostly evaluated at a program level in this draft SED. The alternatives assessed at a program level generally are projects that would be implemented as part of TMDL compliance, PRC §21159 places the responsibility of project-level analysis on the agencies that will implement the water board's TMDL.

6.1.3 Environmental Setting

The Los Angeles River Watershed includes all or portions of the cities of Los Angeles, Alhambra, Arcadia, Bell, Bell Gardens, Bradbury, Burbank, Calabasas, Carson, Commerce, Compton, Cudahy, Downey, Duarte, El Monte, Glendale, Hidden Hills, Huntington Park, Irwindale, La Canada Flintridge, Long Beach, Lynwood, Maywood Monrovia, Montebello, Monterey Park, Paramount, Pasadena, Pico Rivera, Rosemead, San Fernando, San Gabriel, San Marino, Santa Clarita, Sierra Madre, Signal Hill, Simi Valley, South El Monte, South Gate, South Pasadena, Temple City and Vernon, and unincorporated areas of Los Angeles County.

The Los Angeles River flows for 55 miles from the Santa Monica Mountains at the western end of the San Fernando Valley to the Long Beach Harbor and into the Pacific Ocean. The entire watershed includes a total stream length of 837.62 miles and 4.6 square miles of lake area (based on the Regional Board GIS Database).

The headwaters of the Los Angeles River are located in the Santa Monica Mountains at the confluence of Arroyo Calabasas and Bell Creek (LARWQCB, 1998). From this point the river flows east to the Sepulveda Flood Control Basin at Balboa Blvd. The river then flows from Balboa through Sepulveda Flood Control Basin to the Sepulveda Dam. The Basin remains one of the few "soft-bottom" portions of the main channel. The D.C. Tillman Water Reclamation Plant discharges tertiary treated effluent this section of the watershed. The river then runs from the Sepulveda Dam to Riverside Drive. Some of the discharge from Hansen Dam is diverted to spreading grounds for groundwater recharge, but most of the flow enters the channelized portion of the stream. From there the river runs from Riverside Drive to Figueroa Street. The Burbank Western Channel receives flow from the Burbank Water Reclamation Plant and ultimately discharges into the river. From the eastern end of the San Fernando Valley, the Los Angeles River flows through Griffith Park and Elysian Park, an area known as the Glendale Narrows. The Los Angeles-Glendale Water Reclamation Plant discharges to the Los Angeles River in the Glendale Narrows. The river then runs from Figueroa Street to Carson Street. At Whittier Narrows, flow from the Rio Hondo can be diverted to the Rio Hondo Spreading Grounds. During storm events, Rio Hondo flow that is not used for spreading, reaches the Los Angeles River. The river then runs from Carson Street to the estuary at Willow St. The Los Angeles River Estuary begins at Willow St. were tidal-influenced portion of the River begins and runs approximately three miles before joining with Queensway Bay located between the Port of Long Beach and the City of Long Beach.

Major tributaries of Los Angeles River include: Browns Canyon, Aliso Canyon Wash, Bull Creek, Pacoima Wash, Tujunga Wash, Burbank Western Channel, Verdugo Wash, Arroyo Seco, Rio Hondo, and Compton Creek.

6.1.3.1 Description of the Storm Drain System

The storm drain system in the Los Angeles River watershed is a vast network of underground pipes and open channels that were designed to prevent flooding. Runoff drains from the streets, into the gutters, and enters the system through an opening in the curb called a catch basin. Catch basins serve as the neighborhood entry point to the journey into the ocean.

The backbone of the flood control system in Los Angeles County, dating back to the 1930's, was designed, constructed, maintained, and monitored by the Los Angeles County Flood Control District, represented by the County of Los Angeles Department of Public Works. Other flood control systems, either in whole or in part, are the jurisdiction of other permittees, Caltrans, or the US Army Corps of Engineers. Stormwater and urban runoff from streets are collected to approximately 100,000 catch basins. These are inlets to a 1,500 mile long maze of pipes, open channels, and outlets that make up the storm drain system.

The storm drain system receives no treatment or filtering and is completely separate from Los Angeles' sanitary sewer system. The following graphics show the storm drain system in Los Angeles River Watershed. In general, curbside catch basins are the primary points of entry for urban runoff. From there, runoff flows into underground tunnels that empty into flood control channels in Los Angeles River Watershed.

Figure 6-1 Storm Drain Systems in the Los Angeles River Watershed and Greater Los Angeles Area

(LARWQCB, 2007)

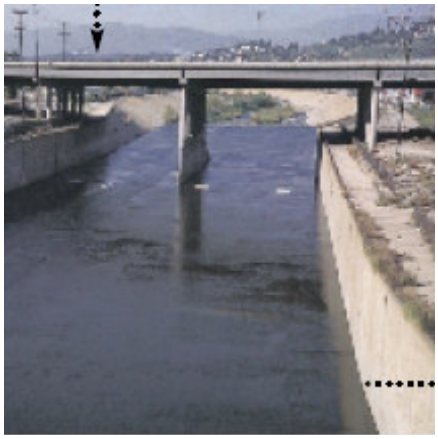
Figure 6-2 Stormwater Flow Path in the Storm Drain System of the Los Angeles River Watershed

Catch Basins are the major entry points to the storm drain system

Underground drains carry runoff into larger channels such as this

Storm drain enters Los Angeles River at Lankershim, by Circa 1991

Glendale LA Water Treatment Plant Effluent Outfall

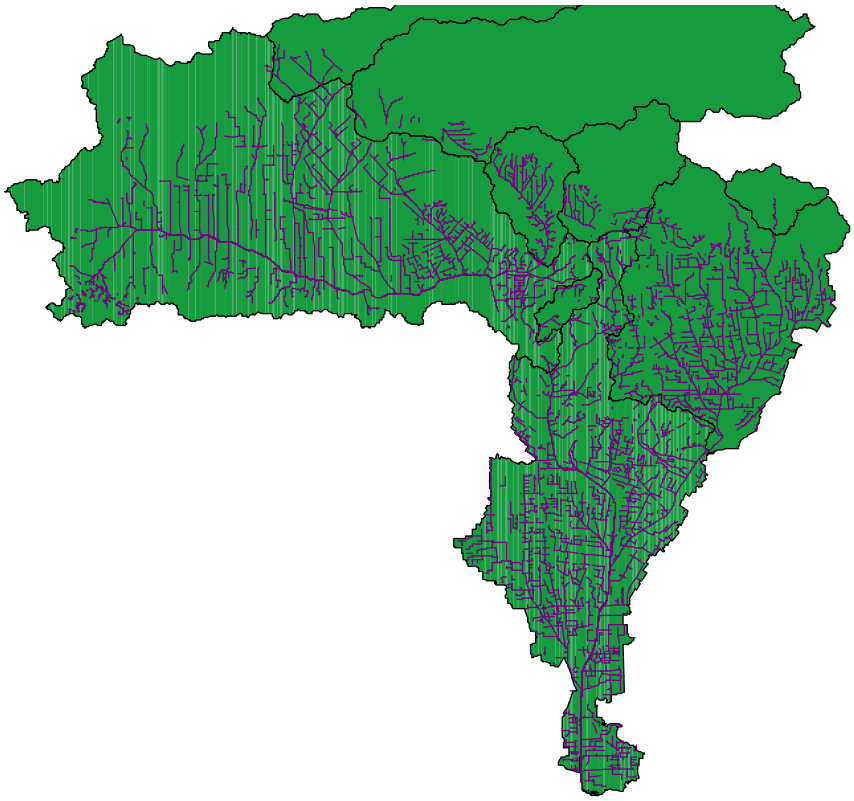


Runoff in storm drains flows into open channel in Los Angeles River (LARWQCB, 2007)

Runoff reaches the ocean through outlets at beaches

Los Angeles' flood control is a complex system of hundreds of debris basins in the surrounding canyons, secondary regulating dams, storm drains, paved control channels, and specially constructed streets that act as secondary storm drains. The storm drain system in Los Angeles River Watershed shown in the Figure 6-3 consists of thousands of catch basins, thousands of miles of underground storm drains, as well as open channels. The length of the system and the locations of all storm drain connections are not known exactly. Rough estimates, based on information from large municipalities, indicate that the length of the system exceeds 1500 miles. Approximately 100 million gallons of water flows through Los Angeles' storm drain system on an average dry day. When it rains, the amount of water flowing through the channels can increase to 10 billion gallons reaching speed of 35 mph and depths of 25 feet.

Figure 6-3 The Storm Drain System in Los Angeles River Watershed



(LARWQCB, 2007)

Catch basins are the main points of entry into the storm drain system. The County of Los Angeles and other cities within the Los Angeles River Watershed are co-permittees of a Municipal Separate Storm Sewers (MS4) Stormwater permit that has certain storm drain operation and management requirements including, but not limited to:

a) Prioritization of catch basins for clean-outs based on their propensity for trash accumulation,

b) Inspection and cleaning of catch basins between May 1 and September 30 of each year;
c) Additional cleaning of any catch basin that is at least 25% full of trash and/or debris;
d) Record keeping of catch basins cleaned; and
e) Recording of the overall quantity of catch basin waste collected.

The MS4 permit requires that catch basins be cleaned out according to the following schedule:

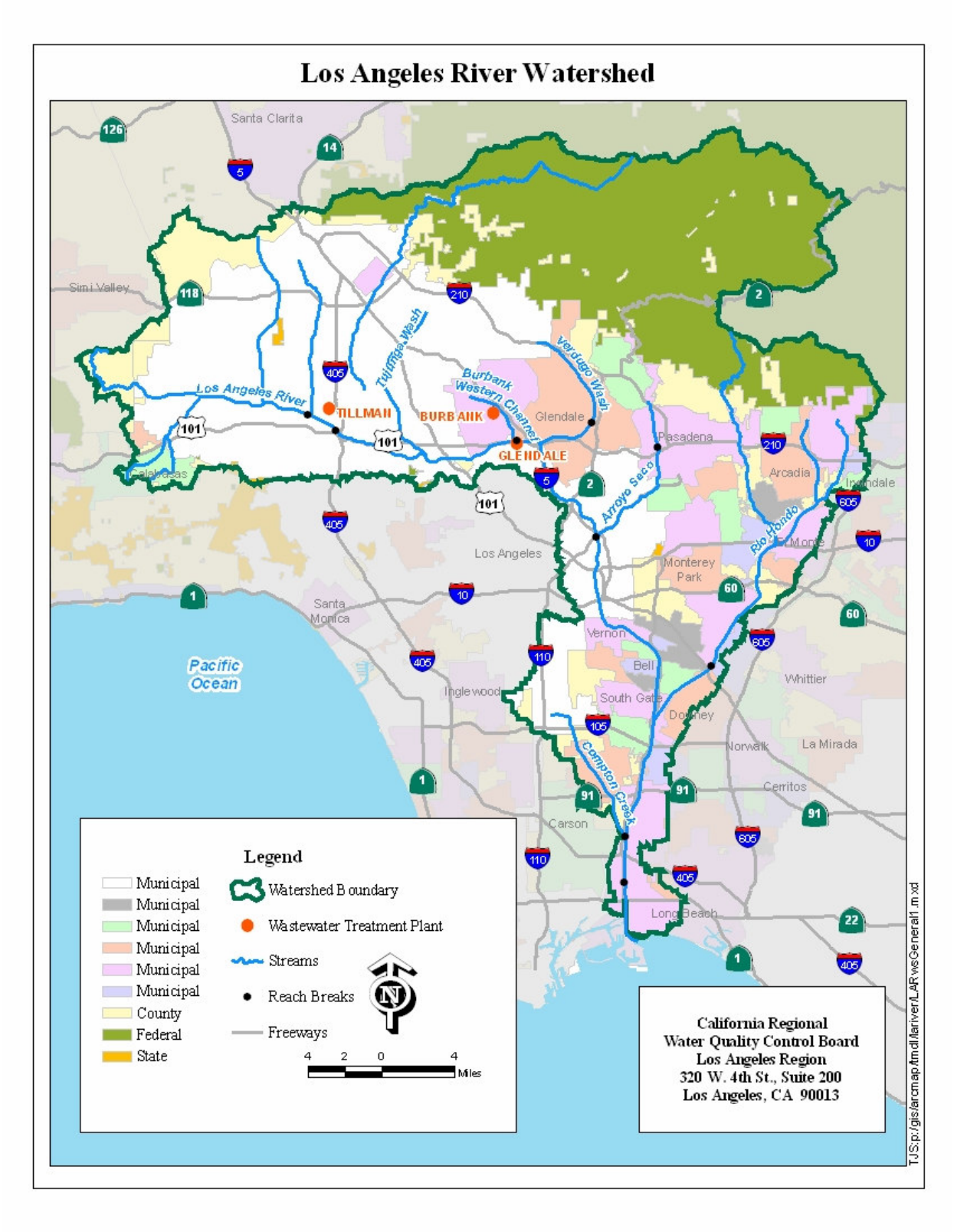
- Priority A (high trash generation): A minimum of three times during the wet season and once during the dry season
- every year.
- Priority B (moderate trash generation): A minimum of once during the wet season and once during the dry season every year.
- Priority C (low trash generation): A minimum of once per year.

Each Permittee is required to implement BMPs for Storm Drain Maintenance that includes:

- A program to visually monitor Permittee-owned open channels and other drainage structures for debris at least annually and identify and prioritize problem areas of illicit discharge for regular inspection;
- A review of current maintenance activities to assure that appropriate storm water BMPs are being utilized to protect water quality;
- Removal of trash and debris from open channel storm drains shall occur a minimum of once per year before the storm season;
- Minimize the discharge of contaminants during MS4 maintenance and clean outs; and
- Proper disposal of material removed.

Permittees subject to a trash TMDL (such as in the Los Angeles River and Ballona Creek Watershed Management Areas) are subject to these requirements until trash TMDL implementation measures are adopted. Thereafter, the subject Permittees shall implement programs in conformance with the TMDL implementation schedule, which could include an effective combination of measures such as street sweeping, catch basin cleaning, installation of treatment devices and trash receptacles, or other BMPs.

Figure 6-4 Map of the Los Angeles River Watershed



6.1.4 Beneficial Uses of the Watershed

The Basin Plan for the Los Angeles Region (1994) defines 14 beneficial uses for the Los Angeles River. These uses are summarized in Figure 6-6. The Basin Plan (1994) identifies beneficial uses as existing (E), potential (P), or intermittent (I) uses.

Existing use designations for warm freshwater, wildlife, wetland, and rare, threatened or endangered species habitats (WARM, WILD, WET, and RARE) apply over much of the mainstem and Compton Creek in the lower part of the watershed. The WARM designation applies as either an intermittent or potential use to the remaining listed tributaries. The WILD designation is for the protection of fish and wildlife. This use applies to much of the mainstem of the Los Angeles River, as an intermittent use in Rio Hondo, and as potential use in the remainder of the tributaries. Water quality objectives developed for the protection of fish and wildlife are applicable to the reaches with the WARM, WILD, WET and RARE designations.

The Shellfish Harvesting use designation (SHELL) for waters that support habitats suitable for the collection of shellfish for human consumption, commercial or sports purposes. This use applies as an existing use in the estuary and as a potential use in the lower portion of the river.

Figure 6-5 Beneficial Uses of the Los Angeles River for Reaches Listed for Bacterial Indicators

STREAM REACH	MUN	GWR	REC1	REC2	WILD	WARM	SHELL	RARE	MIGR	SPWN	WET	MAR	IND	PROC
Los Angeles River (Reach 6)	P*	E	E	E	E	E					E		P	
Aliso Canyon Wash	P*	I	I1	I	E	I								
Bell Creek	P*	I	I	I	E	I								
Bull Creek	P*	I	I	I	E	I								
Dry Canyon Creek	P*	I	I1	I	E	I								
McCoy Canyon Creek	P*	I	I	I	E	I								
Los Angeles River (Reach 4)	P*	E	E	E	E	E					E		P	
Tujunga Wash	P*	I	P1	I	P	P								
Verdugo Wash Reach 1	P*	I	I	I	P	P							I	I
Verdugo Wash Reach 2	P*	I	I	I	P	P							I	I
Burbank Western Channel	P*		P1	I	P	P								
Los Angeles River (Reach 2)	P*	E	E1	E	P	E							P	
Arroyo Seco (Reach 1)	E	E	E	E	E						E		E	E
Arroyo Seco (Reach 2)	E	E	E	E	E						E		E	E
Rio Hondo (Reach 1)	P*	I	P1	E	I	P								
Rio Hondo (Reach 2)	P*	I	P1	E	I	P								
Compton Creek	P*	E	E1	E	E	E					E			
Los Angeles River (Reach 1)	P*	E	E1	E	E	E	P1	E	P	P		E	P	P

*Municipal designations marked with an asterisk are conditional
E: Existing beneficial use
P: Potential beneficial use
I: Intermittent beneficial use
[1]: Use restricted by LACDPW

6.2 CEQA Checklist and Determination

6.2.1 Environmental Checklist

	ENVIRONMENTAL CHECKLIST	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant	No Impact
1.	**Earth. Will the proposal result in:**				
	a. Unstable earth conditions or in changes in geologic substructures?	X			
	b. Disruptions, displacements, compaction or overcoming of the soil?	X			
	c. Change in topography or ground surface relief features?				X
	d. The destruction, covering or modification of any unique geologic or physical features?	X			
	e. Any increase in wind or water erosion of soils, either on or off the site?	X			
	f. Changes in deposition or erosion of beach sands, or changes in siltation, deposition or erosion which may modify the channel of a river or stream or the bed of the ocean or any bay, inlet or lake?	X			
	g. Exposure of people or property to geologic hazards, such as earthquakes, landslides, mudslides, ground failure, or similar hazards?				X
2.	**Air. Will the proposal result in:**				
	a. Substantial air emissions or deterioration of ambient air quality?	X			
	b. The creation of objectionable odors?	X			

	ENVIRONMENTAL CHECKLIST	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant	No Impact
	c. Alteration of air movement, moisture or temperature, or any change in climate, either locally or regionally?			X	
3.	**Water. Will the proposal result in:**				
	a. Changes in currents, or the course of direction or water movements, in either marine or fresh waters?	X			
	b. Changes in absorption rates, drainage patterns, or the rate and amount of surface water runoff?	X			
	c. Alterations to the course of flow of flood waters?	X			
	d. Change in the amount of surface water in any water body?	X			
	e. Discharge into surface waters, or in any alteration of surface water quality, including but not limited to temperature, dissolved oxygen, or turbidity?	X			
	f. Alteration of the direction or rate of flow of ground waters?	X			
	g. Change in the quantity or quality of ground waters, either through direct additions or withdrawals, or through interception of an aquifer by cuts or excavations?	X			
	h. Substantial reduction in the amount of water otherwise available for public water supplies?				X
	i. Exposure of people or property to water related hazards such as flooding or tidal waves?	X			
4.	**Plant Life. Will the proposal result in:**				

	ENVIRONMENTAL CHECKLIST	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant	No Impact
	a. Change in the diversity of species, or number of any species of plants (including trees, shrubs, grass, crops, microflora and aquatic plants)?	X			
	b. Reduction of the numbers of any unique, rare or endangered species of plants?	X			
	c. Introduction of new species of plants into an area, or in a barrier to the normal replenishment of existing species?	X			
	d. Reduction in acreage of any agricultural crop?				X
5.	**Animal Life. Will the proposal result in:**				
	a. Change in the diversity of species, or numbers of any species of animals (birds, land animals including reptiles, fish and shellfish, benthic organisms, insects or microfauna)?	X			
	b. Reduction of the numbers of any unique, rare or endangered species of animals?	X			
	c. Introduction of new species of animals into an area, or result in a barrier to the migration or movement of animals?	X			
	d. Deterioration to existing fish or wildlife habitat?	X			
6.	**Noise. Will the proposal result in:**				
	a. Increases in existing noise levels?	X			
	b. Exposure of people to severe noise levels?	X			
7.	**Light and Glare. Will the proposal:**				
	a. Produce new light or glare?	X			

	ENVIRONMENTAL CHECKLIST	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant	No Impact
8.	**Land Use. Will the proposal result in:**				
	a. Substantial alteration of the present or planned land use of an area?	X			
9.	**Natural Resources. Will the proposal result in:**				
	a. Increase in the rate of use of any natural resources?				X
	b. Substantial depletion of any nonrenewable natural resource?				X
10.	**Risk of Upset. Will the proposal involve:**				
	a. A risk of an explosion or the release of hazardous substances (including, but not limited to: oil, pesticides, chemicals or radiation) in the event of an accident or upset conditions?	X			
11.	**Population. Will the proposal:**				
	a. Alter the location, distribution, density, or growth rate of the human population of an area?				X
12.	**Housing. Will the proposal:**				
	a. Affect existing housing, or create a demand for additional housing?				X

	ENVIRONMENTAL CHECKLIST	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant	No Impact
13.	**Transportation/Circulation. Will the proposal result in:**				
	a. Generation of substantial additional vehicular movement?	X			
	b. Effects on existing parking facilities, or demand for new parking?	X			
	c. Substantial impact upon existing transportation systems?			X	
	d. Alterations to present patterns of circulation or movement of people and/or goods?			X	
	e. Alterations to waterborne, rail or air traffic?				X
	f. Increase in traffic hazards to motor vehicles, bicyclists or pedestrians?	X			
14.	**Public Service. Will the proposal have an effect upon, or result in a need for new or altered governmental services in any of the following areas:**				
	a. Fire protection?	X			
	b. Police protection?	X			
	c. Schools?				X
	d. Parks or other recreational facilities?	X			
	e. Maintenance of public facilities, including roads?	X			
	f. Other governmental services?	X			
15.	**Energy. Will the proposal result in:**				

	ENVIRONMENTAL CHECKLIST	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant	No Impact
	a. Use of substantial amounts of fuel or energy?	X			
	b. Substantial increase in demand upon existing sources of energy, or require the development of new sources of energy?	X			
16.	**Utilities and Service Systems. Will the proposal result in a need for new systems, or substantial alterations to the following utilities:**				
	a. Power or natural gas?			X	
	b. Communications systems?				X
	c. Water?				X
	d. Sewer or septic tanks?	X			
	e. Storm water drainage?	X			
	f. Solid waste and disposal?	X			
17.	**Human Health. Will the proposal result in:**				
	a. Creation of any health hazard or potential health hazard (excluding mental health)?	X			
	b. Exposure of people to potential health hazards?	X			
18.	**Aesthetics. Will the proposal result in:**				
	a. The obstruction of any scenic vista or view open to the public?	X			

	ENVIRONMENTAL CHECKLIST	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant	No Impact
	b. The creation of an aesthetically offensive site open to public view?	X			
19.	**Recreation. Will the proposal result in:**				
	a. Impact upon the quality or quantity of existing recreational opportunities?	X			
20.	**Archeological/Historical. Will the proposal:**				
	a. Result in the alteration of a significant archeological or historical site structure, object or building?	X			
21.	**Mandatory Findings of Significance**				
	Potential to degrade: Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	X			
	Short-term: Does the project have the potential to achieve short-term, to the disadvantage of long-term, environmental goals? (A short-term impact on the environment is one which occurs in a relatively brief, definitive period of time, while long-term impacts will endure well into the future.)				X

	ENVIRONMENTAL CHECKLIST	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant	No Impact
	Cumulative: Does the project have impacts which are individually limited, but cumulatively considerable? (A project may impact on two or more separate resources where the impact on each resource is relatively small, but where the effect of the total of those impacts on the environment is significant.)	X			
	Substantial adverse: Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	X			

6.2.2 Discussion of Environmental Evaluation

The analysis of potential environmental impacts is based on the numerous foreseeable methods of compliance available for controlling bacteria at the Los Angeles River Watershed in response to the proposed BPA. These foreseeable methods of compliance include structural BMPs and non-structural BMPs. Potential impacts are discussed in the following section. Many of the mitigation measures identified are common practices currently employed by agencies when planning and implementing stormwater BMPs. Agencies such as California Storm water Quality Association (CASQA) and Water Environment Research Foundation (WERF) publish handbooks containing guidance on the selection, siting, design, installation, monitoring, and evaluation of stormwater BMPs (CASQA, 2003a, CASQA, 2003b, WERF, 2005). The evaluation considers whether the environmental impact indicated will result a substantial, adverse change in any of the physical conditions within the area affected by the activity. In addition, the evaluation discusses environmental effects in proportion to their severity and probability of occurrence.

Pursuant to section 13360 of the Water Code, the Regional Board cannot dictate which compliance method responsible agencies may choose to adopt or which mitigation measures they would employ to implement the bacteria TMDL. However, the Regional Board does recommend that appropriate compliance and mitigation measures as discussed herein, which are readily available and generally considered to be consistent with industry standards, be applied in order to reduce, and if possible avoid, potential environmental impacts, such that there is no significant impact. Since the decision to perform these measures is strictly within the responsibility and jurisdiction of the individual implementing agencies, such measures can and should be adopted by these agencies. (Title 14, California Code of Regulations, Section 15091(a)(2).)

Potential reasonably foreseeable impacts were evaluated with respect to earth, air, water, plant life, animal life, noise, light, land use, natural resources, risk of upset, population,

housing, transportation, public services, energy, utilities and services systems, human health, aesthetics, recreation, and archeological/historical concerns. Additionally, mandatory findings of significance regarding short-term, long-term, cumulative and substantial impacts were evaluated. The evaluation considered whether the construction or implementation of the BMPs would result in substantial, adverse change in any of the physical conditions within the area affected by the BMPs. In addition, the evaluation considered environmental effects in proportion to their severity and probability of occurrence.

The following analysis considers a range of non-structural and structural BMPs that might be used, but is by no means an exhaustive list of available BMPs. When BMPs are selected for implementation, a project-level and site-specific CEQA analysis must be performed by the responsible agency.

1. **Earth. a.** Will the proposal result in unstable earth conditions or in changes in geologic substructures?

Answer: Potentially significant impact

STRUCTURAL BMPs

Sub-Regional BMPs:

Local Capture Systems
Installation of local capture systems would not be of the size or scale to result in unstable earth conditions or in changes in geologic substructures (tank capacities range from around 55 gallons to several thousand cubic feet.)

Vegetated Treatment Systems and Local Infiltration Systems
For vegetated treatment systems and local infiltration systems, infiltration of collected storm water could potentially result in unstable earth conditions if loose or compressible soils are present, or if such BMPs were to be located where infiltrated storm water flowing as groundwater could destabilize existing slopes. These impacts can be avoided by siting vegetated treatment system/local infiltration system type BMPs away from areas with loose or compressible soils, and away from slopes that could become destabilized by an increase in groundwater flow.

Media Filtration
Media filters, like infiltration devices, would not be of the size or scale to result in unstable earth conditions or in changes in geologic substructures (see section 5.2.2). Media filters, including those with underground storage vaults, require relatively shallow earthwork, as they are typically less than 10 feet deep and have a footprint of approximately 700 square feet (to treat 2 acres).

Regional BMPs

Divert and or Treat
Construction of diversion and treatment facilities requires relatively shallow earthwork, as they are surface structures. However, the installation of diversion and/or treatment devices may potentially result in unstable earth conditions, if loose or compressible soils are present. These impacts can be avoided by proper studying, monitoring, and siting measures of compliance away from areas with loose or compressible sands.

Regional Infiltration System and Regional Detention Facilites:
For regional infiltration systems, infiltration of collected stormwater could potentially result in unstable earth conditions if loose or compressible soils are present, or if such BMPs were to be located where infiltrated stormwater flowing as groundwater could destabilize existing slopes. These impacts can be avoided by siting infiltration type BMP away from areas with loose or compressible soils, and away from slopes that could

become destabilized by an increase in groundwater flow. Infiltration type BMP can also be built on a small enough scale to avoid these types of impacts. If responsible parties install facilities such as detention basins on a scale that could result in unstable earth conditions or in changes in geologic substructures, potential impacts could be avoided through proper geotechnical investigations, siting, design, and ground and groundwater level monitoring to ensure that infiltration BMPs are not employed in areas subject to unstable soil conditions.

Construction of regional detention facilities requires relatively shallow earthwork, as they are surface structures, and would not cause unstable earth conditions or in changes in geologic substructures.

Regional Natural Treatment System

Construction of regional natural treatment systems, like constructed wetlands, would not be of the size or scale to result in unstable earth conditions or in changes in geologic substructures. Construction of natural treatment facilities requires relatively shallow earthwork

NON-STRUCTURAL BMPs

Non-structural BMPs would involve no change to the physical environment either directly or indirectly and would have no impact on earth conditions or geologic substructures.

1. Earth. b. Will the proposal result in disruptions, displacements, compaction or overcoming of the soil?

Answer: Potentially significant impact

Depending on the structural BMPs selected in urbanized areas, the proposal may result in minor surface soil excavation or grading during construction of structural BMPs resulting in increased disturbance of the soil. However, much of the urbanized areas have already undergone soil compaction and hardscaping. Standard construction techniques, including but not limited to, shoring, piling and soil stabilization can mitigate any potential short-term impacts. In addition, structural BMPs can be designed and sited in areas where the risk of new soil disruption is minimal. Soil disruptions, displacements, compaction, or overcoming during construction activities would be similar to typical temporary capital improvement construction and maintenance activities currently performed by municipalities, and no long-term impacts to the soil are expected.

STRUCTURAL BMPs

Sub-Regional Structural BMPs

Vegetated Treatment Systems and Local Infiltration Systems

Construction of vegetated treatment systems and local infiltration systems may result in surface soil excavation or grading during construction of infiltration type BMPs resulting in increased disturbance of the soil. The impacts on soil disruptions, displacements, compaction, or overcoming during construction activities can be minimized by proper siting and designs. Vegetated treatment systems and local infiltration systems can be situated in areas with appropriate soils.

Local Capture Systems:
The impacts on soil disruptions, displacements, compaction, or overcoming during construction activities can be avoided or minimized by proper siting and designing local capture systems.

Media Filtration:
Disruption of the soil may occur during construction activities associated with installation of media filters. Notably, waste load allocations are only assigned in the urbanized portion of the watershed, which have already suffered soil compaction and hardscaping. However, to the extent that any soil is disturbed during construction, standard construction techniques, including but not limited to, shoring, piling and soil stabilization can mitigate these potential short-term impacts.

Regional Structural BMPs

Divert and/ or Treat:
The impacts on soil disruptions, displacements, compaction, or overcoming during construction of diversion and/ or treatment facilities can be avoided or minimized by proper siting while designing low-flow diversion and other divert and/or treat devices.

Regional Infiltration System and Regional Detention Facility:

Installation of Regional infiltration systems or regional detention facilities may result in surface soil excavation or grading during construction of structural BMPs resulting in increased disturbance of the soil. The impacts on soil disruptions, displacements, compaction, or overcoming during construction activities can be minimized by proper siting and designs. Sub-regional wet weather BMPs can be situated in areas with appropriate soils. Regional Structural BMPs can also be optimally sited and designed such that adjacent and underlying soil would not be adversely affected with the construction of detention basins or wetlands.

Regional Natural Treatment Systems:
Construction of regional treatment systems, like sand filters, could potentially result in disruptions, displacements, compaction or overcoming of the soil. This impact could be mitigated to less than significant levels if devices are properly designed and sited in areas where the risk of soil disruption is minimal

NON-STRUCTURAL BMPS

Non-structural BMPs would involve no change to the physical environment either directly or indirectly and would have no potential to cause disruptions, displacements, compaction or overcoming of the soil.

1. **Earth. c.** Will the proposal result in change in topography or ground surface relief features?

Answer: No impact

STRUCTURAL BMPs

Sub Regional BMPs:

Local Capture Systems:
Local capture system BMPs would not be of the size or scale to result in changes to topography or ground surface relief features.

Vegetated Treatment Systems and Local Infiltration Systems:
Vegetated Treatment System BMPs would not be of the size or scale to result in changes to topography or ground surface relief features.

Media Filtration:
No impact is expected because media filters, like infiltration devices would not be of the size or scale to result in changes to topography or ground surface relief features. Media filters, including underground storage vaults, require relatively shallow earthwork, as they are typically less than 10 feet deep and have a footprint of approximately 700 square feet (to treat 2 acres with an underground sand filter).

Regional BMPs

Divert and/ or Treat:
No impact is expected because construction of diversion and treatment facilities, like ozonolysis plants, chlorination facility or low-flow diversions devices, would not be of the size or scale to result in changes in topography or ground surface relief features. Construction of treatment facilities requires relatively shallow earthwork, as they are surface facilities.

Regional Infiltration System or Regional Detention Facility:
Regional Infiltration systems or detention basins would not be of the size or scale to result in changes to topography or ground surface relief features.

Regional Natural Treatment System:
Construction of regional natural treatment systems, like sand filters, would have minimal interaction and impact on underlying soils and structures and impacts would not be of the size or scale to result in change in topography or ground surface relief features.

NON-STRUCTURAL BMPS

Non-structural BMPs would involve no change to the physical environment either directly or indirectly and would have no impact on topography or ground surface relief features.

1. Earth d. Will the proposal result in the destruction, covering or modification of any unique geologic or physical features?

Answer: Potentially significant impact

STRUCTURAL BMPs

Sub Regional BMPs

Local Capture Systems:
Local capture systems would not be of the size or scale to result in destruction, covering or modification of any unique geologic or physical features.

Vegetated Treatment Systems and Local Infiltration Systems
Vegetated treatment systems and local infiltration systems would not be of the size or scale to result in destruction, covering or modification of any unique geologic or physical features. In the unlikely event that responsible parties discover any unique geologic or physical features which require protection, potential impacts could be mitigated by avoiding siting facilities in these areas.

Media Filtration:
Implementation of media filters would not be of the size or scale to result in the destruction, covering or modification of any unique geologic or physical features. Media filters, including those with underground storage vaults, would require relatively shallow earthwork, as they are typically less than 10 feet deep and have a footprint of approximately 700 square feet (to treat two acres with an underground sand filter). In the unlikely event that responsible parties discover any unique geologic or physical features which require protection, potential impacts could be mitigated by avoiding siting facilities in these areas.

Regional BMPs

Divert and or Treat:
Construction of diversion and treatment facilities would not be of the size or scale to result in the destruction, covering or modification of any unique geologic or physical features. Construction of diversion and treatment facilities would require relatively shallow earthwork, as they are surface facilities.

Regional Infiltration System or Detention Facility:
Regional infiltration systems or detention basins would not be of the size or scale to result in destruction, covering or modification of any unique geologic or physical features. In the unlikely event that responsible parties discover any unique geologic or physical features which require protection, potential impacts could be mitigated by avoiding siting facilities in these areas.

Regional Natural Treatment System
Construction of regional treatment systems, like sand filters, would not be of the size or scale to result in the destruction, covering or modification of any unique geologic or physical feature.

NON-STRUCTURAL BMPS

Non-structural BMPs would involve no change to the physical environment either directly or indirectly and would have no potential to result in the destruction, covering or modification of any unique geologic or physical features.

1. Earth. e. Will the proposal result in any increase in wind or water erosion of soils, either on or off the site?

Answer: Potentially significant impact

STRUCTURAL BMPs

Sub Regional BMPs:

Local Capture Systems:
There is no potential to result in any increase in wind or water erosion of soils, either on or off the site from this means of compliance.

Vegetated Treatment Systems and Local Infiltration Systems:
Vegetated treatment systems and local infiltration systems may result in minor soil excavation during construction which could introduce the potential for that soil to be eroded. Erosion of soils may occur as a short-term impact during construction. Construction BMPs should be used during implementation to minimize offsite sediment runoff or deposition. In urbanized areas, on-site soil erosion during construction activities will be similar to typical temporary capital improvement projects and maintenance activities currently performed by the municipalities. Typical established BMPs should be used during implementation to minimize offsite sediment runoff or deposition. Construction sites are required to retain sediment on site, both under general construction storm water permits and through the construction program of the applicable MS4 permits; both of which are already designed to minimize or eliminate erosion impacts on receiving waters. In addition, Responsible agencies may plant cover crops or buffer strips to increase soil infiltration and reduce runoff, in order to reduce soil erosion.

Media Filtration:
Construction of media filters could result in minor soil excavation during construction which could introduce the potential for that soil to be eroded. Erosion of soils may occur as a short-term impact during construction. Construction BMPs should be used during implementation to minimize offsite sediment runoff or deposition. In urbanized areas, on-site soil erosion during construction activities will be similar to typical temporary capital improvement projects and maintenance activities currently performed by the municipalities. Typical established BMPs should be used during implementation to minimize offsite sediment runoff or deposition. Construction sites are required to retain sediment on site, both under general construction storm water permits and through the construction program of the applicable MS4 permits; both of which are already designed to minimize or eliminate erosion impacts on receiving waters

Regional BMPs

Divert and or Treat:
Divert and or treat BMPs may result in minor soil excavation during construction which could introduce the potential for that soil to be eroded. Wind or water erosion of soils may occur as a potential short-term impact. However, construction related erosion impacts will cease with the cessation of construction. In urbanized areas, on-site soil erosion during construction activities will be similar to typical temporary capital improvement projects and maintenance activities currently performed by the municipalities. Typical, established, BMPs should be used during implementation to minimize offsite sediment runoff or deposition. Furthermore, construction sites are required to retain sediments on site, either by a general construction storm water permit or through the construction program of the applicable MS4 permit - both of which are already designed to minimize or eliminate erosion impacts on receiving water. Over the long term, off-site erosion of natural channels could potentially be reduced if the structural BMPs divert stormwater from entering the canyons and channels, or reduce the runoff flow velocity, which may be considered a beneficial impact.

Regional Infiltration System or Detention Facility:
Construction of regional infiltration systems or detention basins may result in minor soil excavation which could introduce the potential for that soil to be eroded. Erosion of soils may occur as a short-term impact during construction. Construction BMPs should be used during implementation to minimize offsite sediment runoff or deposition. Construction sites are required to retain sediment on site, both under general construction stormwater WDRs and through the construction program of the applicable MS4 WDRs; both of which are already designed to minimize or eliminate erosion impacts on receiving water.

Regional Natural Treatment System
Constructed wetlands consist of coarser grade sediment that is less likely to be susceptible to erosion than finer grained material or uncovered soils. Construction of regional treatment systems, like sand filters, could result in erosion of soils onsite. Construction plans should minimize clearing and grading activities and phase

construction to limit soil exposure, stabilize exposed soils immediately, protect steep slopes and cuts, and install sediment controls (USEPA, 2005).

NON-STRUCTURAL BMPs

Non-structural BMPs would involve no change to the physical environment either directly or indirectly and would not result in increase in wind or water erosion of soils, either on or off the site.

1. Earth. f. Will the proposal result in changes in deposition or erosion of beach sands, or changes in siltation, deposition or erosion which may modify the channel of a river or stream or the bed of the ocean or any bay, inlet or lake?

Answer: Potentially significant impact

STRUCTURAL BMPs

Sub Regional BMPs

Local Capture Systems:
Local Capture Systems are small on-site systems used to capture rainwater and on-site runoff and would not result in changes in siltation, deposition or erosion.

Vegetated Treatment Systems and Local Infiltration Systems:
Deposition of significant volumes of sediment to rivers and beaches occurs mostly during wet weather flows. Therefore vegetated treatment and local infiltration systems that remove the stream's sediment load could impact deposition of sand on in the river and downstream beaches. Vegetative swales and bioretention areas that capture sediment, resulting in possible changes in deposition or erosion, can be mitigated if it becomes necessary through sand replacement and importation. The Los Angeles and Long Beach Harbors, downstream of the Los Angeles River, are periodically dredged to maintain depth and navigability; a decrease in the amount of sediment reaching the harbors may make extent or frequency of such dredging less necessary.

Media Filtration:
The construction of media filters to reduce storm flows may impact siltation or deposition of sand within soft-bottomed portions of the river. Minimal deposition currently occurs within the concrete lined channels and no impact is anticipated in the channels. Reduction in siltation in the soft-bottomed portions of the river may be considered a positive impact as fine sediments may contain toxic pollutants.

Regional BMPs

Divert and or Treat:
BMPs that divert and or treat are designed to divert low-flows to the local Water Reclamation Plants (WRP) for treatment rather than directly discharging into surface

waters. Low-flows do not carry much sediment or silt, therefore, these BMPs would not result in changes in deposition or erosion of beach sands, or changes in siltation, deposition or erosion which may modify the channel of a river or stream or the bed of the ocean or any bay, inlet or river.

Regional Infiltration Systems or Detention Facilities:
Deposition of significant volumes of sediment to rivers and beaches occurs mostly during wet weather flows. Therefore, regional infiltration systems that remove the stream's sediment load could impact deposition of sand on in the river and downstream beaches. Spreading basins that capture sediment, resulting in possible changes in deposition or erosion, can be mitigated if it becomes necessary through sand replacement and importation. End of stream detention basins that capture sediment, resulting in possible changes in deposition or erosion, can be mitigated if it becomes necessary through sand replacement and importation. The Los Angeles and Long Beach Harbors, downstream of the Los Angeles River, are periodically dredged to maintain depth; a decrease in the amount of sediment reaching the watershed may make extent or frequency of such dredging less necessary

Regional Natural Treatment Systems:
Regional natural treatment systems may impact siltation or deposition of sand in the lake. Reduction in siltation in the lake may be considered a positive impact as these sediments are contaminated with legacy pollutants.

NON-STRUCTURAL BMPs

Non-structural BMPs would involve no change to the physical environment either directly or indirectly and would not result in changes in siltation, deposition or erosion which may modify the bed of the beach.

1. Earth. g. Will the proposal result in exposure of people or property to geologic hazards, such as earthquakes, landslides, mudslides, ground failure, or similar hazards?

Answer: No impact

Because of the small size and scope of the reasonable foreseeable projects, is not anticipated that reasonably foreseeable methods of structural and non-structural BMPs will result in an exposure of people or property to geological hazards such as earthquakes, landslides, mudslides, ground failure, or similar hazards.

2. Air. a. Will the proposal result in substantial air emissions or deterioration of ambient air quality?

Answer: Potentially significant impact

STRUCTURAL BMPs

Sub Regional BMPs

Local Capture Systems:
The adverse impacts to ambient air quality may result from short term increases in traffic during the construction. These impacts are temporary and localized to construction activities alone. Construction BMPs can be implemented to mitigate air impacts along with the use low emission vehicles as well as other SCAQMD recommended mitigation measures.

Vegetated Treatment Systems and Local Infiltration Systems:
The adverse impacts to ambient air quality may result from short term increases in traffic during the construction and installation of vegetated treatment and local infiltration systems. These impacts are temporary and localized to construction activities alone. Construction BMPs can be implemented to mitigate air impacts along with the use low emission vehicles as well as other SCAQMD recommended mitigation measures. For example, infiltration devices might require maintenance trips, but these vehicle trips would not cause significant emissions over baseline conditions in the watershed. Mitigation measures for increased air emissions due to increased vehicle trips or increased use of construction equipment include: (1) use of construction and maintenance vehicles with lower-emission engines, (2) use of soot reduction traps or diesel particulate filters, (3) use of emulsified diesel fuel, and (4) design of treatment devices to minimize the frequency of maintenance trips. Mitigation measures for re-suspension of sediments caused by construction activities include the use of vapor barriers and moisture controls to reduce transfer of small sediments to air.

Media Filtration:
While installation and construction of media filters short term increase in traffic and long term increase in traffic due to ongoing maintenance of these devices are the potential sources of increased air pollutant emissions. In the unlikely event that daily emissions exceed the SCAQMD Air Quality Significance Thresholds, construction and maintenance for different devices can be conducted on different days to reduce emissions rates. The 25-year phased implementation schedule allows for construction projects to be spread out over time. Detailed analysis can only be done at project level. Any potential air emissions resulting from construction or maintenance activities would be subject to regulation by SCAQMD or the California Air Resources Board.

Regional BMPs

Divert and or Treat:
Short term increases in traffic and emissions during the construction and installation of diversion and treatment facilities and long term emissions caused by operation and maintenance of these facilities are potential sources of increased air pollutant emissions. Routing water to and from treatment facilities could require pumping stations along pipelines, which could generate air emissions through operation and maintenance of

pump stations and offsite electricity generation. Any potential air emissions would be subject to regulation by SCAQMD or the California Air Resources Board. Mitigation measures for increased air emissions due to increased vehicle trips or for construction equipment due to the installation of divert and or treat BMPs may include, but are not limited to, the following: 1) use of construction, and maintenance vehicles with lower-emission engines, 2) use of soot reduction traps or diesel particulate filters, 3) use of emulsified diesel fuel, and 4) proper maintenance of vehicles so they operate cleanly and efficiently.

Regional Infiltration Systems or Detention Facilities::
The adverse impacts to ambient air quality may result from short term increases in traffic during the construction and installation of regional infiltration systems. These impacts are temporary and localized to construction activities alone. Construction BMPs can be implemented to mitigate air impacts along with the use low emission vehicles as well as other SCAQMD recommended mitigation measures.

Regional Natural Treatment Systems:
Short term and increases in traffic during the construction and installation of regional natural treatment systems and long-term intermittent increases in traffic caused by ongoing maintenance of regional treatment system (e.g., delivery of materials and maintenance activities) are potential sources of increased air pollutant emissions. Construction activities could also potentially cause re-suspension of dry sediments. However, emission levels for potentially emitted pollutants are expected to be below the SCAQMD Air Quality Significance thresholds considering the scale of the TMDL program. Furthermore, because only a few facilities would be needed to treat discharges from multiple farms on a regional scale, the impacts would be less than significant.

NON-STRUCTURAL BMPs

It is possible that workers and vehicles may be required to implement non-structural BMPs. However, non-structural BMPs are not expected to have noticeable impact on ambient air quality.

2. Air. b. Will the proposal result in creation of objectionable odors?

Answer: Potentially significant impact

STRUCTURAL BMPs

Sub Regional BMPs

Local Capture Systems
Construction and installation of local capture systems may result in objectionable odors in the short-term due to exhaust from construction equipment and vehicles. However, BMPs may be a source of objectionable odors if BMPs allow for water stagnation or

collection of water with sulfur-containing compounds. Storm water runoff is not likely to contain sulfur containing compounds, but stagnant water could create objectionable odors.

Mitigation measures to eliminate odors caused by stagnation could include proper BMP design to eliminate standing water with covers, aeration, filters, barriers, and/or odor suppressing chemical additives. Structural BMPs should be inspected regularly to ensure that treatment devices are not clogged, pooling water, or odorous. During maintenance, odorous sources should be uncovered for as short of a time period as possible. Wet weather structural BMPs should be designed to minimize stagnation of water and installed in such a way so as to increase the distance to sensitive receptors in the event of any stagnation.

Vegetated Treatment Systems and Local Infiltration Systems

Construction and installation of vegetated treatment systems may result in objectionable odors in the short-term due to exhaust from construction equipment and vehicles. However, BMPs may be a source of objectionable odors if BMPs allow for water stagnation or collection of water with sulfur-containing compounds. Stormwater runoff is not likely to contain sulfur containing compounds, but stagnant water could create objectionable odors.

Mitigation measures to eliminate odors caused by stagnation could include proper BMP design to eliminate standing water with covers, aeration, filters, barriers, and/or odor suppressing chemical additives. Structural BMPs should be inspected regularly to ensure that treatment devices are not clogged, pooling water, or odorous. During maintenance, odorous sources should be uncovered for as short of a time period as possible. Vegetated treatment and local infiltration systems should be designed to minimize stagnation of water and installed in such a way so as to increase the distance to sensitive receptors in the event of any stagnation.

Media Filtration:

The presence of media filters as BMP may be a source of objectionable odors if design allows for water stagnation or collection of water with sulfur-containing compounds. Storm water runoff is not likely to contain sulfur-containing compounds, but stagnant water could create objectionable odors. Mitigation measures to eliminate odors caused by stagnation could include covers, aeration, filters, barriers, and/or odor suppressing chemical additives. Devices could be inspected to ensure that intake structures are not clogged or pooling water. During maintenance, odorous sources could be uncovered for as short of a time period as possible. To the extent possible, structural BMPs could be designed to minimize stagnation of water (e.g., allow for complete drainage within 48 hours) and installed to increase the distance to sensitive receptors in the event of any stagnation.

Regional BMPs

Divert and or Treat

Construction and installation of Divert and or treat systems may result in objectionable odors in the short-term due to exhaust from operation equipment and vehicles, but these impacts are temporary and localized to construction activities alone. Construction BMPs can be implemented to mitigate air quality impacts along with the use low emission vehicles as well as other SCAQMD recommended mitigation measures.

Regional Infiltration Systems or Regional Detention Facilities:

Construction and installation regional infiltration systems may result in objectionable odors in the short-term due to exhaust from construction equipment and vehicles. However, BMPs may be a source of objectionable odors if BMPs allow for water stagnation or collection of water with sulfur-containing compounds. Stormwater runoff is not likely to contain sulfur containing compounds, but stagnant water could create objectionable odors.

Mitigation measures to eliminate odors caused by stagnation could include proper BMP design to eliminate standing water with covers, aeration, filters, barriers, and/or odor suppressing chemical additives. Structural BMPs should be inspected regularly to ensure that treatment devices are not clogged, pooling water, or odorous. During maintenance, odorous sources should be uncovered for as short of a time period as possible. Wet weather structural BMPs should be designed to minimize stagnation of water and installed in such a way so as to increase the distance to sensitive receptors in the event of any stagnation.

Regional Natural Treatment Systems:
Regional natural treatment systems may be a source of objectionable odors if design allows for water stagnation. Improper design or maintenance of regional treatment system may lead to clogging and stagnation of water creating objectionable odors. Vegetated systems require inspection and maintenance, replacing diseased and dead or dying plants to prevent build-up of detritus, and replacement of existing plants to increase efficiency (WERF, 2005).

Mitigation measures to eliminate odors caused by stagnation could include covers, aeration, filters, barriers, and/or odor suppressing chemical additives. Devices could be inspected to ensure that intake structures are not clogged or pooling water. During maintenance, odorous sources could be uncovered for as short of a time period as possible. To the extent possible, treatment systems could be designed to minimize stagnation of water (e.g., allow for complete filtration within 48 hours) and installed to increase the distance to sensitive receptors in the event of any stagnation.

NON-STRUCTURAL BMPs

Non-structural BMPs could result in the creation of objectionable odors in urbanized areas caused by exhaust from maintenance vehicles. Objectionable odors due to engine exhaust would be temporary and dissipate once the vehicle has passed through the area.

Objectionable odors from exhaust could be reduced if gasoline or propane engines were used instead of diesel engines.

2. Air. c. Will the proposal result in alteration of air movement, moisture or temperature, or any change in climate, either locally or regionally?

Answer: Less Than Significant Impact

It is not anticipated that reasonably foreseeable methods of non-structural and structural BMPs will result in an impact to air in the alteration of air movement, moisture or temperature, or any change in climate, either locally or regionally. Impacts to global climate change is anticipated to be less than significant.

In 2006, California passed AB 32, the Global Warming Solutions Act of 2006, which set the 2020 greenhouse gas emissions reduction goal into law. In December 2007, CARB approved the 2020 emission limit of 427 million metric tons of CO_2 equivalents (CO_2e) of greenhouse gases. The 2020 target of 427 million metric tons of CO_2e requires the reduction of 169 million metric tons of CO_2e, or approximately 30 percent, from the State's projected 2020 emissions of 596 million metric tons of CO_2e.

Also in December 2007, CARB adopted regulations which require mandatory reporting for certain types of facilities that make up the bulk of the stationary source emissions in California. Currently, the draft regulation language identifies major facilities as those that generate more than 25,000 metric tons/year of CO_2e. Cement plants, oil refineries, fossil-fueled electric-generating facilities/providers, cogeneration facilities, and hydrogen plants and other stationary combustion sources that emit more than 25,000 metric tons/year CO_2e, make up 94 percent of the point source CO_2e emissions in California. In June, 2008, CARB published its Climate Change Scoping Plan (CARB, 2008). The Proposed Scoping Plan proposes a comprehensive set of actions designed to reduce overall carbon emissions in California.

Several of the reasonable foreseeable methods of compliance will require the production of energy. The production of the energy will create greenhouse gases that might contribute to climate changes.

County Sanitation Districts (County Sanitation Districts, 2010) supplied the following calculations: The CREST Draft Dry Weather Implementation Plan for the TMDL estimated that 122 storm drains would need to be diverted, with an average flow of 0.15 cubic feet per second (cfs) (about 100,000 gallons per day) per diversion, for a total flow of 12 MGD. Energy consumption would be 61,000,000 kilowatt hours (kWh) per year, with 4500 tons of CO_2 produced per year, per the "Compilation of Air Pollutant Emission Factors, Volume 1: Stationary Point and Area Sources" (USEPA, January 1995).

US EPA's Greenhouse Gas Equivalencies Calculator (http://www.epa.gov/rdee/energy-resources/calculator.html#results) for 61,000,000 kilowatt hours (kWh) per year calculates 4,380 CO_2e Metric tons per year.

Pumping to convey the runoff and construction would consume additional energy that would result in creation of more greenhouse gases than estimated. However, these calculations may be an overestimation because they only includes diversion of stormdrains and no source control methods to reduce bacterial loadings are included.

When compared to the estimated greenhouse gas reduction goal of 174 million tons CO_2e by 2020 (and in comparison to major facilities that are required to report greenhouse gas emissions (25,000 metric tons of CO_2e/year)), the relative contributions of the implementation program are small and would not conflict with the state's ability to meet the AB32 goals.

In addition, the implementation of this TMDL will not conflict with implementation of State's recommended greenhouse gas reduction measures (CARB, 2008) and emissions from implementation will not have a significant negative effect on global climate change.

3. Water. a. Will the proposal result in changes in currents, or the course of direction or water movements, in either marine or fresh waters?

Answer: Potentially significant impact

STRUCTURAL BMPs

Sub Regional BMPs

Local Capture Systems:
Installation of local capture systems would involve no change to the physical environment of marine or fresh waters either directly or indirectly. Local capture systems are designed to reduce runoff thereby decreasing storm water flow, however the effects are not significant enough to result in changes in currents, or the course of direction or water movements, in either marine or fresh waters.

Vegetated Treatment Systems and Local Infiltration Systems:

Vegetated treatment systems and local infiltration systems may impede or slow overland flow to storm drains if not properly designed and maintained. Devices should be designed to allow adequate drainage of water and maintained to remove clogged material to mitigate this impact.

Media Filtration:
Media filters may impede or slow overland flow to storm drains if not properly designed and maintained. Devices should be designed to allow adequate drainage of water and maintained to remove clogged material to mitigate this impact.

Media filters are flow-through devices that may cause a change in the rate of surface water runoff. These units may impede or slow overland flow to the storm drain system. Any device installed on-line, especially an older, under-capacity storm drain could have a negative effect on the drain's ability to convey surface waters, including flood waters. This negative impact can be mitigated through design of media filters with overflow/bypass structures and by performing regular maintenance of these devices and if necessary enlargement of the storm drain upstream of the device.

Regional BMPs

Divert and or Treat:

Structural BMPs designed to divert and/or treat flows may impact water movement. The diversions are used to reduce dry weather flows in storm drains and, ultimately, to the river. A change in fresh water movement may occur if compliance with the TMDL is achieved in part through diversion of storm water to wastewater or urban runoff treatment facilities. This is likely to have a positive effect during wet weather, as it will reduce the potential for flooding during storm events. Reductions in dry-weather flow could have potential negative impacts on minimum flows required to support aquatic life. Potential impacts to dry-weather flow should be considered at the project level. Mitigation measures to maintain minimal flow to support habitat related beneficial uses should be considered if reductions in flow from storm drains and reduction in flow from treatment plants is such that minimum flows are so reduced as to not support aquatic life. Minimum flow levels can be reviewed and approved by the California Department of Fish and Game (CDFG) and United States Fish and Wild Life Service (USFWS).

Regional Infiltration Systems or Regional Detention Facilities:
Regional infiltration systems or detention facilities may change the currents in the watersheds by diverting flow away from the channels. However, stream flow in the urbanized lower watersheds are highly channelized, therefore none of the reasonably foreseeable structural BMPs would alter the direction or slope of the stream channels in the lower watersheds. The roughness coefficient may be reduced as sediment is kept out of the channels, which could increase the flow rate in the channels but would not change the direction of flow. The increase in flow rate in the channels could be offset by the reduction of peak flow, as a result of the installation of structural BMPs such as infiltration basins. Overland flow in the urbanized portion of the watershed is directed primarily to storm drains. This overland flow may change depending on the structural BMPs installed such as infiltration basins. If storm water runoff flow is reduced, or is diverted to infiltration basins and not returned to the creeks, these changes would reduce the potential for erosion.

Regional Natural Treatment Systems:
Regional treatment systems may impede or slow overland flow if not properly designed and maintained. Devices should be designed to allow adequate drainage of water and maintained to remove clogged material to mitigate this impact. Reductions in dry and wet weather flow could have potential negative impacts on minimum flows required to

support aquatic life in the river. Reductions in dry-weather flow could have potential negative impacts on minimum flows required to support aquatic life. Potential impacts to dry-weather flow should be considered at the project level. Mitigation measures to maintain minimal flow to support habitat related beneficial uses should be considered if reductions in flow from storm drains and reduction in flow from treatment plants is such that minimum flows are so reduced as to not support aquatic life. Minimum flow levels can be reviewed and approved by the California Department of Fish and Game (CDFG) and United States Fish and Wild Life Service (USFWS).

NON-STRUCTURAL BMPs

Non-structural BMPs would involve no change to the physical environment either directly or indirectly and would not result in changes in currents, or the course of direction or water movements, in marine or fresh waters. No impact is anticipated. No mitigation measures are required.

3. Water. b. Will the proposal result in changes in absorption rates, drainage patterns, or the rate and amount of surface water runoff?

Answer: Potentially significant impact

STRUCTURAL BMPs

Sub Regional BMPs

Local Capture Systems:
Local capture systems collect storm water flow, which could decrease the rate and amount of surface water runoff, and alter drainage patterns. For example, structural BMPs such as rain barrels would change drainage patterns by collecting storm water, which would reduce the amount of surface runoff to creeks.

Vegetated Treatment Systems and Local Infiltration Systems:
Vegetated treatment and local infiltration systems collect and/or inhibit storm water flow, which could decrease the rate and amount of surface water runoff, and alter drainage patterns. For example, infiltration BMPs such as vegetated bioswales would change drainage patterns by increasing absorption rates, which would reduce the amount of surface runoff to creeks. However, increased imperviousness in the watersheds has increased stormwater flows, so a partial reduction in storm water flow would not be a negative environmental effect.

Media Filtration:
Media filters are flow-through devices that may cause a change in the rate of surface water runoff. These units may impede or slow overland flow to the storm drain system. Any device installed on-line, especially an older, under-capacity storm drain could have a negative effect on the drain's ability to convey surface waters, including flood waters.

This negative impact can be mitigated through design of media filters with overflow/bypass structures and by performing regular maintenance of these devices and if necessary enlargement of the storm drain upstream of the device

Regional BMPs

Divert and or Treat
BMPs designed to divert and or treat have the potential to impact the amount of surface water runoff. Structural BMPs may change the currents in the watersheds by diverting flow away from the channels. However, stream flow in the urbanized lower watersheds are highly channelized, therefore none of the reasonably foreseeable structural BMPs would alter the direction or slope of the stream channels in the lower watersheds.

Regional Infiltration Systems orRegional Detention Facilities:
Regional infiltration systems collect and/or inhibit stormwater flow, which would likely alter drainage patterns, and also decrease the rate and amount of surface water runoff. For example, structural BMPs such as spreading basins would change drainage patterns by increasing absorption rates, which would reduce the amount of surface runoff to creeks. The increase in flow rate in the channels could be offset by the reduction of peak flow, as a result of the installation of infiltration basins. Overland flow in the urbanized portion of the watershed is directed primarily to storm drains. This overland flow may change depending on the structural BMPs installed such as infiltration basins. However, increased imperviousness in the watersheds has increased stormwater flows, so a partial reduction in stormwater flow would not be a negative environmental effect.

Regional Natural Treatment Systems
Changes in drainage patterns and the rate and amount of surface water runoff will occur if a portion of stormwater/irrigation runoff is diverted or captured and treated to achieve compliance with the TMDL. Reductions in dry-weather flow could have potential negative impacts on minimum flows required to support aquatic life. Potential impacts to dry-weather flow should be considered at the project level. Mitigation measures to maintain minimal flow to support habitat related beneficial uses should be considered if reductions in flow from storm drains and reduction in flow from treatment plants is such that minimum flows are so reduced as to not support aquatic life. Minimum flow levels can be reviewed and approved by the California Department of Fish and Game (CDFG) and United States Fish and Wild Life Service (USFWS).

NON-STRUCTURAL BMPs

Non-structural BMPs would involve no change to the physical environment either directly or indirectly and would not result in change in the drainage patterns, rate and amount of surface water runoff. No impact is anticipated. No mitigation measures are required.

3. Water. c. Will the proposal result in alterations to the course of flow of flood waters?

Answer: Potentially significant impact

Sub Regional BMPs

Local Capture Systems:
Local capture systems would not result in altering the course of flow of flood waters because installation of these BMPs would not introduce any physical change to the river channel that could impact the flow of flood waters.

Vegetated Treatment Systems and Local Infiltration Systems
Vegetated treatment and local infiltration systems such as vegetated swales, permeable paving, bioretention areas, and storm water planters could alter the volume of flood waters by diverting a portion of the flood waters, but a reduction in flood waters is unlikely to alter the course of flood waters. Potential effects can be mitigated through proper design (including flood water bypass systems), sizing, and maintenance of these types of infiltration BMPs. Installation of vegetated treatment and infiltration systems could result in positive environmental benefits like flood mitigation.

Media Filtration:
Alterations to the course of flow of flood waters will occur if a portion of storm water is treated with media filters. Any device into a storm drain, especially an older, under-capacity drain could have a negative effect on the drain's ability to convey waters, including flood waters. This negative impact can be mitigated through proper design and maintenance of these devices. The size of the contributing drainage area should not exceed standard specifications (e.g., surface sand filters should treat no more than 25 acres and underground sand filters should treat no more than 2 acres (CASQA, 2003b). Devices should be designed to allow bypass of flows that exceed the design capacity. Enlargement of the drain upstream of the device may be required.

Regional BMPs

Divert and or Treat
BMPs designed to divert and or treat have the potential to impact the course of flow of flood waters. These structural BMPs are designed to divert low-flow water in storm drains to local Water Reclamation Plants (WRP's). Such devices may reduce peak floodwater flows (USEPA, 2002), which would be a public benefit, as some of these peak flows constitute a potential flooding hazard and/or a safety hazard to anyone in their near-vicinity. Impacts to the flow of flood waters can be mitigated with proper design and siting. Structural BMPs should all be designed with high flow bypasses. During high flow events, usually during storms, waters entering the storm drain will bypass the diversion to prevent flooding and over taxing WRP's treatment capacity.

Regional Infiltration Systems or Regional Detention Facilities:
Structural BMPs, such as infiltration basins, could alter the volume of flood waters by diverting a portion of the flood waters, but a reduction in flood waters is unlikely to alter

the course of flood waters. Detention basins collect and/or inhibit storm water flow, which would likely alter the course of flood waters. Potential effects can be mitigated through proper design (including flood water bypass systems), sizing, and maintenance of these types of structural BMPs. Installation of regional infiltration systems like wetlands could result in positive environmental benefits like flood mitigation and upstream flow volume reduction. Detention and infiltration basins also reduce upstream flow volume.

Regional Natural Treatment Facilities

Regional natural treatment systems, such as sand filters, could alter its current course of flow into the river if the design capacity is exceeded. This negative impact can be mitigated through proper design and maintenance of regional treatment system. The size of the contributing drainage area should not exceed standard specifications. Devices should be designed to allow bypass of flows that exceed the design capacity. Bypass should be installed for flows that exceed treatment capacities.

NON-STRUCTURAL BMPs

Non-structural BMPs would involve no change to the physical environment either directly or indirectly and would not result in alterations to the course of flow of flood waters. No impact is anticipated. No mitigation measures are required.

3. Water. d. Will the proposal result in change in the amount of surface water in any water body?

Answer: Potentially significant impact

STRUCTURAL BMPs

Sub Regional BMPs

Local Capture Systems:

Local capture systems are designed to collect stormwater runoff. Reductions in dry-weather flow could have potential negative impacts on minimum flows required to support aquatic life. Mitigation measures to maintain minimal flow to support habitat related beneficial uses should be considered if reductions in flow from storm drains and reduction in flow from treatment plants is such that minimum flows are so reduced as to not support aquatic life. Minimum flow levels can be reviewed and approved by the California Department of Fish and Game (CDFG) and United States Fish and Wild Life Service (USFWS).

Vegetated Treatment Systems and Local Infiltration Systems

Stormwater runoff may be retained and/or diverted for groundwater infiltration and/or to vegetated swales or bioretention areas. Water that is retained or diverted would not flow into the canyons and stream channels. Because the surface water runoff to the creeks

would be reduced, the adverse effects of channel erosion of the creeks would also be reduced.

Reduction in the amount of water in the stream channels may affect the ecology of the streams; however, all of these affects can be mitigated to less than significant levels as discussed below in the answers to questions 4 and 5 on Plant Life and Animal Life.

Media Filtration:
Media filters may impede or slow overland flow to storm drains if not properly designed and maintained and could change the amount of surface water. Devices should be designed to allow adequate drainage of water and maintained to remove clogged material to mitigate this impact.

Regional BMPs

Divert and or Treat:

Diverted and or treated flows are transported in storm drains to local WRPs during dry weather. A change in the amount of surface water may also occur due to diversion of storm water which would otherwise enter open channels. Because the reduction of nuisance flows would return the watersheds to a more natural, predevelopment condition, this impact is not significant. Further it is also likely to have a positive effect during wet weather, as it will reduce the potential for flooding during storm events (USEPA, 2002). But mitigation is necessary if the dry weather flow could have potential negative impacts on minimum flows required to support aquatic life. Mitigation measures to maintain minimal flow to support habitat related beneficial uses should be considered if reductions in flow from storm drains and reduction in flow from treatment plants is such that minimum flows are so reduced as to not support aquatic life. Minimum flow levels can be reviewed and approved by the California Department of Fish and Game (CDFG) and United States Fish and Wild Life Service (USFWS).

Regional Infiltration Systems or Regional Detention Facilities :
Storm water runoff may be retained and/or diverted for groundwater infiltration and/or to detention basins. Water that is retained or diverted would not flow into the canyons and stream channels. Because the surface water runoff to the creeks would be reduced, the adverse effects of channel erosion of the creeks would also be reduced. Mitigation measures to maintain minimal flow to support habitat related beneficial uses should be considered if reductions in flow from storm drains and reduction in flow from treatment plants is such that minimum flows are so reduced as to not support aquatic life. Minimum flow levels can be reviewed and approved by the California Department of Fish and Game (CDFG) and United States Fish and Wild Life Service (USFWS).

Regional Natural Treatment Systems

A change in the amount of surface water may occur if compliance with the TMDL is achieved through regional treatment system. Sand filters may impede or slow overland flow if not properly designed and maintained and could change the amount of surface

water. Devices should be designed to allow adequate drainage of water and maintained to remove clogged material to mitigate this impact. Flow bypasses should be installed to divert stormwater in excess of treatment capacity. Mitigation measures to maintain minimal flow to support habitat related beneficial uses should be considered if reductions in flow from storm drains and reduction in flow from treatment plants is such that minimum flows are so reduced as to not support aquatic life. Minimum flow levels can be reviewed and approved by the California Department of Fish and Game (CDFG) and United States Fish and Wild Life Service (USFWS).

NON-STRUCTURAL BMPs

Non-structural BMPs would involve no change to the physical environment either directly or indirectly and would not result in change in the amount of surface water in any water body.

3. Water. e. Will the proposal result in discharge to surface waters, or in any alteration of surface water quality, including but not limited to temperature, dissolved oxygen, or turbidity?

Answer: Potentially significant impact

The TMDL will improve surface water quality in terms of indicator bacteria. In addition, the BMPs which reduce storm water runoff may contribute to reductions in other types of pollutants which are also carried by storm water.

STRUCTURAL BMPs

Sub Regional BMPs

Local Capture Systems:
Local capture systems would not result in discharge to surface waters, or in any negative change to surface water quality.

Vegetated Treatment Systems and Local Infiltration Systems:
During wet weather discharges, certain infiltration BMPs (including vegetated swales, bioretention areas, and permeable paving) would reduce turbidity and potentially increase dissolved oxygen, because these BMPs would remove sediment and bioavailable oxygen demanding substances from the surface water. Reduced turbidity and increased dissolved oxygen are beneficial to the environment.

Media Filtration:
The use of media filters will result in a change in the quality of surface water. This will positively impact water quality and associated aquatic life and water supply beneficial uses of surface waters

Regional BMPs

Divert and or Treat:
Diversion and/or treatment BMPs would not result in discharge to surface waters, or in any negative change to surface water quality.

Regional Infiltration Systems or Regional Detention Facilities:
During wet weather discharges, certain structural BMPs (including infiltration basins and detention basins) would reduce turbidity and increase dissolved oxygen, because these BMPs would remove sediment and bioavailable oxygen demanding substances from the surface water. Reduced turbidity and increased dissolved oxygen are beneficial to the environment.

Regional Natural Treatment Systems:
The use of regional natural treatment system will result in a change in the quality of surface water. This will positively impact water quality and associated aquatic life and water supply beneficial uses of surface waters. Regional treatment systems have multiple pollutant treatment potential. Sand filters have been effective at removing metals as well as bacteria and other pollutants (WERF, 2005).

NON-STRUCTURAL BMPs

Non-structural BMPs would not result in discharge to surface waters, or in any negative change to surface water quality. No mitigation measures are required.

3. Water. f. Will the proposal result in alteration of the direction or rate of flow of ground waters?

Answer: Potentially significant impact

STRUCTURAL BMPs

Sub Regional BMPs

Local Capture Systems:
Local capture systems would not result in alteration of the direction or rate of flow of ground waters.

Vegetated Treatment Systems and Local Infiltration Systems:

Over the long term, infiltration of storm water runoff via infiltration type BMPs such as permeable paving and vegetated swales could alter the direction or rate of flow of groundwater. The potential for adverse impacts may be mitigated through proper design and siting of infiltration devices, and groundwater monitoring. Proper design and siting includes providing adequate groundwater separation with soils suitable for infiltration, and complying with any applicable groundwater permitting requirements. It is

recommended that media filters or other treatment devices be used instead of infiltration where soils or groundwater contamination are a concern (CASQA, 2003b). However, where separation to groundwater is adequate, there is a low probability of groundwater contamination by infiltrated runoff because the soils attenuate pollutants and soil amendments can increase metals removal (CASQA, 2003b).

When properly managed, increased groundwater recharge would be considered a positive impact, as it would contribute to replenishing local water supplies and reducing reliance on imported water.

Media Filtration:
Media filters are flow through devices to treat storm water and will have no impact on the direction or rate of flow of ground waters. They would be installed in areas that are already developed and installation activities would occur at depths that would not impact ground water.

Regional BMPs

Divert and or Treat:
Diversion and treatment facilities are above ground devices to treat storm water and will have no impact on the direction or rate of flow of ground waters. They would be installed in areas that are already developed and installation activities would occur at depths that would not impact ground water

Regional Infiltration Systems orRegional Detention Facilities:

Stormwater runoff via BMPs such as infiltration or detention facilities could alter the direction or rate of flow of groundwater. The potential for adverse impacts may be mitigated through proper design and siting of infiltration devices, pretreatment prior to infiltration, and groundwater monitoring. Proper design and siting includes providing adequate groundwater separation with soils suitable for infiltration, and complying with any applicable groundwater permitting requirements. It is recommended that media filters or other treatment devices be used instead of infiltration where soils or groundwater contamination are a concern (CASQA, 2003b). However, where separation to groundwater is adequate, there is a low probability of groundwater contamination by infiltrated runoff because the soils attenuate pollutants and soil amendments can increase metals removal (CASQA, 2003b).

When properly managed, increased groundwater recharge would be considered a positive impact, as it would contribute to replenishing local water supplies and reducing reliance on imported water.

Regional Natural Treatment Systems:
The use of a regional treatment system is not expected to result in alteration of the direction or rate of flow of groundwater

NON-STRUCTURAL BMPs

Non-structural BMPs would not result in alteration of the direction or rate of flow of ground waters. No mitigation measures are required.

3. Water. g. Change in the quantity or quality of ground waters, either through direct additions or withdrawals, or through interception of an aquifer by cuts or excavations?

Answer: Potentially Significant Impact

Sub Regional BMPs

Local Capture Systems

Local capture systems would not result in a change in the quantity or quality of ground waters. No mitigation measures are required.

Vegetated Treatment Systems and Local Infiltration Systems

Vegetated treatment systems and local infiltration systems involve the infiltration of stormwater runoff into the ground. If infiltration stormwater BMPs are improperly designed, sited, and constructed, ground water quality could be adversely impacted. For instance, flow above designed capacity of biofiltration devices may lead to groundwater contamination from untreated stormwater. Infiltration of stormwater could mobilize groundwater contaminants.

The potential for adverse impacts may be mitigated through proper design and siting of infiltration devices, pretreatment prior to infiltration, and groundwater monitoring. Proper design and siting includes providing adequate groundwater separation with soils suitable for infiltration, and complying with any applicable groundwater permitting requirements. It is recommended that media filters or other treatment devices be used instead of infiltration where soils or groundwater contamination are a concern (CASQA, 2003b). However, where separation to groundwater is adequate, there is a low probability of groundwater contamination by infiltrated runoff because the soils attenuate pollutants and soil amendments can increase metals removal (CASQA, 2003b).

When properly managed, increased groundwater recharge would be considered a positive impact, as it would contribute to replenishing local water supplies and reducing reliance on imported water.

Media Filtration

Media filters are flow through devices to treat storm water and will have no impact on the quantity or quality of ground waters. They would be installed in areas that are already developed and installation activities would occur at depths that would not impact ground water.

Regional BMPs

Diversion and/or Treatment

BMPs associated with diversion and/or treatment would not result in alteration of the direction or rate of flow of ground waters.

Regional Infiltration Systems and Regional Detention Facilities
Potential impacts associated with regional infiltration facilities or detention facilities would be similar to potential impacts from local infiltration, but on a larger scale. Regional detention facilities can also involve infiltration of stormwater, which could impact groundwater. The potential for adverse impacts may be mitigated through proper design and siting of devices, pretreatment prior to infiltration, and groundwater monitoring. Proper design and siting includes providing adequate groundwater separation with soils suitable for infiltration, and complying with any applicable groundwater permitting requirements. It is not recommended that infiltration be used where soils or groundwater contamination are a concern (CASQA, 2003b). However, where separation to groundwater is adequate, there is a low probability of groundwater contamination by infiltrated runoff because the soils attenuate pollutants and soil amendments can increase metals removal (CASQA, 2003b). When properly managed, increased groundwater recharge would be considered a positive impact, as it would contribute to replenishing local water supplies and reducing reliance on imported water.

Regional Natural Treatment Systems
The use of a regional natural treatment systems is not expected to result in changes to groundwater quality or quantity.

NON-STRUCTURAL BMPs

Non-structural BMPs would not result in changes to groundwater quality or quantity.

3. Water. h. Will the proposal result in substantial reduction in the amount of water otherwise available for public water supplies?

Answer: No impact

The structural and non-structural BMPs will not reduce public water supplies. Implementation of the TMDL would result in an increase in the amount of water available for public water supplies if compliance with the TMDL is achieved through significant infiltration of stormwater or treatment and reuse of stormwater.

3. Water. i. Will the proposal result in exposure of people or property to water related hazards such as flooding or tidal waves?

Answer: Potentially significant impact

STRUCTURAL BMPs

Sub Regional BMPs

Local Capture Systems:

If local capture systems are not properly designed and constructed, maintained, and regularly emptied to allow for bypass of storm water during storms that exceed design capacity, local capture systems such as rain barrels can potentially contribute to minor small scale flooding. However, this potential impact can be mitigated through proper maintenance procedures.

Vegetated Treatment Systems and Local Infiltration Systems

Installation of vegetated treatment and local infiltration systems such as bioretention areas and vegetated swales that are not properly designed and constructed to allow for bypass of excess storm water during storms that exceed design capacity can cause flooding. However, this potential impact can be mitigated through proper design and maintenance of vegetated treatment and local infiltration systems. Any modifications to the watershed hydrology should be modeled and accounted for in the design of BMPs.

Media Filtration:

Implementation may result in flooding hazards if media filters are not properly designed and constructed to allow for bypass of storm water during storms that exceed design capacity. This potential impact can be mitigated through proper design. Potential risks of flooding due to clogging of devices with debris can be avoided by regular maintenance and inspection prior to storms.

Regional BMPs

Divert and or Treat:

If divert and treat devices are not properly designed and constructed to allow for bypass of storm water during storms that exceed design capacity, low-flow diversions can potentially contribute to flooding. However, this potential impact can be mitigated through proper design features such as high-flow bypass and maintenance procedures such as cleaning out diversions at an appropriate frequency.

Regional Infiltration Systems or Detention Facilities:

Installation of regional infiltration systems that are not properly designed and constructed to allow for bypass of excess storm water during storms that exceed design capacity can cause flooding. However, this potential impact can be mitigated through proper design and maintenance of regional infiltration systems. Any modifications to the watershed hydrology should be modeled and accounted for in the design of BMP.

Regional Natural Treatment Systems:

The use of regional natural treatment system may result in flooding hazards if a regional treatment system is not properly designed and constructed to allow for bypass of storm water during storms that exceed design capacity. This potential impact can be mitigated

through proper design. Potential risks of flooding due to clogging of devices with debris can be avoided by regular maintenance and inspection prior to storms.

NON-STRUCTURAL BMPs

Non-structural BMPs would not result in exposure of people or property to water related hazards such as flooding or tidal waves. No impact is anticipated. No mitigation measures are required.

4. Plant Life. a. Will the proposal result in change in the diversity of species, or number of any species of plants (including trees, shrubs, grass, crops, micro flora and aquatic plants)?

Answer: Potentially significant impact

STRUCTURAL BMPs

Sub Regional BMPs

Local Capture Systems:
Local capture systems would not result in change in the diversity of species, or number of any species of plants (including trees, shrubs, grass, crops, microflora and aquatic plants). No mitigation measures are required.

Vegetated Treatment Systems and Local Infiltration Systems:
The installation of infiltration BMPs such as vegetated swales, permeable paving, bioretention areas, or retention ponds could increase the diversity or number of plant species, which is beneficial to the environment by increasing available habitat. However, during storm events, infiltration BMPs could also divert, reduce, and/or eliminate surface water runoff discharge, which may reduce the number and/or diversity of plant species within the streams, by modifying the hydrology of the creeks, which could be adverse. This can be mitigated through proper project modeling, siting, and planning so that the resulting creek hydrology mimics natural conditions.

Media Filtration:
Media filtration could impact plant life in terms of diversity of species or number of species if facilities are located in open space or undeveloped areas. Urban land uses tend to be landscaped and often with common, non-native species. Based on the waste load allocations for storm water permittees, it is most likely that structural BMPs and treatment facilities would be sited in urbanized areas where their implementation would not cause the removal, disturbance or change in diversity of any plant species. If facilities were sited on undeveloped areas, alternative site locations, or design modifications that would avoid impacts to plant life would be implemented.

Regional BMPs:

Divert and or Treat:

Divert and or treat devices divert the surface water runoff, may cause changes of the diversity of species, or number of any species of plants. A decrease in flow may decrease plant diversity downstream of the diversion by reducing the number of speciesof plants (including trees, shrubs, grass, crops, microflora and aquatic plants) that require a more constant water supply. Adverse impacts are expected to be limited because the elimination of nuisance flows would return the stream bed's dry weather flows to a more natural, pre-development condition. This in turn could facilitate the return of the stream's plant community to a more natural, pre-development condition and could impede the propagation of water-loving nonnative plant species. Impeding the propagation of invasive species is not a negative impact. Mitigation measures to maintain minimal flow to support plant life should be considered if reductions in flow from storm drains and reduction in flow from treatment plants is such that minimum flows are so reduced as to not support aquatic life. Minimum flow levels can be reviewed and approved by the California Department of Fish and Game (CDFG) and United States Fish and Wild Life Service (USFWS).

Regional Infiltration Systems or Detention Facilities:

The installation of regional detention facilities such as detention basins and spreading grounds could increase the diversity or number of plant species, which is beneficial to the environment by increasing available habitat. However, during storm events, structural BMPs could also divert, reduce, and/or eliminate surface water runoff discharge, which may reduce the number and/or diversity of plant species within the streams, by modifying the hydrology of the creeks, which could be adverse. This can be mitigated through proper project modeling, siting, and planning so that the resulting creek hydrology mimics natural conditions

Regional Natural Treatment Systems:

Regional natural treatment systems, such as constructed wetlands, involve the creation of new habitat and would not adversely impact the diversity of species or number of any species of plant. Regional treatment system could result in reduced flows, particularly during dry weather, and may adversely impact downstream plant life. Mitigation measures to maintain minimal flow to support plant life should be considered if reductions in flow from storm drains and reduction in flow from treatment plants is such that minimum flows are so reduced as to not support aquatic life. Minimum flow levels can be reviewed and approved by the California Department of Fish and Game (CDFG) and United States Fish and Wild Life Service (USFWS).

NON-STRUCTURAL BMPs

Non-structural BMPs would not result in change in the diversity of species, or number of any species of plants (including trees, shrubs, grass, crops, microflora and aquatic plants) because these BMPs would not introduce any physical effects that could impact plant life.

4. Plant life. b. Will the proposal result in reduction of the numbers of any unique, rare or endangered species of plants?

Answer: Potentially significant

To the extent that regional treatment systems could impact the number or diversity of species, proper timing may need to be exercised to avoid construction during critical periods of plant and animal development. Consultation with agencies including the CDFG and USFWS, having jurisdiction over identified resources would occur to identify specific mitigation measures such as restoration efforts designed to re-vegetate unique, rare or endangered species of plants. When the specific projects are developed and sites identified, a search of the California Natural Diversity Database could be employed to confirm that any potentially sensitive plant species in the site area are properly identified and protected as necessary. Focused protocol plant surveys for special-status-plant species could be conducted at each site location, if appropriate.

If sensitive plant and animal species occur on the project site, mitigation measures can be developed in consultation with the CDFG and the USFWS. Responsible parties should endeavor to avoid compliance measures that could result in reduction of the numbers of any unique, rare or endangered species of plants. Plant number and species diversity could be maintained by either preserving them prior to, during, and after installation of facilities or by re-establishing and maintaining the plant communities post construction. Mitigation measures could be implemented to ensure that potential impacts to unique, rare or endangered plant species are eliminated. When the specific projects are developed and sites identified, a search of the California Natural Diversity Database could be employed to confirm that any potentially sensitive plant species or biological habitats in the site area are properly identified and protected as necessary. Focused protocol plant surveys for special-status-plant species could be conducted at each site location, if appropriate.

STRUCTURAL BMPs

Sub Regional BMPs

Local Capture Systems:
Local capture systems would not result in reduction of the numbers of any unique , rare or endangered species of plants.

Vegetated Treatment Systems and Local Infiltration Systems
It is unlikely that during and after construction of vegetated treatment and local infiltration systems would result in a reduction of the numbers of any unique, rare or endangered species of plants as most will be sited in recreational and urbanized areas. Also most structural BMPs such as infiltration systems are expected to have a relatively small footprint and would not be likely to have a significant impact on critical habitat for endangered species. If avoidance could not be implemented, consultation with resource agencies including the CDFG and USFWS, having jurisdiction over identified resources

would occur to identify specific mitigation measures such as restoration efforts designed to re-vegetate unique, rare or endangered species of plants.

Media Filtration:
Most structural BMPs are expected to have a relatively small footprint and would not be likely to have a significant impact on critical habitat for endangered species. When the specific projects are developed and sites identified, a search of the California Natural Diversity Database could be employed to confirm that any potentially sensitive plant species in the site area are properly identified and protected as necessary. Focused protocol plant surveys for special-status-plant species could be conducted at each site location, if appropriate. If avoidance could not be implemented, consultation with resource agencies including the CDFG and USFWS, having jurisdiction over identified resources would occur to identify specific mitigation measures such as restoration efforts designed to re-vegetate unique, rare or endangered species of plants.

Regional BMPs:

Divert and or Treat:
Most structural BMPs are expected to have a relatively small footprint and would not be likely to have a significant impact on critical habitat for endangered species. When the specific projects are developed and sites identified, a search of the California Natural Diversity Database could be employed to confirm that any potentially sensitive plant species in the site area are properly identified and protected as necessary. Focused protocol plant surveys for special-status-plant species could be conducted at each site location, if appropriate.

Diversion and treatment strategies could reduce flows and may impact downstream plant life. Mitigation measures to maintain minimal flow to support plant life should be considered if reductions in flow from storm drains and reduction in flow from treatment plants is such that minimum flows are so reduced as to not support aquatic life. Minimum flow levels can be reviewed and approved by the California Department of Fish and Game (CDFG) and United States Fish and Wild Life Service (USFWS).

If avoidance could not be implemented, consultation with resource agencies including the CDFG and USFWS, having jurisdiction over identified resources would occur to identify specific mitigation measures such as restoration efforts designed to re-vegetate unique, rare or endangered species of plants.

Regional Infiltration Systems:
Larger regional retention and treatment facilities such as infiltration systems may pose a potential threat to critical habitat if systems are located in or near critical habitat. Potential impacts to unique, rare or endangered species and/or critical habitat should be evaluated at the project level. If facilities were sited on undeveloped areas, alternative site locations, or design modifications that would avoid impacts to plant life could be implemented. If avoidance could not be implemented, consultation with resource agencies including the CDFG and USFWS, having jurisdiction over identified resources

would occur to identify specific mitigation measures such as restoration efforts designed to re-vegetate unique, rare or endangered species of plants.

In addition, there could be a positive benefit wherein it could result in the increase of the numbers of any unique, rare or endangered species of plants by increasing available habitat.

Regional Natural Treatment Systems:
If regional natural treatment system is used, impact to plant life in terms of diversity of species, number of species, or reduce the number unique, rare or endangered species could occur if facilities are located in critical habitat. Regional natural treatment systems may be sited away from this critical habitat.

To the extent that regional natural treatment systems could impact the number or diversity of species, proper timing may need to be exercised to avoid construction during critical periods of plant and animal development. Consultation with agencies including the CDFG and USFWS, having jurisdiction over identified resources would occur to identify specific mitigation measures such as restoration efforts designed to re-vegetate unique, rare or endangered species of plants. When the specific projects are developed and sites identified, a search of the California Natural Diversity Database could be employed to confirm that any potentially sensitive plant species in the site area are properly identified and protected as necessary. Focused protocol plant surveys for special-status-plant species could be conducted at each site location, if appropriate.

If sensitive plant and animal species occur on the project site, mitigation measures can be developed in consultation with the CDFG and the USFWS. Responsible parties should endeavor to avoid compliance measures that could result in reduction of the numbers of any unique, rare or endangered species of plants. Plant number and species diversity could be maintained by either preserving them prior to, during, and after installation of facilities or by re-establishing and maintaining the plant communities post construction.

NON-STRUCTURAL BMPs

Non-structural BMPs would involve no change to the physical environment either directly or indirectly and would have no impact to unique, rare or endangered species of plants

4. Plant life. c. Will the proposal result in introduction of new species of plants into an area, or in a barrier to the normal replenishment of existing species?

Answer: Potentially significant impact

The Los Angeles River watershed contains *Arundo donax* and other invasive non-native plants. Mitigation is done by proper removal technologies, depending on the growth and area of the watershed. Control of invasive plants by foliar spraying of full-height stalks

and chemical treatment is conducted after those near native vegetation are manually pulled down and compacted. Chain sawing and mowers are used to cut big bushes, and backpack sprayers are used for plants that have been completely flattened by recent flooding. Other techniques, such as removal of small sapling and seeds, are employed to reduce and avoid further spreading of invasive plants and to establish native species. (FoLAR and LASGWC, 2002)

STRUCTURAL BMPs

Sub Regional BMPs

Local Capture Systems

Local capture systems collect storm water runoff. This would not result in introduction of new species of plants into an area. However, the decrease in flow could be a barrier to the normal replenishment of existing species that require a more constant water supply. No adverse impacts are expected because the reduction of nuisance flows would return the stream bed's dry weather flows to a more natural, pre-development condition. This in turn would facilitate the return of the stream's plant community to a more natural, pre-development condition and could impede the propagation of water-loving nonnative and invasive plant species. Impeding the propagation of invasive species is not a negative impact. Proper project siting and planning can help mitigate impacts to the plant life.

Vegetated Treatment Systems and Local Infiltration Systems

Vegetated treatment may include the use of plants, such as vegetated swales or permeable paving, new species of plants may possibly be introduced into the area. However, in cases where plants or landscaping is incorporated into the specific project design, the possibility of disruption of resident native species could be avoided or minimized by using only plants native to the area. Local infiltration systems increase permeability thereby reducing storm water runoff. This would not result in introduction of new species of plants into an area. However, the decrease in flow could be a barrier to the normal replenishment of existing species that require a more constant water supply. Adverse impacts are less likely because the reduction of nuisance flows would return the stream bed's dry weather flows to a more natural, pre-development condition. Impeding the propagation of invasive species is not a negative impact. The use of exotic invasive species or other plants listed in the Exotic Pest Plant of Greatest Ecological Concern in California (California Exotic Pest Plant Council, 1999) should be prohibited.

Media Filtration

Media filters may be used in conjunction with other structural treatment devices, which could result in the introduction of new species of plants into an area. Based on the waste load allocations for storm water permittees, it is most likely that structural BMPs would be sited in urbanized areas. Urban land uses tend to be landscaped and often with common, non-native species. The use of exotic invasive species or other plants listed in the Exotic Pest Plant of Greatest Ecological Concern in California (1999, California Invasive Plant Council, as amended) should be prohibited.

Regional BMPs

Divert and or Treat
Maintenance of divert and treat facilities could result in introduction of new species of plants into an area due to exposure waters or equipments contaminated with seeds or saplings of invasive species such as *Arundo* Donax .

Proper sanitation methods employed before and after construction and maintenance by the workers and the equipments can help avoid the spread of the non-invasive plant species such as *Arundo Donax* eradication programs can be undertaken. The decrease in flow could be a barrier to the normal replenishment of existing species that require a more constant water supply. Adverse impacts are expected to be limited because the elimination of nuisance flows would return the stream bed's dry weather flows to a more natural, pre-development condition. This in turn would facilitate the return of the stream's plant community to a more natural, pre-development condition and could impede the propagation of water-loving nonnative and invasive plant species. Impeding the propagation of invasive species is not a negative impact. Proper project siting and planning can help mitigate impacts to the plant life.

Regional Infiltration Systems, Regional Detention Facilities and Regional Natural Treatment Systems:
Regional infiltration systems increase permeability thereby reducing storm water runoff. This would not result in introduction of new species of plants into an area. However, the decrease in flow could be a barrier to the normal replenishment of existing species that require a more constant water supply. Adverse impacts are expected to be limited because the reduction of nuisance flows would return the stream bed's dry weather flows to a more natural, pre-development condition. This in turn would facilitate the return of the stream's plant community to a more natural, pre-development condition and could impede the propagation of water-loving nonnative and invasive plant species. Impeding the propagation of invasive species is not a negative impact. Proper project siting and planning can help mitigate impacts to the plant life.

Maintenance of regional infiltration, detention or natural treatment facilities acan contribute to the introduction of non-invasive species such as *Arundo Donax* to new areas. Proper sanitation methods employed before and after construction and maintenance by the workers and the equipments can help avoid the spread of the non-invasive plant species such as *Arundo Donax* eradication programs can be undertaken.

NON-STRUCTURAL BMPs

Non-structural BMPs would involve no change to the physical environment either directly or indirectly and would have no impact that result in introduction of new species of plants, or in a barrier to the normal replenishment of existing species.

4. Plant life. d. Will the proposal result in reduction in acreage of any agricultural crop?

Answer: No impact

STRUCTURAL BMPs

Implementation of the proposed TMDL is not likely to result in the reduction in acreage of any agricultural crop, as agriculture is not a significant land use in the Los Angeles watershed. To the extent that implementation strategies are employed in agricultural areas, many of these strategies may actually improve agricultural resources by reducing the loss of topsoil or improving soil quality. The available management practices or other potential strategies are unlikely to lead to a conversion of agricultural land to other uses.

NON-STRUCTURAL BMPs

Non-structural BMPs would involve no change to the physical environment either directly or indirectly and would have no impact on the acreage of any agricultural crop.

5. Animal Life. a. Will the proposal result in change in the diversity of species, or numbers of any species of animals (birds, land animals including reptiles, fish and shellfish, benthic organisms, insects or microfauna)?

Answer: Potentially significant impact

Depending on the implementation method chosen, it is possible that direct or indirect impact to animal life may occur. Responsible parties should consult with the California Department of Fish and Game (CDFG) and the U.S. Fish and Wildlife Service (USFWS) prior to implementing compliance strategies that pose a potentially significant impact to animal life for both protected and non-protected species. Responsible parties may also choose to implement compliance strategies that incur less impact on animal life.

STRUCTURAL BMPs

Sub Regional BMPs

<u>Local Capture Systems:</u>
Local capture systems are designed to capture rainwater using structural BMPs such as rain barrels and cisterns. However, these types of local capture systems could also increase the likelihood of vectors and pests. For example, rain barrels and cisterns may develop locations of pooled standing water that would increase the likelihood of mosquito breeding. Mitigation for vectors and pests should involve the use of appropriate vector and pest control strategies, maintenance, and frequent inspections.

<u>Vegetated Treatment Systems and Local Infiltration Systems:</u>
The installation of vegetated treatment and local infiltration systems such as vegetated biofiltration systems could increase the diversity or number of animal species, which is

beneficial by creating habitat for those species. However, these types of vegetated treatment and local infiltration systems could also increase the likelihood of vectors and pests. For example, vegetated swales, and surface flow wetlands may develop locations of pooled standing water that would increase the likelihood of mosquito breeding. Mitigation includes the prevention of standing water through the construction and maintenance of appropriate drainage slopes and through the use of aeration pumps. The introduction of mosquito larvae eating fish can help mitigate and reduce mosquito breading in surface flow wetlands. Mitigation for vectors and pests should involve the use of appropriate vector and pest control strategies, maintenance, and frequent inspections.

Installation of non-vector producing infiltration BMPs can help mitigate vector production from standing water. Netting can be installed over vegetated treatment systems to further mitigate vector production. Infiltration and vegetated treatment BMPs can be designed and sites can be properly protected to prevent accidental vector production. Vector control agencies should be involved for other types of mitigation. Vegetated treatment and local infiltration systems prone to standing water can be selectively installed away from high-density areas and away from residential housing and/or by requiring oversight and treatment of those systems by vector control agencies.

Media Filtration:
In general, the activities that will take place with the implementation of structural BMPs will be similar in nature to current urban activities that are already occurring in the watershed. Their implementation will not foreseeably:

- Cause a substantial reduction of the overall habitat of a wildlife species
- Produce a drop in a wildlife population below self-sustaining levels
- Eliminate a plant or animal community

It is not reasonably foreseeable that either the construction/implementation or maintenance phase of potential projects will result in a significant long term impact to general wildlife species adapted to developed environments.

Regional BMPs

Divert and or Treat:

Diversion and/or treatment of flow could eliminate in-stream habitats dependant on those flows. These changes may result in change in the diversity of species, or numbers of any species of animals (birds, land animals including reptiles, fish and shellfish, benthic organisms, insects or microfauna) discussed above. Proper project modeling, siting, and planning can help mitigate impacts to the animal life.

Regional Infiltration Systems: and Regional Detention Facilities:

The installation of regional infiltration systems and detention facilities such as detention basins and spreading grounds could increase the diversity or number of animal species,

which is beneficial, by creating habitat for those species. However, these types of facilities could also increase the likelihood of vectors and pests. For example, constructed basins may develop locations of pooled standing water that would increase the likelihood of mosquito breeding. Mitigation includes the prevention of standing water through the construction and maintenance of appropriate drainage slopes and siting in areas that have soils with proper drainage. Vector control agencies should be involved for other types of mitigation. Regional detention facilities prone to standing water can be selectively installed away from high-density areas and away from residential housing and/or by requiring oversight and treatment of those systems by vector control agencies.

Regional infiltration and detention facilities could also result in a change in the amount of surface water. Reductions in dry and wet-weather flow could have potential negative impacts on minimum flows required to support and protect the riparian and wetland habitat. Mitigation measures to maintain minimal flow to support habitat related beneficial uses could be reviewed and approved by the CDFG and USFWS.

Regional Natural Treatment Systems:
The installation of NTS could increase the diversity or number of animal species, which is beneficial, by creating habitat for those species.

NON-STRUCTURAL BMPs

Non-structural BMPs and source reduction efforts would involve no change to the physical environment either directly or indirectly and would have no impact on the diversity of species, or numbers of any species of animals.

5. Animal Life. b. Will the proposal result in reduction of the numbers of any unique, rare or endangered species of animals?

Answer: Potentially significant impact

Depending on the structural BMPs selected, direct or indirect impacts to special-status animal species may possibly occur during and after construction. Special-status species are present in many of the watersheds. If special-status species are present during activities such as ground disturbance, construction, operation and maintenance activities associated with the potential projects, direct impacts to special-status species could result including the following:

- Direct loss of a special-status species
- Increased human disturbance in previously undisturbed habitats
- Mortality by construction or other human-related activity
- Impairing essential behavioral activities, such as breeding, feeding or shelter/refugia
- Destruction or abandonment of active nest(s)/den sites
- Direct loss of occupied habitat

In addition, potential indirect impacts may include but are not limited to, the following:

- Displacement of wildlife by construction activities
- Disturbance in essential behavioral activities due to an increase in ambient noise levels and/or artificial light from outdoor lighting around facilities

The following mitigation measures should be implemented to reduce or avoid potential project-level impacts to unique, rare or endangered species of animals. Mitigation measures, however, could be implemented to ensure that special status animals are not negatively impacted, nor their habitats diminished. For example, when the specific projects are developed and sites identified, a focus protocol animal survey and/or a search of the California Natural Diversity Database should be performed to confirm that any potentially special-status animal species in the site area are properly identified and protected as necessary.

If special-status animal species are potentially near the project site area, as required by the Endangered Species Act (ESA), two weeks prior to grading or the construction of facilities and per applicable USFWS and/or CDFG protocols, pre-construction surveys to determine the presence or absence of special-status species would be conducted. The surveys should extend an appropriate distance (buffer area) off site in accordance with USFWS and/or CDFG protocols to determine the presence or absence of any special-status species adjacent to the project site. If special-status species are present on the project site or within the buffer area, mitigation would be required under the ESA. To this extent, mitigation measures shall be developed with the USFWS and CDFG to reduce potential impacts.

STRUCTURAL BMPs

Sub Regional BMPs

Local Capture Systems

Local capture systems could eliminate in-stream habitats dependant on flows associated with storm water runoff. These changes may result in reduction of the numbers of any unique, rare or endangered species of animals. Proper project modeling, siting, and planning as discussed above can help mitigate impacts to the animal life. However reduction of nuisance flows may help return the flow to a more natural state.

Vegetated Treatment Systems and Local Infiltration Systems

Vegetated treatment and local infiltration systems such as vegetated biofiltration systems could increase the diversity or number of animal species, by creating habitat for those species. The installation of vegetated treatment systems may result in a temporary impact on the numbers of any unique, rare or endangered species of animals if they are found at the site of the installation. Proper project siting, and planning, discussed, above, can help mitigate impacts to the animal life. Infiltration BMPs could eliminate in-stream habitats dependant on flows associated with storm water runoff. These changes may result in reduction of the numbers of any unique, rare or endangered species of animals. Proper project modeling, siting, and planning as discussed above can help mitigate impacts to

the animal life. However reduction of nuisance flows may help return the flow to a more natural state.

Media Filtration:
Even though it is expected that potential projects would occur in previously developed areas it is possible for special-status species to occur in urban areas. The installation of media filters may result in a temporary impact on the numbers of any unique, rare or endangered species of animals if they are found at the site of the installation. Proper project siting, and planning, discussed, above, can help mitigate impacts to the animal life.

Regional BMPs

Divert and/or Treat:
Diversions could eliminate in-stream habitats dependant on those flows. These changes may result in reduction of the numbers of any unique, rare or endangered species of animals. Proper project modeling, siting, and planning as discussed above can help mitigate impacts to the animal life. Treatments applied to these waters will not affect the reduction in the numbers of any unique, rare or endangered species of animals

Regional Infiltration Systems and Detention Facilities:
Regional infiltration systems or detention facilities could eliminate in-stream habitats dependant on flows associated with storm water runoff. These changes may result in reduction of the numbers of any unique, rare or endangered species of animals. Proper project modeling, siting, and planning as discussed above can help mitigate impacts to the animal life. However reduction of nuisance flows may help return the flow to a more natural state.

Regional Natural Treatment Systems:

Regional natural treatment systems could increase the diversity or number of animal species by creating habitat for those species. The installation of regional detention facilities may result in a temporary impact on the numbers of any unique, rare or endangered species of animals if they are found at the site of the installation. Proper project siting, and planning, discussed, above, can help mitigate impacts to the animal life.

NON-STRUCTURAL BMPs

Non-structural BMPs would involve no change to the physical environment either directly or indirectly and would have no impact that result in reduction of the numbers of any unique, rare or endangered species of animals.

5. Animal Life. c. Will the proposal result in introduction of new species of animals into an area, or in a barrier to the migration or movement of animals?

Answer: Potentially significant impact

Structural BMPs would not foreseeably introduce new species. In urbanized areas, the potential installation sites would not act as a travel route or regional wildlife corridors. However, BMPs could potentially be constructed in agricultural areas or open space where travel routes or regional wildlife corridors exist. A travel route is generally described as a landscape feature (such as a ridgeline, canyon, or riparian strip) within a larger natural habitat area that is used frequently by animals to facilitate movement and provide access to necessary resources such as water, food, or den sites). Wildlife corridors are generally an area of habitat, usually linear in nature, which connect two or more habitat patches that would otherwise be fragmented or isolated from one another. Construction of reasonably foreseeable structural BMPs likely would not restrict wildlife movement because the sizes of the BMPs are generally too small to obstruct a corridor. For terrestrial animals, corridors would be maintained regardless of stream flow since reduced flows would not provide physical barriers for these animals. In the event that any structural BMP built would hinder animals from moving throughout the stream corridor, a pathway around the BMP could be constructed.

Compliance measures should be avoided which result in significant barriers to the migration or movement of animals, and instead non-structural BMPs and/or structural BMPs other than fences or obstructions that would not change the migration or movement of animals should be emphasized. Potential project sites in open space areas that might be used to install structural BMPs should be evaluated in consultation with CDFG to identify potential wildlife travel routes. If a wildlife travel route is identified that could be impacted by the installation of structural BMPs, then the project should be designed to include a new wildlife travel route in the same general location.

Some migratory avian species may use portions of potential project sites, including new vegetation, during breeding season and may be protected under the Migratory Bird Treaty Act (MBTA) while nesting. The MBTA includes provisions for protection of migratory birds under the authority of the USFWS and CDFG. The MBTA protects over 800 species including, geese, ducks, shorebirds, raptors, songbirds, and many other relatively common species. If construction occurs during the avian breeding season for special status species and/or MBTA-covered species, generally February through August, then prior (within 2 weeks) to the onset of construction activities, surveys for nesting migratory avian species should be conducted on the project site following USFWS and/or CDFG guidelines. If no active avian nests are identified on or within the appropriate distance of construction areas, further mitigation may not be necessary.

Alternatively, to avoid impacts, the agencies implementing the TMDL may begin construction after the previous breeding season for covered avian species and before the next breeding season begins. If a protected avian species was to establish an active nest after construction was initiated and outside of the typical breeding season (February – August), the project sponsor, would be required to establish a buffer as required by USFWS between the construction activities and the nest site.

If active nest for protected avian species are found within the construction footprint or within the prescribed buffer zone, construction would be required to be delayed within the construction footprint and buffer zone until the young have fledged or appropriate mitigation measures responding to the specific situation are developed in consultation with USFWS or CDFG. These impacts are highly site specific, and assuming they are foreseeable, they would require a project-level analysis and mitigation plan.

With the installation of the regional and sub regional structural BMPs, in-stream contamination could be possible by species such as New Zealand mud snails (*Potamopyrgus antipodarum*), which are grain-sized asexually reproducing highly invasive species. After infesting the waterbody, mud snails quickly drive out tiny animals and are poor food substitute because of their hard shells. Hence they deprive nutrition for animals such as frogs, birds and fishes and also make waters ideal for algal blooms. Mitigation measures to avoid spreading mud snails include washing boots, waders and other gear between sites.

STRUCTURAL BMPs

Sub Regional BMPs

Local Capture Systems
Local capture systems would involve no change to the physical environment either directly or indirectly that would have any impacts that result in introduction of new species of animals into an area, or in a barrier to the migration or movement of animals.

Vegetated Treatment Systems Local Infiltration Systems
Construction of reasonably foreseeable vegetated treatment and local infiltration systems likely would not restrict wildlife movement because the sizes of vegetated treatment and local infiltration systems are generally too small to obstruct a corridor. In some cases, detention/retention ponds, vegetated swales, and surface flow wetlands may actually provide important habitat. Maintenance of infiltration systems could lead to the introduction of invasive species such as mud snails from one site to another. Mitigation measures to avoid spreading mud snails include washing boots, waders and other gear between sites.

Media Filtration
Media filters would be located in urbanized areas and would not be of the size to result in introduction of new species of animals into an area, or in a barrier to the migration or movement of animals. Maintenance of filtration systems could lead to the introduction of invasive species such as mud snails from one site to another. Mitigation measures to avoid spreading mud snails include washing boots, waders and other gear between sites.

Regional BMPs

Divert and or Treat:

Diversion and or treatment could result in a barrier to the migration or movement of animals especially in the dry weather season by eliminating habitat dependant on those flows. However, this would cause dry weather flows in the watersheds to return to a more natural, pre-development condition. Animal species that thrived in streams in the absence of nuisance flows should not be adversely impacted by habitat changes if the flows are eliminated. However, constructed structural treatment devices may potentially impact wildlife crossings. A wildlife crossing is a small narrow area relatively short and constricted, which allows wildlife to pass under or through obstacles that would otherwise hinder movement. Crossings are typically manmade and include culverts, underpasses, and drainage pipes to provide access across or under roads, highways, or other physical obstacles.
Construction activities associated with the implementation of structural treatment devices may impact migratory avian species. These avian species may use portions of potential project sites, including ornamental vegetation, during breeding season and may be protected under the Migratory Bird Treaty Act (MBTA) while nesting. The MBTA includes provisions for protection of migratory birds under the authority of the USFWS and CDFG. The MBTA protects over 800 species including, geese, ducks, shorebirds, raptors, songbirds, and many other relatively common species.

Maintenance of diversions could lead to the introduction of invasive species such as mud snails from one site to another. Mitigation measures to avoid spreading mud snails include washing boots, waders and other gear between sites.

Regional Infiltration Systems and Detention Facilities:
Construction of reasonably foreseeable infiltration systems and detention facilities likely would not restrict wildlife movement. In some cases, detention basins may actually provide important habitat. Proper project siting and planning, discussed above, mitigate impacts to the animal life. Maintenance of diversions could lead to the introduction of invasive species such as mud snails from one site to another. Mitigation measures to avoid spreading mud snails include washing boots, waders and other gear between sites.

Regional Natural Treatment Systems:
It is not reasonably foreseeable that implementation of regional natural treatment facilities will result in the introduction of a new animal species or impact wildlife corridors or crossings. Regional Natural Treatment Systems, such as constructed wetlands will create habitat. Construction activities associated with the implementation of regional natural treatment facilities may impact migratory avian species. Proper project siting and planning, discussed above, mitigate impacts to the animal life.

NON-STRUCTURAL BMPs

Non-structural BMPs would involve no change to the physical environment either directly or indirectly and would have no impacts that result in introduction of new species of animals into an area, or in a barrier to the migration or movement of animals.

5. Animal Life. d. Will the proposal result in deterioration to existing fish or wildlife habitat?

Answer: Potentially significant impact

STRUCTURAL BMPs

Sub Regional BMPs

Local Capture Systems
Local capture systems collect stormwater runoff which may potentially change the fish and wildlife habitat within the stream channels by changing the flow regime of the creeks. Local capture systems could impact in-stream species dependant on those flows. Animal species that thrived in the creeks in the absence of nuisance flows should not be adversely impacted by habitat changes if the flows are eliminated. Adverse impacts are expected to be limited because the elimination of nuisance flows would return the stream bed's wet weather flows to a more natural, pre-development condition. This in turn would facilitate the return of the stream's animal community to a more natural, pre-development condition and could impede the propagation of water-loving nonnative and invasive animal species. Impeding the propagation of invasive species is not a negative impact.

Vegetated Treatment Systems and Local Infiltration Systems:
Vegetated treatment and local infiltration systems increase infiltration rates of stormwater runoff which may potentially change the fish and wildlife habitat within the stream channels by changing the flow regime of the creeks. Vegetated treatment and local infiltration systems could impact in-stream species dependant on those flows. Animal species that thrived in the creeks in the absence of nuisance flows should not be adversely impacted by habitat changes if the flows are eliminated. No adverse impacts are expected because the elimination of nuisance flows would return the stream bed's wet weather flows to a more natural, pre-development condition. This in turn would facilitate the return of the stream's animal community to a more natural, pre-development condition and could impede the propagation of water-loving nonnative and invasive animal species. Impeding the propagation of invasive species is not a negative impact.

Media Filtration:
Implementation of the TMDL will considerably improve fish habitat by removing contaminants from the Los Angeles River and its tributaries.

It is not reasonably foreseeable that the implementation of structural BMPs and treatment facilities will result in the deterioration of existing fish and or wildlife habitat. Facilities will be located in previously developed areas and would not result in the removal of sensitive biological habitats. However, in an abundance of caution, when project sites are selected by the TMDL implementing agencies, a site specific California Natural Diversity Database search could be conducted to ensure that no sensitive biological habitats are located on the site.

Regional BMPs

Divert and or Treat:
Diversion and treatment methods divert runoff which may potentially change the fish and wildlife habitat within the stream channels by changing the flow regime of the creeks. Low-flow diversions could impact in-stream species dependant on those flows. Animal species that thrived in the creeks in the absence of nuisance flows should not be adversely impacted by habitat changes if the flows are eliminated. Adverse impacts are expected to be limited because the elimination of nuisance flows would return the stream bed's dry weather flows to a more natural, pre-development condition. This in turn would facilitate the return of the stream's animal community to a more natural, pre-development condition and could impede the propagation of water-loving nonnative and invasive animal species. Impeding the propagation of invasive species is not a negative impact.

If diverted water is treated, the ecological effects of disinfected water should be considered. Discharges to surface waters must meet NPDES permit requirements.

Regional Infiltration Systems:
Regional infiltration systems increase infiltration rates of stormwater runoff which may potentially change the fish and wildlife habitat within the stream channels by changing the flow regime of the creeks. Regional infiltration systems could impact in-stream species dependant on those flows. Animal species that thrived in the creeks in the absence of nuisance flows should not be adversely impacted by habitat changes if the flows are eliminated. No adverse impacts are expected because the elimination of nuisance flows would return the stream bed's wet weather flows to a more natural, pre-development condition. This in turn would facilitate the return of the stream's animal community to a more natural, pre-development condition and could impede the propagation of water-loving nonnative and invasive animal species. Impeding the propagation of invasive species is not a negative impact.

Regional Detention Facilities:
Reasonably foreseeable detention facilities would not likely result in deterioration to existing fish and wildlife habitat. In some cases, detention basins and spreading grounds may actually provide important habitat for animals. Proper project modeling, siting, and planning can help mitigate impacts to the animal life.

Regional Natural Treatment Systems:

NTS involve the creation of wildlife habitat. A change in the amount of surface water may occur. Free Surface flow wetlands may impede or slow overland flow if not properly designed and maintained and could change the amount of surface water. Reductions in dry and wet-weather flow could have potential negative impacts on minimum flows required to support and protect the wetland habitat. Mitigation measures to maintain minimal flow to support habitat related beneficial uses could be reviewed and approved by the CDFG and USFWS.

NON-STRUCTURAL BMPs

Non-structural BMPs would involve no change to the physical environment either directly or indirectly and would have no impacts that result in deterioration to existing fish or wildlife habitat.

6. Noise. a. Will the proposal result in increases in existing noise levels?

Answer: Potentially significant impact

The construction and installation of structural BMPs would result in temporary increases in existing noise levels, but this would be short term and only exist until construction is completed. The noise associated with the construction and installation of structural BMPs would be the same as typical construction activities in urbanized areas, such as ordinary road and infrastructure maintenance and building activities. Contractors and equipment manufacturers have been addressing noise problems for many years and through design improvements, technological advances, and a better understanding of how to minimize exposures to noise, noise effects can be minimized. An operations plan for the specific construction and/or maintenance activities could be prepared to identify the variety of available measures to limit the impacts from noise to adjacent homes and businesses.

Severe noise levels could be mitigated by implementing commonly-used noise abatement procedures, such as sound barriers, mufflers, and limiting construction and maintenance activities to times when these activities have lower impact, such as periods when there are fewer people near the construction area. Applicable and appropriate mitigation measures could be evaluated when specific projects are determined, depending upon proximity of construction activities to receptors.

Table 6-1 Typical Installation Equipment Noise Emission Levels

Equipment	Maximum Noise Level, (dBA) 50 feet from source	Equipment Usage Factor	Total 8-hr Leq exposure (dBA) at various distances	
			50ft	**100ft**
Foundation Installation			**83**	**77**
Concrete Truck	**82**	**0.25**	**76**	**70**
Front Loader	**80**	**0.3**	**75**	**69**
Dump Truck	**71**	**0.25**	**65**	**59**
Generator to vibrate concrete	**82**	**0.15**	**74**	**68**
Vibratory Hammer	**86**	**0.25**	**80**	**74**
Equipment Installation			**83**	**77**
Flatbed truck	**78**	**0.15**	**70**	**64**

Forklift	**80**	**0.27**	**74**	**69**
Large Crane	**85**	**0.5**	**82**	**76**

(Caltrans, 2002)

Contractors and equipment manufacturers have been addressing noise problems for many years, and through design improvements, technological advances, and a better understanding of how to minimize exposures to noise, noise effects can be minimized. An operations plan for the specific construction and/or maintenance activities could be developed to address the variety of available measures to limit the impacts from noise to adjacent homes and businesses. To minimize noise and vibration impacts at nearby sensitive sites, installation activities should be conducted during daytime hours to the extent feasible. There are a number of measures that can be taken to reduce intrusion without placing unreasonable constraints on the installation process or substantially increasing costs. These include noise and vibration monitoring to ensure that contractors take all reasonable steps to minimize impacts when near sensitive areas; noise testing and inspections of equipment to ensure that all equipment on the site is in good condition and effectively muffled; and an active community liaison program. A community liaison program should keep residents informed about installation plans so they can plan around noise or vibration impacts; it should also provide a conduit for residents to express any concerns or complaints.

The following measures would minimize noise and vibration disturbances at sensitive areas during installation:

- Use newer equipment with improved noise muffling and ensure that all equipment items have the manufacturers' recommended noise abatement measures, such as mufflers, engine covers, and engine vibration isolators intact and operational. Newer equipment will generally be quieter in operation than older equipment. All installation equipment should be inspected at periodic intervals to ensure proper maintenance and presence of noise control devices (e.g., mufflers and shrouding).

- Perform all installation in a manner to minimize noise and vibration. Use installation methods or equipment that will provide the lowest level of noise and ground vibration impact near residences and consider alternative methods that are also suitable for the soil condition. The contractor should select installation processes and techniques that create the lowest noise levels.

- Perform noise and vibration monitoring to demonstrate compliance with the noise limits. Independent monitoring should be performed to check compliance in particularly sensitive areas. Require contractors to modify and/or reschedule their installation activities if monitoring determines that maximum limits are exceeded at residential land uses.

- Conduct truck loading, unloading and hauling operations so that noise and vibration are kept to a minimum by carefully selecting routes to avoid going through residential neighborhoods to the greatest possible extent. Ingress and

egress to and from the staging area should be on collector streets or higher street designations (preferred).

- Turn off idling equipment.

- Temporary noise barriers shall be used and relocated, as practicable, to protect sensitive receptors against excessive noise from installation activities. Consider mitigation measures such as partial enclosures around continuously operating equipment or temporary barriers along installation boundaries.

- The installation contractor should be required by contract specification to comply with all local noise and vibration ordinances and obtain all necessary permits and variances.

These and other measures can be classified into three distinct approaches as outlined in Table 6-2.

Table 6-2 Noise Abatement Measures

Type of Control	**Description**
Source Control	Time Constraints – Prohibiting work during sensitive nighttime hours Scheduling – performing noisy work during less sensitive time periods Equipment Restrictions – restricting the type of equipment used Substitute Methods –using quieter equipment when possible Exhaust Mufflers – ensuring equipment have quality mufflers installed Lubrication and Maintenance – well maintained equipment is quieter Reduced Power Operation – use only necessary power and size Limit equipment on-site – only have necessary equipment on-site Noise Compliance Monitoring – technician on-site to ensure compliance
Path Control	Noise barriers – semi-portable or portable concrete or wooden barriers Noise curtains – flexible intervening curtain systems hung from supports Increased distance – perform noisy activities further away from

	receptors
Receptor Control	Community participation –open dialog to involve affected parties Noise complaint process – ability to log and respond to noise complaints

(Adapted from Thalheimer, 2000)

Increases in ambient noise levels from construction activities are expected to be less than significant once mitigation measures have been properly applied.

Implementation may also result in increased noise levels during operation and maintenance of structural BMPs or treatment facilities, including pumps used for diversion of water and vacuum trucks and pumps for removing liquids. The specific project impacts can be mitigated by standard noise abatement techniques including siting facilities away from receptors, installing sound barriers and insulation to reduce noise from pumps, motors, fans, etc., designing passive BMPs that do not require frequent maintenance, scheduling of maintenance during mid-day hours, and noise monitoring to ensure levels remain below acceptable levels. Storm water treatment BMPs should be design with sufficient hydraulic head to operate by gravity and eliminate the need for pumps.

STRUCTURAL BMPs

Sub Regional BMPs

Local Capture Systems:
The construction and installation of local capture systems would result in temporary increases in existing noise levels, but this would be short term and only exist until construction is completed. Therefore, this noise impact is less than significant.

Vegetated Treatment Systems and Local Infiltration Systems
The construction and installation of vegetated treatment and local infiltration systems would result in temporary increases in existing noise levels, but this would be short term and only exist until construction is completed. Therefore, this noise impact is less than significant.

Media Filtration:
The construction and installation of media filters would result in temporary increases in existing noise levels, but this would be short term and only exist until construction is completed. Therefore, this noise impact is less than significant.

Regional BMPs

Divert and or Treat:

The construction and installation of diversion and treatment BMPs would result in temporary increases in existing noise levels, but this would be short term and only exist until construction is completed. Therefore, this noise impact is less than significant. Diversion pumps may also result in an increase in existing noise levels. These pumps can be site below surface and the use of noise reducing barriers can be employed to mitigate the increase in noise levels.

Regional Infiltration Systems, Detention Facilities, and Natural Treatment Systems

The construction and installation of regional infiltration systems, detention facilities and Natural Treatment Systems would result in temporary increases in existing noise levels, but this would be short term and only exist until construction is completed.

NON-STRUCTURAL BMPs

Non-structural BMPs could result in increases in existing noise levels due to increased traffic from maintenance vehicles which may increase the noise level temporarily as the vehicles pass through an area. However, the increase in noise levels would be no greater than typical infrastructure maintenance activities currently performed by municipalities and is therefore, less than significant.

6. Noise. b. Will the proposal result in exposure of people to severe noise levels?

Answer: Potentially significant impact

See response to 6. Noise. a.

7. Light and Glare. Will the proposal produce new light or glare?

Answer: Potentially significant impact

STRUCTURAL BMPs

T Implementation of the proposed Basin Plan amendment is not likely to produce new light or glare because none of the reasonably foreseeable means of compliance involve additional lighting. Should night time construction activities be proposed, or should lighting be used to increase safety around structural BMPs or treatment facilities, potential impacts should be evaluated at the project level. A lighting plan could be prepared to include shielding on all light fixtures and address limiting light trespass and glare through the use of shielding and directional lighting methods, including but not limited to, fixture location and height. Potential mitigation efforts may also include screening and low-impact lighting, performing construction during daylight hours, or

designing security measures for installed structural BMPs that do not require night lighting.

NON-STRUCTURAL BMPs

Non-structural BMPs will not produce new light or glare because none of the BMPs would introduce any physical effects that could impact light and glare.

8. Land Use. a. Will the proposal result in substantial alteration of the present or planned land use of an area?

Answer: Potentially Significant Impact

STRUCTURAL BMPs

The installation of local capture systems, vegetated treatment and local infiltration systems, media filtration, diversion and/or treatment BMPs, regional infiltration systems, regional detention facilities, and regional natural treatment systems are not expected to result in substantial alterations or adverse impacts to present or planned land use. To the extent that there could be land use impacts at a specific location, these potential land use conflicts are best addressed at the project level. Since the Regional Board cannot specify the manner of compliance with the TMDL, the Regional Board can not specify the exact location of structural treatment devices. The various agenices that might install such structural BMPs such as vegetated bioswales and detention basins will need to identify local land use plans as part of a project-level analysis to ensure that projects comply with permitted use regulations and are consistent with land use plans, general plans, specific plans, conditional uses, or subdivisions.

Notably, structural BMPs can be suitable for an ultra-urban setting and can be specifically designed to accommodate limited land area. For example, underground sand filters are well adapted for applications with limited land area and are most useful where multiple uses of land area are required. They can be placed adjacent to roadways without imposing a safety hazard and can function satisfactorily in the area below elevated roadways or ramps (FHWA, 2007).

Construction of structural treatment devices will not result in permanent features such as above-ground infrastructure that would disrupt, divide, or isolate existing communities or land uses. Projects can incorporate public education and aesthetically pleasing design with functional water quality treatment, such as the Santa Monica Urban Runoff Recycling Facility (City of Santa Monica, 2010). Projects may be designed to increase parks and wildlife habitat areas and to improve water quality. Construction activities could follow standard mitigation methods and BMPs to reduce any potential impact on surrounding land uses and access to all adjacent land uses could be provided during the construction period.

NON-STRUCTURAL BMPs

Non-structural BMPs and source reduction efforts would involve no change to the physical environment either directly or indirectly and would have no impact on land use

8. Natural Resources. a. Will the proposal result in increase in the rate of use of any natural resources,

Answer: No impact

Non-structural and/or structural BMPs will not increase the rate of use of any natural resources. Implementation of non-structural and/or structural BMPs should not require quarrying, mining, dredging, or extraction of locally important mineral resources. Operation of construction and maintenance vehicles could increase the use of fossil fuels, and some types of structural BMPs may consume electricity to operate pumps. Fuel and energy consumption are discussed in greater detail in item 15 Energy, listed below.

9. Natural Resources. b Will the proposal result in substantial depletion of any non-renewable natural resource

Answer: No impact

Non-structural and/or structural BMPs will not increase the rate of use of any natural resources. Operation of construction and maintenance vehicles could increase the use of fossil fuels, wchich is a non-renewable resource, but will not lead to substantial depletion of any non-renewable resource. Fuel and energy consumption are discussed in greater detail in item 15 Energy, listed below.

9. Risk of Upset. Will the proposal involve a risk of an explosion or the release of hazardous substances (including, but not limited to: oil, pesticides, chemicals or radiation) in the event of an accident or upset conditions?

Answer: Potentially significant impact

STRUCTURAL BMPs

Sub Regional BMPs

There is the possibility that hazardous materials (e.g., oil and gasoline) may be present depending on equipment used to install subregional BMPs, but potential risks of exposure can be mitigated with proper handling and storage procedures. All risks of exposure would be short term and would be eliminated with the completion of installation.

Compliance with the requirements of California Occupational Health and Safety Administration (CalOSHA) and local safety regulations during installation would prevent any worksite accidents or accidents involving the release of hazardous materials into the environment, which could harm the public, nearby residents and sensitive receptors such as schools. During installation, the site can be properly protected with fencing and signs to prevent accidental health hazards.

Fluids and sediment must be removed media filters to ensure proper flow-through of runoff and could pose a risk of release of hazardous substances if not handled in a timely manner and disposed of appropriately. Contaminated sand removed from sand filters can be disposed of in a landfill (WERF, 2005). Maintenance of underground sand filters may pose risks to maintenance workers. Mitigation measures to avoid these risks include requiring workers to obtain hazardous materials maintenance, record keeping, and disposal activities training, OSHA-required Health and Safety Training, and OSHA Confined Space Entry training.

Regional BMPs

Divert and or Treat

There is the possibility that hazardous materials (e.g., oil and gasoline) may be present depending on equipment used to install diversion and treatment facilities, but potential risks of exposure can be mitigated with proper handling and storage procedures. All risks of exposure would be short term and would be eliminated with the completion of installation. Compliance with the requirements of California Occupational Health and Safety Administration CalOSHA and local safety regulations during installation, of the bird excluder would prevent any worksite accidents or accidents involving the release of hazardous materials into the environment, which could harm the public, nearby residents and sensitive receptors such as schools. During installation the site can be properly protected with fencing and signs to prevent accidental health hazards.

Treatment plants may use disinfectants and caustics during operation and there is a potential risk that these materials might escape. Potential impacts should be considered and mitigated at the project level. Proper maintenance and oversight and the use of safer substitute materials in treatment plants could mitigate any risk of escape of hazardous materials.

Regional Infiltration Systems, and Detention Facilities:

There is the possibility that hazardous materials (e.g., oil and gasoline) may be present depending on equipment used to install regional infiltration systems, detention facilities, and regional agricultural BMPs, but potential risks of exposure can be mitigated with proper handling and storage procedures. All risks of exposure would be short term and would be eliminated with the completion of installation. Compliance with the requirements of CalOSHA and local safety regulations during installation would prevent any worksite accidents or accidents involving the release of hazardous materials into the environment, which could harm the public, nearby residents and sensitive receptors such

as schools. During installation the site can be properly protected with fencing and signs to prevent accidental health hazards.

Regional Natural Treatment Systems

Implementation of regional natural treatment systems is not likely to involve a risk of an explosion or the release of hazardous substances (including, but not limited to: oil, pesticides, chemicals or radiation) in the event of an accident or upset conditions. Fluids and sediment must be removed from constructed wetlands to ensure proper flow-through of runoff and could pose a risk of release of hazardous substances; mitigation measures for this impact include proper handling and timely disposal in an appropriate disposal site.

NON-STRUCTURAL BMPs

Non-structural and structural BMPs will not involve a risk of an explosion or the release of hazardous substances (including, but not limited to: oil, pesticides, chemicals or radiation) in the event of an accident or upset conditions.

9. Population. Will the proposal alter the location, distribution, density, or growth rate of the human population of an area?

Answer: No impact

It is not anticipated that reasonably foreseeable methods of compliance will result in an impact to population in the altering the location, distribution, density, or growth rate of human population of an area.

12. Housing. Will the proposal affect existing housing, or create a demand for additional housing?

Answer: No impact

STRUCTURAL BMPs

It is not anticipated that reasonably foreseeable methods of compliance will result in an impact to existing housing, or create a demand for additional housing. Small infrastructure projects such as vegetated swales and the use of porous pavement would be placed in urbanized areas, and no additional space would be necessary. Some regional BMPs such as detention and infiltration basins could require space, but such BMPs are not large enough to impact housing.

NON- STRUCTURAL BMPs

It is not reasonably foreseeable that non-structural BMPs would affect existing housing, or create a demand for additional housing.

13. Transportation/Circulation. a. Will the proposal result in generation of substantial additional vehicular movement?

Answer: Potentially significant impact

Structural BMPs

Structural BMPs will not result in generation of substantial additional long-term vehicular movement. There may be additional vehicular movement during construction of structural BMPs and during maintenance activities. However, vehicular movement during construction would be temporary, and vehicular movement during maintenance activities would be periodic and only as the vehicle passes through the area. This may generate minor additional vehicular movement.

In order to reduce the impact of construction traffic, a construction traffic management plan could be prepared for traffic control during any street closure, detour, or other disruption to traffic circulation. The plan could identify the routes that construction vehicles would use to access the site, hours of construction traffic, and traffic controls and detours. The plan could also include plans for temporary traffic control, temporary signage and stripping, location points for ingress and egress of construction vehicles, staging areas, and timing of construction activity which appropriately limits hours during which large construction equipment may be brought on or off site.

Non Structural BMPs

Non-structural BMPs could result in increases in vehicular movement due to increased traffic from maintenance vehicles However, the increase in vehicular movement would be no greater than typical infrastructure maintenance activities currently performed by municipalities.

13. Transportation/Circulation. b. Effects on existing parking facilities, or demand for new parking?

Answer: Potentially significant impact

STRUCTURAL BMPs

Compliance with the TMDL may result in alterations to existing parking facilities to incorporate infiltration stormwater BMPs or other structural BMPs to treat stormwater. Structural BMPs can be designed to accommodate space constraints or be placed under parking spaces and would not significantly decrease the amount of parking available in

existing parking facilities. If structural BMPs did create an impact on parking, available parking spaces can be reconfigured to provide equivalent number of spaces or a functionally similar parcel can be provided to mitigate potential adverse parking impacts.

Maintenance of structural BMPs could reduce available parking in an area during certain times of the day, week, and/or month, depending on frequency of operation and/or maintenance events. Maintenance events should be scheduled to be performed at the same time as other maintenance activities performed by the municipalities, and/or at times when these activities have lower impact, such as periods of low traffic activity and parking demand.

NON-STRUCTURAL BMPs

Street sweeping could reduce available parking in an area during certain times of the day, week, and/or month, depending on frequency of events. Street sweeping should be scheduled during times of low parking demand to mitigate this impact.

13. Transportation/Circulation. c. Will the proposal result in substantial impacts upon existing transportation systems?

Answer: Less than significant impact

STRUCTURAL BMPs

Depending on the structural BMPs selected, temporary alterations to existing transportation systems may be required during construction and installation activities. The potential impacts would be limited and short-term. Potential impacts could be reduced by limiting or restricting hours of construction so as to avoid peak traffic times and by providing temporary traffic signals and flagging to facilitate traffic movement.

NON-STRUCTURAL BMPs

It is not reasonably foreseeable that non-structural BMPs would result in substantial impacts upon existing transportation systems.

13. Transportation/Circulation. d. Will the proposal result in alterations to present patterns of circulation or movement of people and/or goods?

Answer: Less than significant impact

See response to "Transportation/Circulation." 13.b., and 13.c.

13. Transportation/Circulation. e. Will the proposal result in alterations to waterborne, rail or air traffic?

Answer: No impact

STRUCTURAL BMPs

It is not reasonably foreseeable that structural BMPs would result in alterations to waterborne, rail or air traffic.

NON- STRUCTURAL BMPs

It is not reasonably foreseeable that non-structural BMPs would result in alterations to waterborne, rail or air traffic.

13. Transportation/Circulation. f. Will the proposal result in increase in traffic hazards to motor vehicles, bicyclists or pedestrians?

Answer: Potentially significant impact

STRUCTURAL BMPs

A temporary increase in traffic hazards may occur during construction and installation activities due increased vehicular traffic. The specific project impacts can be mitigated by appropriate mitigation methods during construction. To the extent that site-specific projects entail excavation in roadways, such excavations should be marked, barricaded, and traffic flow controlled with signals or traffic control personnel in compliance with authorized local police or California Highway Patrol requirements. These methods would be selected and implemented by responsible local agencies considering project-level concerns. Standard safety measures should be employed including fencing, other physical safety structures, signage, and other physical impediments designed to promote safety and minimize pedestrian/bicyclists accidents.

NON-STRUCTURAL BMPs

It is not reasonably foreseeable that non-structural BMPs would result in increases in traffic hazards to motor vehicles, bicyclists or pedestrians.

14. Public Service. a. Will the proposal have an effect upon, or result in a need for new or altered governmental services in any of the following areas: Fire protection?

Answer: Potentially significant impact

STRUCTURAL BMPS

During construction and installation of structural BMPs, temporary delays in response time of fire vehicles due to road closure/traffic congestion during construction activities may occur. However, any construction activities would be subject to applicable building

and safety and fire prevention regulations and codes. The responsible agencies could notify local emergency service providers of construction activities and road closures and could coordinate with local providers to establish alternative routes and appropriate signage. In addition, an Emergency Preparedness Plan could be developed for the construction of proposed new facilities in consultation with local emergency providers to ensure that the proposed project's contribution to cumulative demand on emergency response services would not result in a need for new or altered fire protection services. Most jurisdictions have in place established procedures to ensure safe passage of emergency vehicles during periods of road maintenance, construction, or other attention to physical infrastructure. In any case, the installation of structural devices would not create any more significant impediments than such other ordinary activities.

NON-STRUCTURAL BMPS

It is not reasonably foreseeable that non-structural BMPs would result in a need for new or altered governmental services in fire protection.

14. Public Service. b. Will the proposal have an effect upon, or result in a need for new or altered governmental services in any of the following areas: Police protection?

Answer: Potentially significant impact

STRUCTURAL BMPS

There is potential for temporary delays in response times of police vehicles due to road closure/traffic congestion during installation of structural BMPs. To mitigate potential delays the responsible agencies could notify local emergency and police service providers of construction activities and road closures, if any, and coordinate with the local fire protection to establish alternative routes and traffic control during the installation activities. Most jurisdictions have in place established procedures to ensure safe passage of emergency vehicles during periods of road maintenance, construction, or other attention to physical infrastructure, and there is no evidence to suggest that installation of these structural devices would create any more significant impediments than other such typical activities. Any construction activity would be subject to applicable building and safety codes and permits. Therefore, the potential delays in response times for police vehicles after mitigation are less than significant.

NON-STRUCTURAL BMPS

It is not reasonably foreseeable that non-structural BMPs would result in a need for new or altered governmental services in police protection.

14. Public Service. c. Will the proposal have an effect upon, or result in a need for new or altered governmental services in any of the following areas: Schools?

Answer: No impact

Non-structural and structural BMPs will not have an effect upon, or result in a need for new or altered schools or school services because none of the BMPs would introduce any physical effects that could impact this public service category.

14. Public Service. d. Will the proposal have an effect upon, or result in a need for new or altered governmental services in any of the following areas: Parks or other recreational facilities?

Answer: Potentially significant impact

STRUCTURAL BMPS

During construction and installation of local infiltration systems, local capture systems or vegetated treatment systems, parks or other recreational facilities could be temporarily affected. Construction activities could potentially be performed near or within a park or recreational facilities. Potential impacts would be limited and short-term and could be avoided through siting, designing, and scheduling of construction activities. In the unlikely event that the municipalities might install facilities on a scale that could alter a park or recreational facility, structural BMP could be designed in such a way as to be incorporated into the park or recreational facility.

NON-STRUCTURAL BMPS

It is not foreseeable that non-structural BMPs will have a negative impact upon, or result in a need for new or altered governmental services to parks or other recreational facilities.

14. Public Service. e. Will the proposal have an effect upon, or result in a need for new or altered governmental services in any of the following areas: maintenance of public facilities, including roads?

Answer: Potentially significant impact

STRUCTURAL BMPs

Structural BMPs and infrastructure improvements could potentially impact public service requiring additional maintenance to ensure proper operation. Certain enhanced circulation devices only require annual maintenance and other structural BMPs and infrastructure improvements do not require frequent maintenance. These devices can be further designed and engineered to lessen the amount of maintenance and servicing required.

NON-STRUCTURAL BMPs

It is not foreseeable that non-structural BMPs will have a negative impact upon, or result in a need for new or altered governmental services in any of the following areas: maintenance of public facilities, including roads.

14. Public Service. f. Will the proposal have an effect upon, or result in a need for new or altered governmental services in any of the following areas: other government services?

Answer: Potentially significant impact

STRUCTURAL BMPs

As discussed above, structural BMPs may include additional maintenance to ensure proper operation of newly installed structural BMPs. Maintenance events could be scheduled to be performed at the same time as other maintenance activities performed by the municipalities, or at times when these activities have lower impact, such as periods of low traffic activity and parking demand.

NON-Structural BMPs

Although the river is already monitored, implementation of the TMDL will result in the need for some increased monitoring to track compliance. However, no impact on the environment would be expected from these monitoring activities. Increased enforcement of local ordinances and outreach and education may potentially impact government services. Enlisting enforcement and clean-up volunteers may help mitigate adverse impacts associated with non-structural BMPs.

15. Energy. a. Will the proposal result in use of substantial amounts of fuel or energy?

Answer: Potentially significant impact

STRUCTURAL BMPs

Compliance should not result in the use of substantial additional amounts of fuel or energy, or a substantial increase in demand upon existing sources of energy, or require the development of new sources of energy.

Construction of infrastructure improvements and structural BMPs require energy and fuel for heavy equipment, machinery, and vehicles. Energy demands during construction are temporary. Responsible parties can further mitigate fuel and energy consumption during construction through the use of more energy efficient vehicles and equipment.

Reasonable foreseeable infrastructure improvements and structural BMPs require infrequent maintenance and are unlikely to use substantial amount of fuel or energy, substantially increase demand upon existing sources of energy, or require the development of new sources of energy.

County Sanitation Districts (County Sanitation Districts, 2010) supplied the following calculations: The CREST Draft Dry Weather Implementation Plan for the TMDL estimated that 122 storm drains would need to be diverted, with an average flow of 0.15 cubic feet per second (cfs) (about 100,000 gallons per day) per diversion, for a total flow of 12 MGD. Energy consumption would be 61,000,000 kilowatt hours (kWh) per year to treat the water in a treatment plant.

Pumping to convey the runoff and construction would consume additional energy. However, these calculations may be an overestimation because they only includes diversion of stormdrains and no source control methods to reduce bacterial loadings are included.

NON-STRUCTURAL BMPs

Increases administrative action, and outreach and education may also increase consumption and demand for fuel and energy. Responsible parties may also employ volunteers and choose to employ outreach activities and use non-fuel consuming enforcement vehicles like bicycles.

15. Energy. b. Will the proposal result in a substantial increase in demand upon existing sources of energy, or require the development of new sources of energy.

Answer: Potentially significant impact

See response to "15. Energy. a." Compliance with the TMDL will not require the development of new sources of energy.

16. Utilities and Service Systems. a. Will the proposal result in a need for new systems, or substantial alterations to the following utilities: power or natural gas?

Answer: Less than significant impact

STRUCTURAL BMPS

Installation of structural BMPs may require alterations or installation of new power or natural gas lines. Power and natural gas lines might need to be rerouted to accommodate the addition of structural BMPs. The degree of alteration depends upon local system layouts which careful placement and design can minimize. However, it is not reasonably foreseeable that the installation of structural BMPs will result in a substantial increased need for new systems, or substantial alterations to power or natural gas utilities because none of these BMPs are large enough to substantially tax current power or natural gas

sources. No long term effects on the environment are expected if alterations to power or natural gas utilities are required.

NON- STRUCTURAL BMPs

Non-structural BMPs will not result in a need for new systems or alterations to power or natural gas utilities because none of the BMPs would introduce any physical effects that could impact this characteristic.

16. Utilities and Service Systems. b. Will the proposal result in a need for new systems, or substantial alterations to the following utilities: communications systems?

Answer: No impact

STRUCTURAL BMPs

New systems or alterations to communications systems are not necessarily required for structural BMPs. Structural BMPs can be manually inspected and maintained without any communications system required. However, that municipalities could install a remote monitoring system, which could include a new communications system, is possible. A telephone line or wireless communications system could be installed, which would not be a substantial alteration.

NON-STRUCTURAL BMPs

Non-structural BMPs will not result in a need for new systems or alterations to communications systems because none of the BMPs would introduce any physical effects that could impact this characteristic. Current forms of communications used in maintenance vehicles could still be used.

16. Utilities and Service Systems. c. Will the proposal result in a need for new systems, or substantial alterations to the following utilities: water?

Answer: No impact

Non-structural and/or structural BMPs will not result in a need for new systems or alterations to water lines. The need for new municipal or recycled water to implement this TMDL is not foreseeable.

16. Utilities and Service Systems. d. Will the proposal result in a need for new systems, or substantial alterations to the following utilities: Sewer or septic tanks?

Answer: Potentially significant impact

STRUCTURAL BMPs

Reasonably foreseeable methods of compliance may cause a potentially significant impact upon sewer utilities. Low-flow diversions involve the diversion of dry weather flows in storm drains to local Water Reclamation Plants (WRPs). Diversions are retrofitted in existing storm drains discharging into harbor waters. High-flow bypasses are also installed along with the diversions. These bypasses can mitigate and prevent impacts to flooding. High-flow bypasses are designed to bypass the diversion in the event high-flow events, like storm events, to prevent overflow, flooding, and exhaustion of WRP treatment capacity.

Depending on the number of diversions installed and flow potential, low-flow diversion may significantly impact the treatable capacity of local WRPs. In determining whether sewer diversions of dry weather runoff are feasible, the capacity of downstream sewers and treatment plants need to be considered over the life of the TMDL (25 years). Acceptance of dry weather diversions could necessitate construction of increased conveyance and treatment capacity earlier than would otherwise have been necessary. Additionally, acceptance of the diversions will cause sewers to run at a higher fraction of their design capacity, which could result in a higher frequency of sanitary sewer overflows. Responsible parties should determine the optimal amount of diversions necessary and the flow potential associated with those diversions. Responsible parties should also consult with local WRPs to determine the average flow rate and treatable capacity of each WRP.

NON-STRUCTURAL BMPs

It is foreseeable that septic systems may have to be updated to comply with load allocations where systems are failing or sited improperly. These upgrades would be implemented through permits or waivers and mitigated at the project level. It is not foreseeable that other non-structural BMPs would result in the need for new sewers or septic tanks.

16. Utilities and Service Systems. e. Will the proposal result in a need for new systems, or substantial alterations to the following utilities: storm water drainage?

Answer: Potentially significant impact

STRUCTURAL BMPs

In order to achieve compliance with the TMDL, the stormwater drainage systems may need to be reconfigured and/or retrofitted with structural BMPs to capture and/or treat a portion or all of the stormwater runoff. The alterations and/or additions to stormwater drainage systems will depend on the compliance strategy selected by each responsible party at each location where structural BMPs might be installed. Impacts from construction activities to retrofit or reconfigure the storm drain system as part of BMP installation, and mitigation measures have been considered and discussed in the previous sections of the checklist discussion.

NON- STRUCTURAL BMPs

Non-structural BMPs will not result in a need for new systems, or substantial alterations to stormwater drainage systems because none of the BMPs would introduce any physical effects that could impact this characteristic.

16. Utilities and Service Systems. f. Will the proposal result in a need for new systems, or substantial alterations to the following utilities: solid waste and disposal?

Answer: Potentially significant impact

STRUCTURAL BMPs

The installation of structural BMPs may generate construction debris. Additionally, installed structural BMPs may collect sediment and solid wastes that will require disposal. However, no new solid waste or disposal systems would be needed to handle the relatively small volume generated by these projects. Construction debris may be recycled at aggregate recycling centers or disposed of at landfills. Sediment and solid wastes that may be collected can be disposed of at appropriate landfill and/or disposal facilities.

NON- STRUCTURAL BMPs

Most non-structural BMPs will not result in a need for new systems, or substantial alterations to the solid waste and disposal systems because none of the BMPs would introduce any physical effects that could impact this characteristic.

17. Human Health. a. Will the proposal result in creation of any health hazard or potential health hazard (excluding mental health)?

Answer: Potentially significant impact

STRUCTURAL BMPs

As discussed in Items 1, 2, 3, 5, and 13, the installation of structural BMPs could have an effect on earth, air, water, animal life, and transportation/circulation. Structural BMPs could increase the risk of unstable earth conditions, which could pose a physical risk to persons in the area should a slope fail. Construction, installation, and maintenance of structural BMPs could increase the amount of pollutants the air, which could have an effect on health. Some structural BMPs such as detention and infiltration basins could potentially result in additional habitat and/or standing water, which can provide habitat for mosquitoes, which can be carriers of disease. Maintenance of structural BMPs could also increase traffic, which could potentially decrease the safety of pedestrians. Additionally, heavy machinery and materials that may be used during construction and installation of structural BMPs could pose physical and/or chemical risks to human health.

Potential impacts to earth could be avoided or mitigated through proper geotechnical investigations, siting, design, and ground and groundwater level monitoring to ensure that structural BMPs are not employed in areas subject to unstable soil conditions. Potential health hazards attributed to installation and maintenance of structural BMPs can be mitigated by use of OSHA construction and maintenance health and safety guidelines. Potential health hazards attributed to BMP maintenance can be mitigated through OSHA industrial hygiene guidelines. Installation of non vector-supporting structural BMPs can help mitigate vector production from standing water. Structural BMPs can be designed and sites can be properly protected to prevent accidental health hazards as well as prevent vector production. Vector control agencies may also be employed as another source of mitigation. Structural BMPs prone to standing water can be selectively installed away from high-density areas and away from residential housing and/or by requiring oversight and treatment of those systems by vector control agencies. Potential impacts to transportation/circulation can be reduced or eliminated if maintenance activities are scheduled to be performed at the same time as other maintenance activities performed by the municipalities, or at times when these activities have lower impact, such as periods of low traffic activity. Appropriate planning, design, siting, and implementation can reduce or eliminate potential health hazards due to the installation of structural BMPs.

Structural BMPs may also harbor vectors - mosquito breeding. Installation of non vector-supporting structural BMPs can help mitigate vector production from standing water. Structural BMPs can be designed and sites can be properly protected to prevent accidental health hazards as well as prevent vector production. Vector control agencies may also be employed as another source of mitigation. Structural BMPs prone to standing water can be selectively installed away from high-density areas and away from residential housing and/or by requiring oversight and treatment of those systems by vector control agencies. Potential impacts to transportation/circulation can be reduced or eliminated if maintenance activities are scheduled to be performed at the same time as other maintenance activities performed by the municipalities, or at times when these activities have lower impact, such as periods of low traffic activity. Appropriate planning, design, siting, and implementation can reduce or eliminate potential health hazards due to the installation of structural BMPs.

For example, vegetated swales, and surface flow wetlands may develop locations of pooled standing water that would increase the likelihood of mosquito breeding. Mitigation includes the prevention of standing water through the construction and

maintenance of appropriate drainage slopes and through the use of aeration pumps. The introduction of mosquito larvae eating fish can help mitigate and reduce mosquito breading in surface flow wetlands. Mitigation for vectors and pests should involve the use of appropriate vector and pest control strategies, maintenance, and frequent inspections.

NON-STRUCTURAL BMPs

Non-structural BMPs would involve no change to the physical environment either directly or indirectly and would have no impact related to hazards, hazardous materials, or human health.

17. Human Health. b. Will the proposal result in exposure of people to potential health hazards?

Answer: Potentially significant impact

See Human Health(a).

18. Aesthetics. a. Will the proposal result in the obstruction of any scenic vista or view open to the public?

Answer: Potentially significant impact

STRUCTURAL BMPS

Construction of low-flow diversions and other structural BMPs could potentially result in a temporary impairment of a scenic vista or view open to the public and create an aesthetically offensive site open to the public view. Project construction would require site grading, construction materials, stockpiling and storage, and the use of construction equipment. This construction impact would be localized and short-term, lasting during the normal working hours at specific locations. Construction BMPs like screening and landscaping can help mitigate aesthetic impacts. Construction materials and equipment shall be removed from the site as soon as they are no longer necessary. After construction, the scenic vista or view would return to the condition it was prior to the construction.

NON-STRUCTURAL BMPS

Non-structural BMPs will not result in the obstruction of any scenic vista or view open to the public because none of the BMPs would introduce any physical effects that could impact this characteristic.

18. Aesthetics. b. Will the proposal result in the creation of an aesthetically offensive site open to public view?

Answer: Potentially significant

See response to 18. Aesthetics. a.

19. Recreation. a. Will the proposal result in impact on the quality or quantity of existing recreational opportunities?

Answer: Potentially significant impact

STRUCTURAL BMPs

During construction and installation of structural BMPs, recreational areas could be temporarily affected. Construction activities could potentially be performed near or within a recreational area. Potential impacts would be limited and short-term, and could be avoided through proper planning, and scheduling of construction activities.

In the event that the municipalities might install facilities on a scale that could alter a recreational area, the structural BMPs could be designed in such a way as to be incorporated into the recreational area. Additionally, many structural BMPs, if necessary, may be constructed underground to minimize impacts on the quality or quantity of existing recreational opportunities. Mitigation to replace lost areas may include the creation of new open space recreation areas and/or improved access to existing open space recreation areas.

Additionally, improvement of water quality could create new recreation opportunities in urbanized areas of the watersheds by providing the opportunity to recreate in and near a clean water body with a robust and diverse population of plants and animals.

NON-STRUCTURAL BMPS

It is not reasonably foreseeable that non-structural BMPs would impact the quality or quantity of existing recreational opportunities.

20. Archeological/Historical. Will the proposal result in the alteration of a significant archeological or historical site structure, object or building?

Answer: Potentially significant impact

STRUCTURAL BMPs

Stormwater BMPs and diversion and treatment facilities would be installed in currently urbanized areas where ground disturbance has previously occurred. Because these areas are already fully urbanized it is unlikely that implementation of structural treatment

devices would cause a substantial adverse change to historical or archeological resources, destroy paleontological resources, or disturb human remains. However, depending on the final location of facilities, potential impacts to cultural resources could occur. The site-specific presence or absence of these resources is unknown because the specific locations for facilities will be determined by responsible agencies at the project level. Installation of these systems could result in minor ground disturbances, which could impact cultural resources if they are sited in locations containing these resources and where disturbances have not previously occurred.

Upon determination of specific locations for structural treatment devices, responsible agencies should complete an archaeological survey including consultation with the Native American Heritage Commission, to make an accurate assessment of potential to affect historic, archaeological, or architectural resources or to impact any human remains. If potential impacts are identified, mitigation measures could include project redesign, such as the relocation of facilities outside the boundaries of archeological or historical sites. In the event that prehistoric or historic cultural resources are discovered in project area during construction, all work shall be halted in the vicinity of the archaeological discovery until a qualified archaeologist can visit the site of discovery and assess the significance of the archaeological discovery.

NON- STRUCTURAL BMPs

Non-structural BMPs would involve no change to the physical environment either directly or indirectly and would have no impact on cultural resources.

21. Mandatory Findings of Significance.

21.a Potential to degrade: Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?

Answer: Potentially significant impact

Taken all together, the potential impacts of the project will not cause a significant degradation to the environment. The implementation of this TMDL will result in improved water quality in the waters of the Region and will have significant beneficial impacts to the environment over the long term.

21.b Short-term: Does the project have the potential to achieve short-term, to the disadvantage of long-term, environmental goals?

Answer: No impact

This TMDL is directed to long-term environmental goals, and does not sacrifice long-term for short-term benefit. There are no short-term beneficial effects on the environment from the implementation of non-structural and/or structural BMPs that would be at the expense of long-term beneficial effects on the environment. The implementation and compliance with this TMDL will result in improved water quality in the waters of the Region and will have significant beneficial impacts to the environment over the long term.

21.c. Cumulative: Does the project have impacts which are individually limited, but cumulatively considerable?

Answer: Potentially significant impact

Each compliance measure is expected to have nominal environmental impacts if performed properly. However, this TMDL will require many individual projects to comply region-wide, which may have potential program-level, and project-level cumulative effects upon the region. Mitigation measures are available for most of these impacts.

21. d. Substantial adverse: Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?

Answer: Potentially significant impact

Without implementation of recommended mitigation measures, potentially significant environmental impacts, such as impacts to air, noise, and transportation, can result from implementation projects. In some cases, mitigation measures even if performed may not reduce the impacts to less than significant levels. The significance of these impacts is discussed in detail above, as well as elsewhere in this document. The project will not cause substantial adverse effects on human beings.

7 OTHER ENVIRONMENTAL CONSIDERATIONS

This section evaluates several other environmental considerations of reasonably foreseeable methods of complying with the bacteria TMDL, specifically:

7.1. Cumulative Impacts of the Program Alternatives (as required by CEQA Guidelines Section 15130);

7.2. Potential Growth-Inducing Effects of the Program Alternatives (as required by CEQA Guidelines Section 15126); and

7.3. Unavoidable Significant Impacts (as required by CEQA Guidelines Section 15126.2).

7.1 Cumulative Impacts

Cumulative impacts, defined in Section 15355 of the CEQA Guidelines, refer to two or more individual effects, that when considered together, are considerable or that increase other environmental impacts. Cumulative impact assessment must consider not only the impacts of the proposed TMDL, but also the impacts from other municipal and private projects, which would occur in the watershed during the period of implementation.

The areas of cumulative impacts analyzed in this section include: 1) the program-level cumulative impacts and 2) the project-level cumulative impacts. On the program-level, the impacts from multiple TMDLs, if they exist, are analyzed. On the project-level, while the full environmental analysis of individual projects are the purview of the implementing municipalities of agencies, the cumulative impact analysis included here entails consideration of construction activities occurring in the vicinity of one another as a result of other projects being built in the same general time frame and location. The bacteria TMDL projects, if occurring with other construction projects, could contribute to temporary cumulative noise and vibration effects that would not occur with only one project.

7.1.1 Program Cumulative Impacts

Currently, there are three other TMDLs adopted for Los Angeles River watershed – the trash TMDL, the metals TMDL and the nutrients TMDL. Other 303(d) list impairments in the river for which TMDLs may be developed in the future include: oil and grease and volatile organic compounds. When other TMDLs are developed in the future, the programmatic cumulative impacts will be analyzed in the SED documents for those TMDLs. None of the implementation approaches for other TMDLs should disrupt any structural BMPs as applied for bacteria. In fact, potential implementation strategies discussed in this SED for the bacteria TMDL may contribute to the implementation of the other TMDLs. Likewise, implementation of other TMDLs in the watershed may contribute to the implementation of this bacteria TMDL.

7.1.2 Project Cumulative Impacts

Specific TMDL projects must be environmentally evaluated and cumulative impacts considered as the implementing municipality or agency designs and sites the project. However, as examples, TMDL projects and other construction activities may result in cumulative effects of the following nature:

Noise and Vibration - Local residents in the near vicinity of installation and maintenance activities may be exposed to noise and possible vibration. The cumulative effects, both in terms of added noise and vibration at multiple bacteria TMDL installation sites, and in the context of other related projects, are not considered cumulatively significant due to the temporary nature of noise increases. Noise mitigation methods including scheduling of construction or implementation device installation are available as discussed in the checklist. In addition, the fact that implementation BMP installation activities are being conducted in the same vicinity as other projects will not make mitigation methods less implemental.

Air Quality - Implementation of the bacteria TMDL may cause additional emissions of criteria pollutants and slightly elevated levels of carbon monoxide during construction or BMP device installation activities. The TMDL, in conjunction with all other construction activity, may contribute to the region's non-attainment status during the installation period. Because these installations, related emissions are temporary, compliance with the TMDL would not result in long-term significant cumulative air quality impacts. In the short term, cumulative impacts could be significant if the combined emissions from the individual TMDL projects exceed the threshold criteria for the individual pollutants.

Transportation and Circulation - Compliance with the bacteria TMDL involves installation activities occurring simultaneously at a number of surface sites in the bacteria TMDL area. Installation of BMP devices may be occurring in the same general time and space as other related or unrelated projects. In these instances, surface construction activities from all projects could produce cumulative traffic effects which may be significant, depending upon a range of factors including the specific location involved and the precise nature of the conditions created by the dual construction activity. Special coordination efforts may be necessary to reduce the combined effects to an acceptable level. Overall, significant cumulative impacts are not anticipated because coordination can occur and because transportation mitigation methods including are available as discussed in the checklist. In addition, the fact that structural BMPs installation activities are being conducted in the same vicinity as other projects will not make mitigation methods less implementable.

Public Services - The cumulative effects on public services in the bacteria TMDL study area would be limited to traffic inconveniences discussed above. These effects are not considered cumulatively significant as discussed above.

Aesthetics - Construction activities associated with other related projects may be ongoing in the vicinity of one or more bacteria TMDL construction sites. To the extent that combined construction activities do occur, there would be temporary adverse visual effects of less than cumulatively significant proportions as discussed in the checklist.

7.2 Growth-Inducing Impacts

This section presents the following:

7.2.1) an overview of the CEQA Guidelines relevant to evaluating growth inducement,

7.2.2) a discussion of the types of growth that can occur in The Santa Clara River and the Santa Clara River Estuary bacteria TMDL area,

7.2.3) a discussion of obstacles to growth in the watershed, and

7.2.4) an evaluation of the potential for the TMDL Program Alternatives to induce growth.

7.2.1 CEQA Growth-Inducing Guidelines

Growth-inducing impacts are defined by the State CEQA Guidelines as (CEQA Guidelines, Section 15126.2(d)):

> The ways in which a proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. Included in this are impacts which would remove obstacles to population growth. Increases in the population may tax existing community service facilities, requiring construction of new facilities that could cause significant environmental effects... [In addition,] the characteristics of some projects… may encourage and facilitate other activities that could significantly affect the environment, either individually or cumulatively. It is not assumed that growth in any area is necessarily beneficial, detrimental, or of little significance to the environment.

Growth inducement could indirectly result in adverse environmental effects if the induced growth is not consistent with or accommodated by the land use plans and growth management plans and policies. Local land use plans provide for land use development patterns and growth policies that encourage orderly urban development supported by adequate public services, such as water supply, roadway infrastructure, sewer services, and solid waste disposal services.

Public works projects that are developed to address future unplanned needs (i.e., that would not accommodate planned growth) could result in removing obstacles to population growth. Direct growth inducement would result if, for example, a project involved the construction of new wastewater treatment facilities to accommodate populations in excess of those projected by local or regional planning agencies. Indirect growth inducement would result if a project accommodated unplanned growth and indirectly established substantial new permanent employment opportunities (for example, new commercial, industrial, or governmental enterprises) or if a project involved a construction effort with substantial short-term employment opportunities that indirectly

would stimulate the need for additional housing and services. Growth inducement also could occur if the project would affect the timing or location of either population or land use growth, or create a surplus in infrastructure capacity.

7.2.2 Types of Growth

The primary types of growth that occur within the bacteria TMDL area are:

1) Development of land and

2) Population growth (Economic growth, such as the creation of additional job opportunities, also could occur; however, such growth generally would lead to population growth and, therefore, is included indirectly in population growth.)

Growth in land development
Growth in land development is the physical development of residential, commercial, and industrial structures in the bacteria TMDL area. Land use growth is subject to general plans, community plans, parcel zoning, and applicable entitlements and is dependent on adequate infrastructure to support development.

Population Growth
Population growth is growth in the number of persons that live and work in the bacteria TMDL area and other jurisdictions within the boundaries of the area. Population growth occurs from natural causes (births minus deaths) and net emigration to or immigration from other geographical areas. Emigration or immigration can occur in response to economic opportunities, life style choices, or for personal reasons.

Although land use growth and population growth are interrelated, land use and population growth could occur independently from each other. This has occurred in the past where the housing growth is minimal, but population within the area continues to increase. Such a situation results in increasing population densities with a corresponding demand for services, despite minimal land use growth.

Overall, development in the County of Los Angeles is governed by the County of Los Angeles General Plan, which is intended to direct land use development in an orderly manner. The General Plan is the framework under which development occurs, and, within this framework, other land use entitlements (such as variances and conditional use permits) can be obtained. Because the General Plan guides land use development and allows for entitlements, it does not represent an obstacle to land use growth. The agencies within the bacteria TMDL area also have plans which direct land use development.

7.2.3 Existing Obstacles to Growth

Obstacles to growth could include such things as inadequate infrastructure, such as an inadequate water supply that results in rationing, or inadequate wastewater treatment capacity that results in restrictions in land use development. Policies that discourage

either natural population growth or immigration also are considered to be obstacles to growth.

7.2.4 Potential for the Compliance with the Proposed TMDL to Induce Growth.

Direct Growth Inducement

Because the reasonably foreseeable methods of compliance with the proposed bacteria TMDL focus on non-structural and structural BMPs which are located throughout the bacteria TMDL area, the bacteria TMDL would not result in the construction of new housing and, therefore, would not directly induce growth.

Indirect Growth Inducement

Two areas of potential indirect growth inducement are relevant to a discussion of the proposed TMDL: (1) the potential for compliance with the TMDL to generate economic opportunities that could lead to additional immigration, and (2) the potential for the proposed TMDL to remove an obstacle to land use or population growth.

Installation of structural BMPs to comply with the proposed TMDL would occur over a 25 year period. Installation and maintenance spending for compliance would generate jobs throughout the region and elsewhere where goods and services are purchased or used to install structural BMPs. The alternatives would result in direct jobs and indirect jobs. The creation of jobs in the region is considered a benefit.

Although the construction activities associated with the structural BMPs would increase the economic opportunities in the area and region, this construction is not expected to result in or induce substantial or significant population or land use development growth because the majority of the new jobs that would be created by this construction are expected to be filled by persons already residing in the area or region, based on the existing surplus of unemployed persons in the area and region.

The second area of potential indirect growth inducement is through the removal of obstacles to growth. As discussed above, no obstacles exist to land use or to population growth in the watershed.

7.3 Unavoidable Significant Adverse Impacts

Section 15126.2(c) of the CEQA Guidelines requires a discussion of potential significant, irreversible environmental changes that could result from a proposed project. Examples of such changes include commitment of future generations to similar uses, irreversible damage that may result from accidents associated with a project, or irretrievable commitments of resources. Although the proposed TMDL would require resources (materials, labor, and energy) they do not represent a substantial irreversible commitment of resources.

Furthermore, implementation of the bacteria TMDL is both necessary and beneficial. To the extent that the alternatives, mitigation measures, or both, that are examined in this SED are not deemed feasible by the municipalities and agencies complying with the

TMDL, the necessity of implementing the federally required TMDL and removing the significant environmental effects from bacteria impairment the Los Angeles River Watershed (an action required to achieve the express, national policy of the Clean Water Act) remains.

In addition, implementation of the TMDL will have substantial benefits to water quality and will enhance beneficial uses. Enhancement of the recreational beneficial uses (both water contact recreation and non-contact water recreation) will have positive social and economic effects by decreasing potential bacteria hazards in the river and at downstream beaches and other recreation areas.

8 Statement of Overriding Considerations and Determination

The Regional Board staff has balanced the economic, legal, social, technological, and other benefits of this proposed bacteria TMDL against the unavoidable environmental risks in determining whether to recommend that the Regional Board approve this project. Upon review of the environmental information generated for this project and in view of the entire record supporting the TMDL, staff has determined that the specific economic, legal, social, technological, and other benefits of this proposed bacteria TMDL outweigh the unavoidable adverse environmental effects, and that such adverse environmental effects are acceptable under the circumstances.

The implementation of this Basin Plan amendment will result in improved water quality in the waters of the Region and will have significant positive impacts to the environment (including restoration and enhancement of beneficial uses) and the economy over the long term. Enhancement of the recreational beneficial uses (both water contact recreation and non-contact water recreation) will have positive social and economic effects by decreasing potential bacteria hazards and increasing the aesthetic experience at beaches. Specific projects employed to implement the Basin Plan amendment may have adverse significant impacts to the environment, but these impacts are generally expected to be limited, short-term or may be mitigated through design and scheduling.

The Staff Report and the Basin Plan amendment, and this SED provide the necessary information pursuant to Public Resources Code section 21159 to conclude that properly designed and implemented BMPs generally should not foreseeably have a significant adverse effect on the environment. Any potential impacts can be mitigated at the subsequent project level when specific sites and methods have been identified, and responsible agencies can and should implement the recommended mitigation measures. These mitigation measures in most cases are routine measures to ease the expected and routine impacts attendant with ordinary minor construction projects and infrastructure maintenance in an urbanized environment. Routine construction and maintenance of power lines, sewers, streets, etc. are regular and expected incidents of living in urban environments such as Los Angeles County. Sewer and power line maintenance, street sweeping, traffic alterations, and environmental impacts from them already occur and are expected. This project will foreseeable require many more such projects, but their individual impacts are not expected to be extraordinary in the magnitude or severity of

impacts. Specific projects, that may have a significant impact, would therefore be subject to a separate environmental review. The lead agency for subsequent projects would be obligated to mitigate any impacts they identify, for example by mitigating potential flooding impacts by designing the BMPs with adequate margins of safety. Notably, in almost all circumstances, where unavoidable or unmitigable impacts would present unacceptable hardship upon nearby receptors or venues, the local agencies have a variety of alternative implementation measures available instead. Cumulatively, the many, small individual projects may have a significant effect upon life and the environment throughout the region.

This TMDL is required by law under section 303(d) of the federal Clean Water Act, and if this Regional Board does not establish this TMDL, the USEPA will be required to develop a TMDL. The CWA requires states to establish a priority ranking for waters on the 303(d) list of impaired waters and to develop and implement TMDLs for these waters (40 CFR §130.7). The impacts associated with USEPA's establishment of the TMDL would be significantly more severe, as discussed herein, because USEPA will not provide a compliance schedule, and the final waste load allocations, pursuant to federal regulations, would need to be complied with upon incorporation into the relevant storm water permits. (40 CFR 122.44(d)(1)(vii)(B).) Since compliance would not be authorized over a period of years, all of the impacts associated with complying would be truncated into a short time frame, thus exacerbating the magnitude of the cumulative effect of performing all projects relatively simultaneously throughout the region.

The implementation of this TMDL will result in improved water quality at the Los Angeles River Watershed, but it may result in short-term localized significant adverse impacts to the environment as a variety of small construction projects may be undertaken at many places throughout the watershed over a period of 10 years. Individually, these impacts are generally expected to be limited, short-term or may be mitigated through careful design and scheduling. The Staff Report for the Los Angeles River Watershed Bacteria TMDL and this checklist provide the necessary information pursuant to Public Resources Code section 21159 to conclude that properly designed and implemented structural or non-structural BMPs of compliance should mitigate and generally avoid significant adverse effects on the environment, and all agencies responsible for implementing the TMDL should ensure that their projects are properly designed and implemented.

All of the potential impacts must, however, be mitigated at the subsequent, project level because they involve specific sites and designs not specified or specifically required by the Basin Plan Amendment to implement the TMDL. At this stage, any more particularized conclusions would be speculative. The Regional Board does not have legal authority to specify the manner of compliance with its orders or regulations (Wat. C. § 13360), and thus cannot dictate that an appropriate location be selected for any particular project, that it be designed consistent with standard industry practices, or that routine and ordinary mitigation measures be employed. These measures are all within the jurisdiction and authority of the agencies that will be responsible for implementing this TMDL, and those agencies can and should employ those alternatives and mitigation

measures to reduce any impacts as much as feasible. (14 Cal. Code Regs., § 15091(a)(2).)

Implementation of the TMDL is both necessary and beneficial. To the extent that the alternatives, mitigation measures, or both, that are examined in this analysis are not deemed feasible by those local agencies, the necessity of implementing the federally required TMDL and removing the bacteria impairment from the Los Angeles River Watershed (an action required to achieve the express, national policy of the Clean Water Act) remains.

9 Findings

On the basis of this initial evaluation and staff report for the TMDL, which collectively provide the required information:

☐ I find the proposed Basin Plan amendment could not have a significant effect on the environment.

☐ I find that the proposed Basin Plan amendment could have a significant adverse effect on the environment. However, there are feasible alternatives and/or feasible mitigation measures that would substantially lessen any significant adverse impact. These alternatives are discussed above and in the staff report for the TMDL.

☒ I find the proposed Basin Plan amendment may have a significant effect on the environment. There are no feasible alternatives and/or feasible mitigation measures available which would substantially lessen any significant adverse impacts. See the attached written report for a discussion of this determination.

DATE:

_____ _____

Tracy J. Egoscue
Executive Officer

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